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The Pop-Up Museum: How Students Exhibit Critical Literacy Practices Through Project-Based Learning

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The Pop-Up Museum: How Students Exhibit

Critical Literacy Practices

Through Project-Based Learning

By

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Acknowledgments

Dedication

To my parents, Theodore and Lois Aughey, I learned my work ethic from you. To my mother-in-law, Gloria Barrera, I learned the passion of cooking from you. To my husband, Carlos Barrera, I continue to learn compassion from you. Thank you for your fierce support and love. To my brother, Paul and my sister Sue, thank you for everything. We have inherited the packing gene and a love for family and humanity. To my children, Alex and Andy, you inspire me daily with your creativity, humanity, and kindness. Thank you all for your support and love.

Abstract

Project-based learning (PBL) has become standard practice in STEM classes reflecting a focus on critical thinking and collaborative skills required by the changing workforce. English Language Arts classes should offer more PBL opportunities; however, ELA teachers are often hesitant to implement PBL because of a fear of risk-taking, a concern for turning over curriculum choices to students, an acknowledgement of the role that standardized testing plays on student achievement and teacher accountability, and a lack of professional development training. This phenomenological study examines how 18 students take up critical literacy practices using PBL in the form of a pop-up museum protocol in four secondary ELA classes. Three pop-up museums culminated in students creating and displaying persuasive writing samples and meme artifacts, while one pop-up museum exhibited the findings of service-learning projects. This study revealed overwhelmingly positive accounts of PBL as an instructional approach from the teachers and the student participants. Interviews with two teachers and 18 purposely sampled students revealed that the participants were engaged in deeper, more fulfilling learning. The instructional spaces moved from classrooms as traditional first space locations to ecoscapes like social networks in third space as students created, curated, and hosted museums for their peers and their community. Although time and technology were factors in implementation, ELA classes and other subject areas that adopt the pop-up museum protocol will experience students' shifts in identity, perception, and dispositions as they express their critical literacy practices.

Keywords: project-based learning, critical literacy, pop-up museum, identity, Third Space, transliteracies, phenomenology

Table of Contents

List of Tables

List of Figures

CHAPTER 1: Introduction and Rationale

Picture an overcrowded, dusty, disorganized southwest Florida high school classroom circa 1982. Sets of paper handouts and textbooks in tumbled down stacks pile askew on the shelves. Students file into the room and take their places at interspersed tables. The stink of teenagers and moldy paper almost overpowers the environment; yet, the students are captivated. Mr. George Artman, everyone's favorite teacher, introduces an economics role-playing activity. He explains to the class that for the next few weeks, they will embody members of a community and transact the business and legislation of the municipality. One student draws the position of tax collector. Two cute boys sit at her table, the mayor, and head of the city council. One day, they approach her with a proposition: "The purpose is to win by generating as much money as possible, right? Why not collect a little extra in taxes and raise the price for fees and governmental services?" She acts at their behest. When the game ends, the three are wealthy and have big piles of cash to show for it. Conversely, they have likewise driven several classmates into bankruptcy.

The class reflects on their experiences in a discussion, and Mr. Artman addresses the trio: "You won, but how did you feel when you defrauded the citizens you were expected to represent?" The girl replies that she had been struggling to ignore the intuitive sense that something was amiss even though the rules of the game did not stipulate whether players could cheat or not. Artman smiles and then says that it is during those private moments when no one is watching that a person makes the most important decisions. The girl had responsibility within this municipality, and she used her authority to tyrannize her classmates. Was she acting like the person she wanted to be? The boys persuaded her to cheat her fellow community members out of their hard-earned cash and she capitulated so easily. This moment was pivotal in the girl's

education, and the lesson has reverberated with her over the years. Artman's scenario is akin to

the lesson revealed by the character Atticus Finch, from Harper Lee's *To Kill a Mockingbird.*

Atticus instructs his young daughter that to understand people one must walkaround in their skin.

Artman's engaging scenerio integrated authentic issues and critical literacy, allowing the class

not only to discern how local government functions but also to gain a deeper awareness of ethics,

power, positionality, and leadership dynamics. Students did not know at the time that they were

taking part in a project-based learning (PBL) and critical literacy activity in a social studies class.

Duncan-Andrade and Morrell (2008) argued that critical literacy exposed the realities

behind oppressive hegemonic discourses and presented a standpoint from which to resist and

transform social structures (p. 4). However, they cautioned that critical literacy is problematic in

that it promises a just and equitable society, but does not account for the challenging nature of

the relations of power (pp. 2-4).

The researcher was that girl. When she started teaching secondary English Language

Arts (ELA) seven years later, she implemented curricular activities to include interactive

components, moral and civic twists, critical literacy approaches, and constructed learning

artifacts. At this point in her teaching career, she has shared Artman's lesson with thousands of

students. How this applies to ELA is that English teachers, the researcher included, do not

endeavor to try enough PBL. If Mr. Artman's economics game introduced the researcher to

power dynamics in a local setting and this message stuck for all these years, then this form of

PBL infused with critical literacy offers an instructional allegory.

Unfortunately, Le Fevre (2014) found that teachers are averse to risk and prefer

"cautionary practice" that does not deprivatize their rituals and routines or reduce their

pedagogical dependence on textbooks regardless of whether engaging strategies enhance student

voice in the classroom (p. 59). A fear of losing control of one's class permeated this case study

and others like it (Le Fevre, 2014; Ponticell, 2003; Ramnarain, 2014). Added to managing large

class sizes, prepping for standardized testing, and meeting the needs of diverse learners, English

teachers are hesitant to implement new teaching approaches even though the work world in the

Science, Technology, Engineering, and Mathematics (STEM) fields rewards risk-taking and

innovative thinking (Le Fevre, 2014).

       Therein lies the conundrum. Students barely recall –if at all– the literary research papers

they wrote in high school; but they do remember teachable moments like Mr. Artman's for a

lifetime. The social studies class lends itself to civic scenarios and thought experiments.

However, what happens when ELA teachers implement PBL in conjunction with the study of

texts? Would students, especially those who struggle academically, take up critical literacy

practices if the PBL experience was meaningful and relevant to their lives? What does this

phenomenon look like? When teachers implement PBL pedagogy concluding with a public

exhibit like a pop-up museum, do students take up and internalize critical literacy practices?

How would this relevancy be represented and what would this phenomenon look like?

Background/ Statement of the Problem

       While the researcher was experiencing an idealistic and privileged 1970's childhood in

the United States, philosopher and critical theorist Paolo Freire (1972) was inspiring beleaguered

people in Brazil, and later the entire world, to take up critical literacy and to comprehend the

hearts and minds of their oppressors. Freire (1972) challenged society to know the message; to

recognize the propaganda behind the message; and to adopt an attitude of social justice. Freire

(1972) called the phenomena *conscientization*, or the act of realizing the social, cultural,

political, and power dynamics surrounding a person or situation. This awareness is as important

for the economically advantaged to internalize and learn from as the conscientization is for the

marginalized (Freire, 1972).

High school students need to understand the audience, purpose, tone, and positionality of

the author behind a text. Students must consider the space and place of transacted

communicative action. Once they comprehend the power of the gesture, the utterance, the

symbol, and the image, then they have reached Freire's conscientization. Critical literacy arose

from the aspiration of achieving intentionality. Freire (1972) aspired for people to "read the

word and read the world" (p 32). The emancipative process by which one becomes empowered

to unveil and decode print and non-print text is the aim (Freire & Macedo, 1987).

Emancipating students though literacy is most ELA teachers' goal for students as well.

This research recounts the literacy events of secondary ELA teachers and their students who

experience opportunities to define, refine, remediate, and realize how texts manipulate them but

also how to converse with texts interstitially (Blau, 2003; Jolliffe, 2008); to develop arguments;

and to participate as involved citizens in an interconnected world. This research tells the stories

of collective exhibitions culminating from critical literacy activities. Students who undertake

short and long-term PBL ventures ending in public validations are more invested in learning and

expressing their voices through critical literacy stances (Fullan & Langworthy, 2014).

In-depth investigations, close reading, relevance, self-direction and self-regulation,

collaboration and cooperation, and an assortment of engaging teaching tools and methods – these

strategies all support a constructivist and activist/participatory worldview of education. The

researcher has utilized PBL for years and has noticed anecdotal learning gains from students and

has always wondered if PBL could be used successfully in other ELA classes. For many English

educators, the age-old literacy questions of who should own knowledge and how should

information be disseminated might impede equipping students with such emancipatory learning

practices. By allowing students more choice and voice through PBL and critical literacy, ELA

teachers might maintain the desired classroom authority while engaging students in needed

competencies leading to desired workplace outcomes and memorable schooling experiences.

Too often, young people perceive the research process as tedious and disconnected from

the real world. The public radio show *Marketplace* and the *Chronicle of Higher Education*

collaborated to poll 700 employers from the United States to see what specific desirable skills

they want in college graduates and entry level workers (Scott, 2013). The show reported that

David Boyes, a technology consultant in human resources, often asks interviewees, "Is there

some way where you've been asked to work in a team … to take an abstract idea and make it

concrete, and if so, how?" Two-thirds of the surveyed employers from the article said job

seekers need improvement on their interviewing and career readiness. Boyes stated, "We find

that a lot of people aren't getting that skill set." He continued, "How you put an idea forward …

how do you support it, how do you build it, how do you put the facts behind it? All of those

things are really critical" (Scott, 2013).

Artifactual literacy is a form of critical literacy focusing on making and curating tangible

products of learning (Pahl & Rowsell, 2011. A transliteracies framework is a way to discuss

these events (Stornaiuolo, Smith, & Phillips, 2016). A pop-up museum displays these curated

objects in third space (Soja, 1996). PBL ties it all together.

Purpose of the Study

This study observed how several groups of high school students and teachers understand and

exhibit critical literacy practices while taking part in PBL. A qualitative study offered a data rich

environment to document the lived experiences of these particular students and teachers

experiencing the phenomenon of PBL pedagogy (Van Manen, 2014). The research was

undertaken to determine if the findings revealed a rationale for using PBL in English classes and

a means by which to inform ELA teachers how to adapt this method. The researcher observed

how particular groups of students take up critical literacy practices to analyze texts and artifacts;

to take part in public discussions of their findings; to exhibit their arguments of self-selected

topics of interest; and thus, to show their critical literacy practices. Included in the study are the

voices of teachers recounting their experiences with PBL.

 PBL has supplanted traditional lecture format in many STEM classes (Crouch & Mazur,

2001); however, high school English teachers are not taking full advantage of this engaging and

interactive teaching pedagogy due to apprehension, misinformation, high-stakes testing

pressures, and organizational conflicts (Berliner, 2011). This study clarified assumptions or

misunderstandings and provided a viable alternative assessment tool for ELA teachers. There is

a research gap in published studies on a reflective practitioner model of critical literacy and

student work exhibition where students converse with and manipulate text as they negotiate and

establish the norms of PBL pedagogy (Blau, 2003; Fajans & Falk, 1993; Gilroy, 2011; Jolliffe,

2008; Tovani, 2011). Larrivee (2000) advocated for critical reflection by teachers as a signpost

of excellence. Furthermore, there is a trend towards PBL as a salvo to merge standardized

testing and Common Core Standards with inquiry-based learning (Miller, 2015). The creation of

a learning artifact as a culminating assessment is often an afterthought.

 PBL pedagogy has been shown to benefit student achievement by increasing retention of

content and improving students' attitudes towards learning (Strobel & van Barneveld, 2009;

Walker & Leary, 2009). Critical literacy is a desired societal outcome. Merging the two with a

goal of critical artifactual literacy reflects students' connections to a thorough understanding of

the implications of multimodal text while considering the maker's purpose, the tone of the

exhibit, and temperament and expectations of the exhibition attendees. The dual foundational

pedagogies driving the research study are critical literacy and PBL (Hallermann, 2012).

Research Questions

1. What are the benefits and limitations for high school English teachers using a PBL approach
    to foster students' critical literacy practices?

2. How are students' critical literacy practices represented when constructing artifacts to reflect
    literacy, learning, and mastery?

3. How can a PBL pop-up museum reflect a "shift in identity, perception, disposition, action,
    and practice" (Rish, 2014, n.p.) in expressing critical literacy practices?

Significance of the Study

The findings of this study benefit society in multiple ways considering the need for

collaborative and reflective critical thinkers in the current and future technologically-evolving

workforce and in academia. This generation of students has experienced the curriculum

narrowing to focus on prescriptive literacy and numeracy as measured by high-stakes

standardized testing (Berliner, 2011; Jerald, 2006). Project-based learning authentically engages

students in a way that test prep does not. Standardized testing, which purports to measure

literacy, is under scrutiny in today's political climate, but quantifying student data will not go

away anytime soon. PBL experiences encouraging students to enhance their critical literacy

practices can both engage students and improve standardized test scores (Larmer, Wells, &

Miller, 2014). This protocol, the pop-up museum, offers a way for students to exhibit critical

artifactual literacy in a cooperative, multi-dimensioned PBL environment. In the meantime, the

data collected and analyzed from the phenomenon of these literacy events add to the body of

research to support teachers, principally ELA instructors, and provide a rationale to implement

PBL activities for a broader audience than just the teacher.

Definition of Key Terms

Affinity Space- An informal place-based or digital space is where people make meaning and

learn often apprenticing another in their learning (Gee, 1996, p. 83).

Artifactual Literacy- Using photos, stories, and other tangible multimodal genres reflect

communicative actions (Pahl & Rowsell, 2011).

Critical Literacy- Comber (2001) defines critical literacies as "people using language to

exercise power, to enhance everyday life in schools and communities, and to question practices

of privilege and injustice (p. 1.

Culturally Relevant Pedagogy- (CRP) addresses three areas: "an ability to develop students

academically, a willingness to nurture and support cultural competence, and the development of

a sociopolitical or critical consciousness (Ladson-Billings,1995b, p. 483).

Curation- The process to gather, organize, select, confirm, and preserve data or material for a

specific purpose (Choudhury, 2008 p. 195).

Literacy events- Observable conditions or situations during literacy practices (Street, 1984).

Literacy practices- Ideas and beliefs embedded into social and cultural mores (Street, 1984).

Meme- An idea, behavior or style spreading from person to person often electronically in witty,

sarcastic, pithy, or tonal text over image creations related to pop culture (Dawkins, 1989).

Multimodalities- Communication practices composed from textual, aural, linguistic, spatial, and

visual modes (Kress, 2003).

Pop-up Museum- It is "a short-term institution existing in a temporary space," and "a way to

catalyze conversations among diverse people, mediated by their objects" (Simon, 2013, n.p.).

Project-based Learning- A student-centered pedagogy where students gain knowledge and skills investigating and responding to an engaging and complex question, problem, or challenge. The project is the curriculum (Krajcik & Blumenfeld, 2006).

Space, first, second, and third - Coined by Edward Soja (1996) from Lefebre's work (1991), *first space* refers to home, school or geographical locations, or perceived space. *Second space* concerns conceived space, for example, how two people understand a movie. *Third space* is other –virtual, social, or imagined. Third space includes lived experiences, context, and emotion.

Talking Back to Texts- This is when a reader converses with or questions the context, meaning, and message of a print or non-print text (Blau, 2003; Jolliffe, 2008).

Transliteracies – The expression of reading, writing, and communicating across a range of tools, platforms, and media from signing and orality through handwriting, print, TV, radio and film, to digital social networks (Thomas et. al, 2007).

CHAPTER 2: Literature Review

Where do civilizations archive their most treasured artifacts? Museums. What comes to

mind when one thinks of museums are large city block-sized buildings that serve as containers of

old relics, archives, and mementos. We humans have always revered the past and anointed

keepers to manage information. Societies tasked storytellers and griots with passing down oral

traditions from generation to generation. Monks and scholars kept written knowledge on scrolls

and papyrus. The people entrusted with guarding this knowledge were also responsible for

keeping it away from others deemed not worthy of it. Written language, then the printing press,

and even today's global conversation on piracy, privacy, and hacking encapsulates these

questions: Who owns the knowledge? Who can access the knowledge? Moreover, what can be

done with and to the knowledge?

Literacy is an act of power (Bourdieu, 1977; Freire, 1972; Gee, 1996; Galloway, 2015;

Janks, 2009). Acknowledgement of comprehension of the written word by an African American

in Fredrick Douglass's time might have gotten him killed. Even when public schools organized

in the 1800s to teach great swaths of the U.S. population to read and write, much thought went

into controlling the content and curriculum. In both the museum world and academia, there have

always been gatekeepers to control the canonical knowledge-base and the human story.

Technological advances like the book, and more recently, the Internet, have revolutionized

access to knowledge (Applebee, 1996; Foucault,1977; Lankshear, Snyder & Green2000).

The intertwining fields of ELA pedagogy and literacy studies have experienced the same

tremendous shift as museums in the last 70 years. Before the 1970s, academics in these areas

concerned themselves with reading and writing of formal, academic English and preserving the

traditional literary canon. At the time, literacy research stances privileged print (Alvermann,

2002; Cope & Kalantzis, 1996; Graff, 1991; Scribner & Cole, 1981). In the second half of the

twentieth century, two strains in literacy studies and pedagogy appeared. On one side, the fields

focused on the linguistic skills to establish a person as print literate – phonics, phonemic

awareness, fluency, comprehension, and vocabulary acquisition – and teaching these traditional

skills using acceptable, authorized texts. Deferring to cognition, this stance assumed that

traditional literacy drove intelligence. The other side branched out to include questioning the

foundations and precepts of literacy incorporating critical literacy, the social turn, multiliteracies,

spatial literacy, the digital turn, and other approaches to understanding literacy (Rowsell & Pahl,

2015). Meanwhile, the whole concept of who keeps artifactual knowledge and how, where, and

what is archived have shaken the walls of museums worldwide (Pahl & Rowsell, 2011).

This review of literature considers the development of traditional and current ideas of

literacy and engagement strategies in secondary ELA classrooms to situate PBL within scholarly

traditions and to note the literature and fields to which the study's findings may contribute. In

this chapter, there is an explanation of why contemporary notions of literacy, and engagement

pedagogy (Kearsley & Shneiderman, 1998), have the potential to add to the current body of

knowledge of instructional pedagogy in secondary ELA classes. There is also a description of

the limitations that issues like standardized testing and standardization of curriculum have on

student engagement. Attention to the limitations of these notions is necessary because key

understandings in education effect the conceptualization, motivation, and confidence of students

of these constructs as will be illustrated in the findings section of this study.

Literacy Studies

Literacy involves an external representation of ideas and cultural practices to express

these concepts (Goody, Cole & Scribner, 1977; Smagorinsky, 2014; Vygotsky & Cole, 1978).

Literacy practices include transacting these communicative events through gesture, utterance, sign, symbol, or word(s), written or spoken (Bakhtin & Holquist, 1981; Gee, 1996; Kress & Leeuwen, 1999; Luria, 1976; Street, 1984; Vygotsky & Cole, 1978). Scribner and Cole (1981) took issue with Luria's (1976) literacy study from the 1930s that postulated that literate people had more cognitive development than illiterate people did. Scribner and Cole (1981) tried to replicate Luria's(1976) study, but found that the illiterate members of the Vai culture in Liberia had as much cognitive development as those who were print literate despite the inability to read or write. However, they found that conceptions of language and sociability were affected by print literacy (Scribner & Cole, 1981).

Despite advances in understanding literacy as a social construct, Green and Bloome (2012) recounted that most educational institutions continue to define literacy as a set of cognitive, psycholinguistic processes and skills within the individual that constitutes being able to read and write. Even though the linguistic turn in social sciences preceded the social turn in literacy studies (Green & Bloome, 2012) and many credible studies established literacy as a sociocultural construct, print literacy reigns supreme. Today, despite extensive research providing evidence that reading and writing alone do not define literacy, a cognitive perspective proffering print-based reading and writing that can be assessed by standardized tests is the unfortunate norm in American schooling.

Great Divide Views of Literacy

Before Freire, literacy was commonly accepted as a form of cognitive development. Goody (1975) and Olson (1994) assumed a link between social organization and cognitive development. Literacy was considered a *technologic form* (Goody, 1975), i.e. resulting from advancing a technical process as opposed to an ideological process. Although Vygotsky and

Cole (1978) and Luria (1976) determined that the speech/thought units of meaning include signs, symbols, gestures and utterances in the 1920s and 1930s, their writings were lost to the world until the 1970s.

Conflicting ideas defined literacy, so there arose a great divide in literacy studies. Prinsloo and Baynham (2008), in their *Introduction to Literacy Studies* stated, "One of the most important theoretical questions related to literacy was whether there exists a literacy divide" (p. xxiv). Abdullah, Doucouliagos, and Manning (2013) correlated print literacy with wealth and health individually, societally, and globally. Goody (1968) and Olson (1977) put forward the notion that alphabetic skill determined literacy. Goody (1968) and Olson (1977) believed that alphabetical literacy changes language from utterance to text where the vagaries of speech are supplanted by the exactness of writing. Olson, Faigley, and Chomsky (1991) later revised these idea to align with the social turn. According to Prinsloo and Baynham (2013), speech is ephemeral while alphabetic writing provides a permanent and unequivocal record. Writing developed logically along with reasoning and identifying contradictions. These are essential components of print literacy as writing permits "expression of ideas to be ordered, manipulated, and compared" (Prinsloo & Baynham, 2013, p. xxv). Thus, many sociological, anthropological, and linguistics theoreticians hypothesized and concluded that the advent and adaptation of print produced a decisive and universal divide between oral and literate societies, the former being primitive and the latter, modernized.

Collapsing the Great Divide

By the 1980s, there was tremendous resistance to this idea. Great divide theories were considered simple and biased, discounting the role of oral language in non-Western societies (Finnegan, 1988). These theories expressed literacy as a necessary *condition* of certain social

occurrences like democratization, modernization, and scientific skepticism. Poststructuralists

like Derrida, Barthes, and Foucault led these charges. One criticism expressed derision of the

idea that literacy development was the same across distinct cultures, settings, and situations. The

assumption that literacy arose out of industrialization was proven erroneous. Literacy historian

Harvey Graff's research (1979; Arnove & Graff, 1987) determined that industrialization

predisposes a rise in literacy due to prosperity which allows for more public schooling.

Typographical improvements and standardized spelling determined advancements in print

literacy of the populace (Prinsloo & Baynham, 2013). Street (1984) and Cook-Gumperz (2006)

argued that great divide theorists applied a Western-centric approach and did not account for the

diversity of the world's literate cultures.

Critical Literacy

A momentous change was on the horizon with Paolo Freire's praxis of critical literacy

(Mayo, 1995). Shor (1999, n.p.), who worked with Freire, said,

> We are what we say and do. The way we speak and are spoken to help shape us into the
>
> people we become. Through words and other actions, we build ourselves in a world that
>
> is building us. That world addresses us to produce the different identities we carry
>
> forward in life...

Shor and Freire (1987) believed that humans can redefine themselves and remake society

through critical literacy. By challenging the status quo, Shor (1999, n.p.) argued that "words

rethinking worlds, self-dissenting in society" will bridge the gap between "the political and the

personal, the public and the private, the global and the local, the economic and the pedagogical"

to rid the world of inequity. Thus, for Shor and Freire (1987) and Mayo (1995), literacy is social

action using language to self-actualize consciousness and understandings of historical and future

constructs of power. Rowsell and Pahl (2015) posited in the introduction to the *Routledge Handbook of Literacy Studies* that three themes have emerged to frame literacy studies – literacy as cognitive development; literacy as social practice; and literacy as political action. Critical literacy is interwoven in all three. For Freire, these three themes overlap.

Giroux (1993) defined critical literacy as "a form of cultural citizenship and politics that provides the conditions for the subordinate group to learn the knowledge and skills necessary for self and social empowerment" (p. 367). These conditions are at the heart of Freire's work. Freire intended to reposition "dominative" communicative modes, which merge sharply-defined power relations and perpetuate oppressive social forms (Mayo, 1995). It was not enough for Freire that citizens learn to read and write; often, the previously-oppressed become domesticated with a false consciousness of the oppressors and become oppressors themselves. They exist under a "culture of silence" and do not question authority. The concern was that students would adapt to their reality with no creativity and no critical thinking espoused (Freire, 1972).

Freire (1972) argued that when students experience the banking theory of education, where they receive communiques versus communication, they become alien to the subject matter. They become "culturally invaded;" then, they lack the capacity to become agents of social change (Mayo, 1995, p.364). For Freire, the act of awakening or rebirth into power dictates action. Freire (1972) suggested that educators and researchers scrutinize existing curriculum for authoritarian, patriarchal, and colonial viewpoints as these attitudes dehumanize individuals particularly if they are not from the same socio-economic class. Freire envisioned a model for an alternative society – cultural action for freedom and a cultural revolution– as the key contexts for critical literacy. Freire shared with Marx the proposal of a reciprocal, dialectical relationship between the empowered teacher and the disempowered student (Au, 2007). Freire

advocated instructing students in the language they speak and exposing them to a variety of voices, cultures, and scenarios to take ownership of their own learning (1972). For the two to enter into praxis, they needed to act on material surroundings and reflect on them to transform them (Mayo, 1995). Education must help people to objectify the world to understand it and to act to change it (Freire, 1972; as cited in Youngman, 1986). Freire (1972) argued that education leads to "critical consciousness," an avenue to the social and political empowerment of the disenfranchised (Harvard Education, 2013). MIT Linguistics theorist Chomsky (2013) lauded Freire's liberatory learning pedagogy. Chomksy (2013) believed that "composition courses are perfectly appropriate places" for helping students develop "systems of intellectual self-defense" and "the capacity for inquiry" (Harvard Education, 2013, n.p.). Critical literacy is "a place where new forms of research practice have emerged. These include a focus on co-curation of practices, co-production, and the opening up of knowledge so that the process of research is participatory and inclusive" (Rowsell & Pahl, 2015, p. 3). Phenomenology, participatory action research, collaborative ethnography, and relational arts practice have been used to record its instances (Bishop, 2014; Lankshear & McLaren, 1993; Lassiter, 2005; Pahl & Pool, 2011; Stille (2015); Rowsell & Pahl, 2015).

Framing Critical Literacy

Noddings (2002; 2005) addressed Freire's concern of empowering disempowered peoples through critical literacy with the theory of care (Witherell & Noddings, 1991). Noddings (2005) argued that curriculum should infuse ethical examples for study and discussion to guide students on how to develop character, to foster nurturing relationships reciprocally, and to treat one another respectfully. Public schools in the US should go beyond teaching fundamental skills in a democratic society and actively instruct care.

Ladson-Billings (1995b) said it is not enough to replace oppressive pedagogical practices with praxis and teach kids to care for each other. It was argued that earlier sociolinguistic explanations do not include the larger social and cultural contexts of students and that sociocultural, literacy, and educational researchers have failed to explain student success. "I predicated the need for a culturally relevant theoretical perspective on the growing disparity between the racial, ethnic, and cultural characteristics of teachers and students along with the continued academic failure of African-American, Native American, and Latino students" (p. 483). Ladson-Billing's argument (1995a) is in line with Freire's (1970) advisory that teachers consider "students as creators rather than consumers of knowledge, as makers of meaning rather than passive recipients of socially sanctioned truths" (p. 34).

The Social Turn and New Literacies

Gee (1999) publicized the New Literacy Studies (NLS) and presented a revolutionary argument. The autonomous model of literacy still dominated literacy discourse —skills, rates, levels, comprehension, fluency, phonemic awareness, and phonics. In his philosophical underpinnings, Gee (1999) extrapolated the social turn stating that NLS situate reading, writing, and meaning within specific social contexts and discourses. Gee (1999) pointed towards more mutual interaction and social practice in *The New Literacy Studies and the Social Turn*.

Gee (1999) defined the NLS movement which made the case that the social is more important than the individual. Gee (1999) cited Gumperz (1982) and Hymes (1974) who examined the conveyances of language and found that language is not decontextualized and that people use lexical, structural, and prosodic *cues* to infer relevant context. These cues differ across cultures and even among social groups. Gee (1999) included Wertsch's (1991) analysis of Vygotsky and Cole (1978) and Bakhtin and Holquist's (1981) ideas that versatile cultural

tools mediate thinking. Lave (1996) and Lave and Wenger (1991) are included in Gee's

argument as their work added to Vygotsky and Cole's (1978) concept of situated cognition and

how knowledge and intelligence distribute across social and language practices including tools,

technologies, and semiotic systems.

Gee (2000) embraced a cultural models theory (D'Andrade & Strauss, 1992; Holland &

Quinn, 1987; Ladson-Billings, 1995b) to explain how people make sense of their experiences by

applying a cultural model to explain why and how things happen. These theories inform

judgments of self and others and shape ways of talking and writing. NLS included cognitive

linguistics (Lakoff, 1987; Lakoff & Johnson, 1980; Ungerer & Schmid, 2006) to explain how

languages are organized with metaphors which shape how humans interpret experiences.

Adaptation of genre studies in modern composition theory (Bazerman, 1989; Myers, 1996;

Swales, 1990) showed how knowledge and meaning are within the domains of talking, writing,

acting, and interacting and other specialized domains. Bruner (1986) and Ricoeur (1984) added

narrative studies to the NLS social turn, to give credence to the narrative as the ultimate form of

human understanding. Gee (1999) argued that people make sense of their experiences of other

people and the world by "emplotting them regarding socially and culturally specific stories" (p.

182). These movements encapsulated in the social turn can all be established as reactions against

the behaviorism theories before 1960 and the cognitive revolution of the 1960's.

Scribner and Cole's (1981) research in Liberia determined that their participants with

little or no experience in schooled literacy made no more significant gains in cognitive reasoning

and memory that those who had attended school. The only difference in ability found was due to

a teacher-student dialogic (Freire, 1972) in advanced verbal interactions. Heath's (1983) work in

the Piedmont area of North Carolina showed how people have multiliteracies, especially

stratified by social classes. It was found that what counted in effective communication was not a generalized ability or a set of standards or skills, but a situated, communicative competence embedded in gained, deep cultural knowledge (Heath, 1983).

Street's (1984) work in Iran identified literacies as ideologically situated. To build off Heath's (1983) idea of *literacy events*, Street's ideological model joined a social analysis of power relations plus language and literacy ideologies with producing meaning and values in particular settings. Street (1984) determined that literacy not be neutral as it has components of literacy practices. Street's (1984) ideological model of literacy is rooted in ethnological, social, cultural, and political contexts.

Meanwhile, several important ethnographic studies reflected a new framework for understanding literacy, *literary practices* (Street, 2012), as social transactions associated with identity and social position. Street paralleled this separation from the analysis of literacy to the social practices of literacy like Chomsky's (1968) work in differentiating language structure from the social use of language. Scollon and Scollon's research (1981) with the Athabascan people of Canada and Alaska made another compelling argument to support literacy as a practice and not a neutral entity. The study focused on the discourse of mediated action and challenges of a sense of identity and being that their participants experienced when receiving schooled literacy.

Multimodality and Multiliteracies

Kress (1998) contended that literacy includes elements of *multimodal* design and incorporated design into literacy practices and theory. Kress (1998) also predicted the coming digital transformation of the cultural landscape. It was proposed that print literacy no longer be the sole means of representing communication; other modes of literacy play distinct roles. Kress (1998) wondered if language had its own affordances arguing that a new theory must account for

gesture, image, writing, speech, 3D objects, color, and music. This theory incorporates

transformation or reshaping of modes of literacy to consider design as a foundational fact of

contemporary life (Kress, 2010).

Kress (2010) explained that words are signifiers, not just Vygotsky's *signs*. Learning is

defined as "the process of inward meaning-making and the resultant change to the state of an

inner semiotic resource" (p. 40). Kress, a photographer, used the metaphor of "fixing" (from

photography) to explain how literacy included mode, materiality, color, writing, sound, and

image. These are all active choices. Kress (2010) explained that communication is outward;

interpretation is inward. In determining that text results from a social action, Kress (2010)

explained the social relations of participants (genre) and referred to Foucault (1977) by adding

that social institutions (discourse) shape text. The theory of multimodality was expanded to

include the site of appearance – page (the logic of writing), screen (the logic of image), and how

pages now resembled screens. This transferred movement he called *interactivity*. Kress (2010)

advocated that design is "what is needed now, in this one situation with this configuration of

purposes, aims, audience, and with these resources, and given [the creator's] interests in this

situation" (p. 49). Kress (2010) said that design is prospective, not respective like reading.

Multimodality transitions reading-as-interpretation to reading-as-design.

These ideas led to a convening of ten prominent literacy scholars in 1996 to set up a

pedagogy of multiliteracies. The premise of the New London Group's (NLG) meeting and the

collective treatise created from it, *A Pedagogy of Multiliteracies: Designing Social Futures* was

to break the field of literacy into two camps and to introduce a new way to perceive literacy.

Coining a new term and defining a new theoretical pedagogy was a groundbreaking achievement

in literacy research. These researchers from United States, England, and Australia represented

the professional interests of classroom discourse, diversity, language and social meaning,

language in the workplace, literacy curriculum, design, critical literacy, feminist theory, urban

settings, and indigenous peoples (Cope & Kalantzis, 1996).

The NLG theorized that the changing teaching and learning social environments and

emerging technologies added *multiliteracies* to the field of literacy studies. NLG (1996)

proposed a meta-language to describe and interpret this framework and proposed four

components of this pedagogy – situated practice, overt instruction, critical framing, and

transformative practice. The NLG's goals for this work were to recognize the need for social

justice and critical literacy within literacy studies and account for diverse text forms. The report

stated that "pedagogy is a teaching and learning relationship that creates the potential for

building learning conditions leading to full and equitable social participation" (Cope &

Kalantzis, 1996, p. 60). By broadening literacy to include multiliteracies, the intention was to

"account for the context of culturally and linguistically diverse and increasingly globalized

societies" (Cope & Kalantzis, 1996, p. 61).

Barton, Hamilton, and Ivanic (2000) summarized the characteristics of the NLG

perspective on literacy:

Literacy is best understood as a set of social practices. These are observable in events,

which are mediated by written texts. There are different literacies associated with

different domains of life. Social institutions and power relations pattern [critical] literacy

practices and some literacies are more dominant, visible, and influential than others.

Literacy practices are purposeful and embedded in broader social goals and cultural

practices. Literacy is historically situated. Literacy practices change, and new ones are

frequently gained through processes of informal learning and sense-making as well as

formal education and training. How people use and value reading and writing are

themselves rooted in conceptions of knowledge, identity, and being (p.8).

Drawing upon Heath's (1983) work, Barton et al. (2000) distinguished between Heath

and Street's (1984) concepts of *literacy events* and *literacy practices*. Literacy events are

observable; for example, one can see students' annotations or marginal notes from the strategy of

close reading (Beers & Probst, 2013) and grasp what they were thinking about and how they

understand the text. A close reading of text involves an analysis of a text, with multiple readings

done over multiple instructional lessons. For example, Blau (2003) recommended reading a

poem at least three times. Literacy practices are inferential connecting to beliefs, values,

attitudes, and power structures. Street (2012) advocated for multiliteracies and cited Halliday's

(2007) *Language as a Social Semiotic* as a seminal work "to situate language within a social

context and apply the insight that text could be understood as sign" (p. 171).

The Spatial Turn

Mills and Comber (2013) argued that the material and immaterial locale integrated into

and connected to literacy practices. Spatiality can both enable and enhance literacy and it can

constrain and oppress literacy. It is at the same time both product and process. One of the most

hopeful components of spatial literacy is that it can be changed by collective social action

leading to generative ideas and transformed and empowered people.

If one considers a classroom as an ecosystem rather than a container (Leander, 2002), a

new range of possibilities arise. How students and teachers create and coexist in learning spaces

that extend out through curriculum, virtual spaces, home-to-school connections, media, and

students' lived experiences expand how to view the literacy practices of students. Mills and

Comber (2013) posited that social and material processes cannot be separated from critical

literacy practices. The differentiation of these spatial planes represents a link between physical, geographical spaces and mental, cultural constructions of space. The field is still not widely conceived as there has been a return of late to autonomous skills-based literacy which backgrounds spatial and temporal literacy even though their additions to literacy studies and connection to critical literacy are direct and distinct. Mills and Comber (2010) explained how Gutierrez, Rymes, and Larson (1995) located the tension between teacher scripts, student counter-scripts, and identities in the classroom as constructed social spaces. Spatiality and sociality are mutually constitutive.

Rhizomatic spatial metaphors explicate the field more appropriately. Literacy theorists consider space as boundaries (Phelan, Yu, & Davidson, 1993), borders (Anzaldua, 1987), margins, centers, and peripheries (hooks, 1989), or even circulatory (Lave & Wegner, 1991). Studies detail the material of space; how space constructs its makers; and how it discomforts established ideologies and social orders as space is conceived (Leander & Boldt, 2012). There is also conceived space and planned space. Spatiality might relate to the curriculum, the physical school, the classroom, or a school community ideology. Besides the metaphors and "the what and the how" of spatiality, the themes have ascended across the field. In the topic of hybridity, researchers examine third space, controlled space, and the materiality of time. Researchers reviewed concentric space (Moje, Ciechanowski, Kramer, Ellis, Carrillo, & Collazo, 2004) and Gee's (2000) analytic categories, which included nature, institutional, discursive, and affinity group space. Gee (1996) theorized emerging digital literacy and third space (Bhabha, 1994) with introducing the concept of place-based or digital *affinity spaces*. An example of afffinity space is the 2016 Nintendo Pokemon Go APP where kids on summer break all across the United States flooded public community spaces to visit Pokestops [actual and virtual geographical locations],

chase down virtual Pokemon monsters, and interact by teaching and sharing game rules and hacks by apprenticing more experienced players who might not have age as an experience qualification.

Moje et al. (2004) sought to determine the funds of knowledge that students bring into the classroom by incorporating third space (Soja, 1996) and determining the prior knowledge students called upon to shape their literacy practices of reading, writing, and talking about texts. Besides the third space theoretical framework which seeks to find a mediational space between private/social and institutional/academic discourses, Moje et. al. (2004) relied on hybridity theory, which asserts that people in a globalized world adapt to multiple frames of reference, or Discourses (Gee, 2006). Leander (2002b) studied *sedimented* space in several visits to ethnographic data collected from a yearlong study in a high school classroom. Students bring identities and ideas from multiple spaces (home, school, other) that contribute to meaning-making (Holland & Leander, 2004; Rowsell & Pahl, 2007). Mills and Comber (2013) asserted that this pioneering study explored the materiality and situated nature of space, power, and identity in this classroom. Leander (2002b) asked, who gets in the door of a literacy event? What pedagogy is taking place and where is it positioned? How are the social identities enacted and recognized in the space? Leander's (2002a) data included seating charts, video recordings of gestures, gazes, movement, embodiment, student-constructed artifacts, and discourse analysis of place and space. Rowsell and Pahl (2007) also conceived of sedimentation in four examined case studies by theorizing that "texts as artifacts instantiate the layers of lamination" (p. 393). Layers of communicative interactions pile on top of one another like sediment situating spatiality, empowerment, and self-efficacy in school settings.

Spatial literacy applies to a study on the critical literacy practices of students undertaking PBL because the students' communications are "contingent upon developing content knowledge through research" (Mills & Comber, 2013, p. 415). Students' place learning is embodied and local, in the class and outside of class. Their relationships with each other and their own research topics are represented through multimodal text, which they must read critically and spatially. Students parse their way through contested accounts to decide how their sources support their arguments. A spatial lens might help them understand the difference between primary and secondary sources. Mills and Comber (2013) gave a nod to phenomenology to capture these lived experiences of critical literacy events. Literacy research is often positioned in the domain of ethnography. Literacy practices can be represented in literacy events "constituted through lived bodies and material and social objects" (Mills & Comber, 2013, p. 419). A phenomenological case study captures the rhizomatic *habitus* (Bourdieu, 1977) of the participants in the dwellings they occupy.

Artifactual Literacies

A digital turn exists as well in the chronology of recent literacy studies (Mills, 2010). For this research, some students took up digital artifacts but others did not. Thus, the final mode of critical literacy to support PBL is critical artifactual literacies. Critical literacy addresses imbalances of power and suppressed voices. Pahl and Rowsell (2011) argued that cultural constructs, like Hip Hop or vernacular literacies, have a place next to more traditional, canonical literacies. Pahl and Rowsell (2011) explained, "Stories connected to objects and home experiences can provide a platform and starting point for text-making. Text-making can also be set within a multimodal framework that allows for a much wider concept of meaning making" (p. 129).

Every object tells a story and this theory brings in the out-of-school *figured worlds* (Holland, 1998) of students to the school ecoscape inviting families to take part in the school community. Installations of familiar cultural artifactual exhibits "opened up the families' home spaces to link to wider spaces of objects, stories, and recognition of the similarities across cultural spaces, as all of us have valued objects and stories" (Pahl & Rowsell, 2011, p. 147).

Pahl and Rowsell (2011) theorized critical artifactual literacy as creating new spaces to support old and new literacy practices which show the out-of-school experiences of students, especially those who are marginalized or not of the dominant culture. These artifacts as campaigns, collections, or oral histories create social change to show the reality of the outside world. Schools are often intimidating institutions. Critical artifactual literacy is a way to bring the school into the community to forge better relationships with community members. Whether co-opting local community spaces to set up exhibits or to share school space for and with community artifactual exhibits, a fluid caring relationship (Noddings, 2002) is built as both entities collaborate in the shared real-time and/or virtual space. Students, parents, school faculty, and members of the community can recognize the power of narrative, curation, and community building in a jointly-iterated space.

Developing a material cultural studies lens in critical literacy practices widens the gaze to community members' perspectives that might not be recognized. Often out-of-school literacy practices are not given the same value as in-school literacy practices, so students feel that their values, beliefs, and cultures are shunted aside to privilege academic, testing, or majority culture constructs (Leander, 2002). Pahl and Rowsell (2011) contended:

> This [literacy practice] does not just mean bringing in everyday objects, but interrogating meanings, values, and identities…[creating] a space for critical literacy education that

demands an artifactually-situated methodological approach, with an eye on the rhythms of everyday practice, time, space, and context. (p. 147)

The Theoretical Framework of the Pop-up Museum

In today's digital world, the museum paradigm has shifted from a repository of rotated collections conserved and inaccessible behind glass by specialized knowledge keepers to a hands-on interactive conduit model that integrates participatory and experiential displays. Modern museums include digital components on the museum grounds that extend into virtual space. Curators safeguard primary sacred objects, but also strive to make these resources meaningful, usable, and scalable. Schools could look to museums as metaphors of modernization.

This research defines literacy as the ability to read analytically, respond to, curate, and produce multimodal text. Students must navigate intention, propaganda, re-mixing, formal/informal language, and digital literacy in an increasingly image-driven world to make meaning (NCTE Executive Committee, 2013). The pop-up movement is a temporary civic community gathering centered on a topic or idea. Delcarlo (2011) conceived of pop-up museums as public spatial gatherings to share cultural information. Nina Simon (2013), executive director of the Santa Cruz Museum of Art and History, blogged about Delcarlo's (2011) pop-up museum conceit as short-term, spatially-rendered, thematic, and convergent (Simon and Delcarlo, 2011).

Transformative Pedagogy

Millard (2006) advocated for the idea of transformative pedagogy and a literacy of transformation by citing Giroux's (1993) argument of literacy as an engaging process of "consciousness and resistance." Millard (2006) explained, "Giroux's position informs… critical

literacy… [moreover,] it must be deliberated both politically and ethically" (p. 251). To "read the world" is a political act because one is considering acts of power (Freire, 1972). To read it ethically implies different contexts and circumstances including class, gender, race, and partisan stance (Ladson-Billings, 1995a; Noddings, 2005). Millard (2003; 2006) established the notion of literacies of fusion. This idea seems to be a good starting point for understanding how transformative pedagogy arose out of "blending aspects of school requirements with children's current interests" (Millard, 2006, p. 237). Millard's (2006) process of incorporating the concept of *structuration* (Barthes, Miller, Howard, and Balzac, 1974) into a literacy of fusion served as a framework for a pop-up museum dedicated to the exhibition of multiliteracies.

The Pop-up Museum

Delcarlo (2013) proposed that pop-up museums, like the pop-up dining movement, could produce a sense of variety, interest, and community spirit. Pop-up restaurants and food trucks focus on a few specialties, often high concept, ethnic, or fine dining entrees, and travel to designated spots in neighborhood communities to sell their menus on a particular night (Dicum, 2010). With much of the world going digital, museum curators have been tasked to question the relevancy of warehousing and archiving historical mementos and documents. If museums move everything online and museumgoers can take virtual field trips, what is the point of supporting brick and mortar museums? Delcarlo's (2011) idea of moving the museum to the people in small, temporary, community-curated exhibits provides a bridge from the community to the museum and contemporizes public exhibition spaces and places. Delcarlo (2011) piloted a pop-up museum at a branch of the Seattle Public Library. The theme for the pilot was *Handmade,* which Delcarlo (2011) described, "You are welcome to interpret as you will. I will bring the quilt my grandma made for my wedding" (paragraph 1). The blog post (2011) read: "Important

info: Who can come? Anyone; Where is it? Seattle Public Library, University Branch 5009

Roosevelt Way NE; Is there a time commitment? Nope! Show up when you want, leave when

you want.; Cost? Free" (paragraph 2). Delcarlo (2011) hosted many pop-up museums, a

mastersbut this legacy continues. During the summer of 2014 in Seattle, three separate pop-up

museums were hosted in different areas of the city. In the interest of developing this study, it

was easy to see how this idea could apply to education to reflect multiple literacy practices.

Students merge their out-of-school interests with in-school texts to create artifacts for the

pop-up museum. Students also contemplate a variety of spectators because the pop-up museum

intends to meet the needs of certain audiences. A classroom-initiated pop-up museum exists in

third space (Bhabha, 1994; Maniotes, 2005), where students design their own interpretations of

text, events, people, and curricular elements and show them to a wider audience than typical

modes of presentation. The traditional student-to-teacher transaction is one where students

submit work, the teacher reviews the work, the teacher returns work, and the students dispose of

the work (Kahl, 2013). The pop-up museum for literacy practices introduces a protocol for

students and educators to infuse formative assessments leading up to a class exhibit where

students show summative proficiency in literacy practices and standards to their peers, the

community, and the world. Maniotes (2005) commented on *third space*, "… Students can

construct new worldviews rather than having to take on the teacher's perspective or those

mandated by the curriculum or textbooks" (p. 3). The stakes are higher and more personal

because an audience for a pop-up museum is wider and more connected to how students identify

themselves.

Pop-up museums tap into students' cultural capital (Bourdieu, 1977; DiMaggio, 1982)

and motivate struggling or marginalized students by providing engagement, choice, and

negotiation to compose multimodal artifacts. A pop-up museum turns each student in the class into an exhibitor creating and curating artifacts that argue the relevance and purpose for their contribution to be included in the class display.

Giving so much agency to students asks teachers to step aside and allow students to make choices for learning, to make mistakes, and to reformulate their thinking. It is a risk, and many teachers do not feel comfortable sharing the authority in their classroom (Felder & Brent, 1996). Noddings (2013) speculated, "…the realities of global life in the 21st century have led many of us to believe that cooperation should be valued more highly than competition. Collaboration is a value, [an] instrumental technique, and [a] practice [that] supports both" (p. 40).

A pop-up museum is like a square dance in that the student has an individual role, a small group role, and a whole group role with multiple checkpoints along the way. Noddings (2005) work in social justice and care theory foregrounded that: "We must allow teachers and students to interact as whole persons, and we must develop policies that treat the school as a community (p. 13) In the era of standards and standardized testing, schools have moved away from opportunities for students to work within the community, to express democratic principles, and to work with each other – not competing for numbers – to parse what an informed citizenry looks like and acts like.

In an era of increasingly diverse classroom populations, teachers need to be mindful that students arrive to class with assets –funds of knowledge– that can be tapped into by accessing their home cultures (Moll, Amanti, Neff, & Gonzalez.,1992). For example, Ladson-Billings's (1995b) culturally relevant pedagogy entails seeing oneself as part of the community from which the school draws students. The findings of teachers who worked best with multicultural populations revealed the relationships between students and educators as "equitable and fluid"

encouraging students "to act as teachers… and [for teachers to] function as learners in their

[own] classrooms" (p. 163). Ladson-Billings (1995b) advocated creating nurturing bonds that

encourage students to support each other, teach each other, and manage each other's learning.

The College Board's (Jolliffe, 2008) teaching suggestions for the Advanced Placement

English Language and Composition synthesis essay include a construct of "conversing" with

texts. Avila and Moore (2012) called it "interrogating." Students are responsible not just for

making or bringing an artifact to the museum exhibition. They must synthesize mentor text, take

a critical stance, close read it, view it through many lenses, and then "talk back to it" (Blau,

2003; hooks, 1989) by way of supporting, refuting or qualifying the text through his or her

artifact (Rowsell & Pahl, 2011). For example, if a student chooses Dickinson's (1862) poem,

This is my letter to the world, the student might decide that in Dickinson's time of the 1850s, it

was important to address the world in a polite letter. The era of Romanticism merited a musing

epistle about nature and spirituality. Today, a student might talk back to this text to say that a

letter– or a poem as a letter– would not be heard while a YouTube video or a meme (an ironic

image) posted on a social network would be. Students might privilege image over print because

they think of their audience who would be less likely to read a letter or act on dense, whimsical

prose. Thus, a contemporary student's artifactual display might have Dickinson's letter-poem on

one side of the exhibit and a computer looping a video on the other. The two artifacts position

one against the other, not adversarially, but connected by the common thread of a desire to

address to the world the coterminous universality of nature and spirituality.

This argumentative stance is one of a critical pedagogy of which Freire, hooks, and

Giroux are proponents (Bizzell, 1991). More than just exposure to certain texts in an English

class, students need to take up a critical stance. This move away from depositing content into a

brain bank (Freire, 1972) prioritized viewing content for power, position, and authority (hooks, 1989); and understanding where content fits within the context of the wider culture (Hudson, 1999). Bryson and Bennet-Anyikwa (2003) argued, "The classroom is a dynamic location for knowledge construction through shared experiences" (p. 131).

Feminist pedagogy is introduced as a teaching method responsive to classroom diversity by creating space for students' experiences and promoting student voices (Bryson & Bennet-Anyikwa, 2003). Many educators, in their twilight years of teaching, came of age during the first and second wave of feminism. Although there has been resistance as of late to the label "feminist," the ideals of feminist pedagogy support the framework of the pop-up museum. Webb, Allen, & Walker (2002) devised six feminist principles for teaching on the university level. These precepts work on the secondary level as well. They are a reformation of the relations between [teacher] and student; empowerment; building community; privileging voice; respecting the diversity of personal experience; and challenging traditional pedagogical notion.

The pop-up museum positions students as expert exhibitors and through their *telling*. A collaborative temporary museum empowers the students' voices and firsthand experiences, respecting the variety of experiences within the class community, and framing the students' arguments/claims of their artifacts to contribute to the collective culture.

Baker, Gerstein & Graham (2003) found that students with learning disabilities and struggling students need explicit teaching of critical reading, the writing process, writing conventions, text structures of writing genres, and frequent guided and corrective feedback. The practice of talking back to a text (Blau, 2003; hooks, 1989; Jolliffe, 2008) and the protocol of the pop-up museum incorporate textual analysis and scaffolded construction. Olson, Land, Anselmi, and Aubuchon (2010) found that some teachers of students with disabilities and English

language learners avoided requiring students to write analytical essays even though the Common Core and most state standards require all students to perform a range of complex reading and writing tasks. When teachers have high expectations and explicitly teach and model the academic skills for which students are assessed, then students with disabilities, struggling students, and English language learners can meet the multiliteracies needed to perform successfully as interpreters of text, as constructors of artifacts that critique text, and as exhibitors of their stances appraising text along with their peers in a pop-up museum. These expectations apply to all learners.

Before students self-select texts to which to respond, a mentor text is used. For example, a professional model using excerpts from Lincoln's *Second Inaugural Address* has been developed for a mentor PBL activity. Students review the excerpts and use a double-entry journal graphic organizer to discuss Lincoln's words by taking an interrogative stance. From an individual response to a paired discussion to small group discussion, students listen to and respond to peer commentary, participate in group discussions, and practice textual analysis. Frames have been developed as well so struggling students can plug in concepts to plan an appropriate claim when constructing arguments for critiques. Using the "feedback loop," struggling students receive guided, differentiated, and individualized instruction when needed on organization, elaboration, style, and writing conventions so that all students can meet the expectations for the assessment and contribute their voice and learning artifact to the pop-up museum (Black, Harrison, Lee, Marshall, and Wiliam, 2011). After students have devised a critique, the students use technology to create a meme (the artifact) that represents an understanding of Lincoln's excerpt. The teacher encourages students to group their artifacts by theme and then the students arrange their technology devices to tell a story. What this might

look like is Smartphones, tablets, and laptops stacked, leaned, or positioned next to each other or

in a circle for the museumgoers to understand the theme's message.

Project-based Learning

To understand PBL, one needs to comprehend what it is and what it is not. PBL can be

defined as a dynamic classroom approach in which students actively explore real-world problems

and challenges and gain a deeper knowledge to create learning artifacts (Grant, 2011). Many

teachers cannot differentiate between PBL and its two sister forms of pedagogy– problem-based

learning and inquiry-based learning. Problem-based learning need not be dynamic, nor does it

lead to a learning artifact, or even necessarily a solution. Students must simply gain new

knowledge. Inquiry-based learning is associated with the idea "involve me, and I understand"

(Edelson, Gording & Pea, 1999, p. 391). Teachers who use the Socratic method use an inquiry-

based learning activity. PBL can incorporate problem-based learning's emphasis on acquiring

new knowledge and inquiry-based learning's critical questioning. English teachers often assign

projects as an extension or an assessment of a unit's worth of material. For example, students

might make a poster reflecting a theme from Shakespeare's *Romeo and Juliet.* Larmer &

Mergendoller (2010) clarified that projects are not PBL; rather, in PBL, students learn content

from completing the project.

Besides misinformation about the absolute definition of PBL, today's focus on high-

stakes testing drives curricular decisions that might disallow PBL in favor of direct teaching

(Popham, 2001). Multiple-choice test score analyses of middle school science content showed

that students in a teacher-directed classroom learn more fact-based content than via PBL; yet,

students engaged in PBL have better and longer retention of content (Casbarro, 2005; Grant,

2004; Hanney & Savin-Baden, 2013; Marchant, Paulson & Shunk, 2006). Educational

stakeholders need to determine what they want –short-term retention of isolated facts to drive up standardized test scores, or longer, deeper understanding and application of relevant content. Rowsell (2014) suggested that traditional notions, and therefore, traditional measurements of reading achievement need re-imagining. In a phenomenological study of a multi-site two-year project of iPads in a secondary classroom, Rowsell (2014) encountered new practices of reading that were not traditional and linear but more game-based and multidimensional. Thus, as reading evolves due to technology, measurements of achievement in literacy by way of high-stakes testing need to be revisited.

Policy makers, legislators, and district level and school site administrators are often at odds with teachers, particularly ELA teachers, who want to implement PBL in their classroom, for fear of lowering test scores or covering skills that won't be measured on the high-stakes tests (Grant & Hill, 2006; Marchant, et al., 2003; Thompson, 2014). Scheyvens, Griffin, Jocoy, Liu, and Bradford (2008) expressed that it is problematic to implement PBL where students have limited prior knowledge of a subject. PBL might require too much work of teachers with so much content to deliver otherwise.

Significant institutional constraints to implementing PBL are physical space, time, scheduling, budgetary, continuity, transience, and testing, among others (Scheyvens et al., 2008). Projects can take longer than expected and often need extensive teacher preparation. If not implemented correctly, teachers can give students too much independence and PBL becomes pedagogically unsound and unstructured (Scheyvens et al., 2008).

Efficient use of PBL requires detailed planning and professional development, a supportive environment, and tools and strategies for effective instruction. Moreover, proponents of PBL praise the emphasis on in-depth investigations over memorization of broad content

knowledge (Buck Institute for Education, 2014; Grant, 2011). Learners complete projects more readily when projects are relevant to students (Harel & Papert, 1991; Hug, Krajcik, & Marx, 2005; Kafai & Resnick, 1996; Grant, 2011). Tassinari (1996 and 2012) and Worthy (2000) asserted that PBL offers learners opportunities for self-direction and self-regulation. PBL integrates collaboration and cooperation, skills that highly successful companies value and want to be taught in students' formative years (Grant, 2011; Scott, 2013). Lessons using PBL also use a variety of resources, tools, and scaffolds, which help students with attention, language, or learning issues (Buck Institute for Education, 2014; Grant, 2011). Well-coordinated PBL includes deep reflection, a higher order thinking skill that bodes well for college and career success (Grant & Hill, 2006). Most states have upped the rigor and implemented standardized testing that incorporates performance tasks. Larmer, Wells, and Miller (2014), in an online Google Chat through the Buck Institute of Education, expounded upon the correlation between high-stakes testing performance tasks and the critical thinking asked of students in PBL experiences.

Worldview and Research Tradition

The worldview of this study incorporates both constructivism and participatory-activism which meshes well for a phenomenological case study. This PBL activity asks students to construct understanding and awareness socially and historically through observations and asking questions. Thus, it reflects a constructuvust/activist pedagogical orientation. In contemporary ELA classes beholden to state and national standards, ELA teachers must adapt a critical lens and consider that everything is an argument. In observing and experiencing the world, students should consider the agenda of the host, the speaker, the writer, and even the designer. What rhetorical moves are authors making and why?

PBL and critical literacy helped to gain a thorough understanding of students' and teachers' lived experiences and helped to form relationships with them (Ladson-Billings, 1995a; Noddings, 2005). PBL extended from the classroom to students' home lives and their communities. Students can implement these critical literacy practices to reflect on the world around them seeing arguments in multimodal media and even in their relationships with friends, colleagues, and relatives.

American philosopher Henry David Thoreau lived in the woods for two years, two months, and two days. His profound and prolonged observations and reflections were published in *Walden* (1855). Thoreau's essays empowered Martin Luther King and Mahatmas Gandhi to implement civil disobedience. If Thoreau were alive today, he would espouse and advocate for critical literacy. Freire's (1972) example of conscientization and Thoreau's (1855) criticism of consumerism over community-building are similar. These liberating and issue-specific writings encourage progressive, change-oriented action — an outcome strongly fostered in both PBL and critical literacy. By using a constructivist lens, the benefits of collaborative learning which encourage students to work together, seek compromise for the greater good, and model civic and civil behavior are clear. These truths and components of a constructivist and participant-activist worldview synthesize PBL and critical literacy.

Why Implement a PBL Pop-up Museum?

Schools across the country are implementing *genius hour* or *20% time* with encouraging results (Kesler, 2013). Pink (2009) reported in the book *Drive* that companies like Google and 3M gave their employees one day per week to pursue topics of interest. What came out of these flexible time experiments were Gmail and Post-It Notes (Pink, 2009). Many teachers who read Pink's book were encouraged to think about how this idea would work with students and

implemented projects based on open topic choice and unstructured time (Widness, 2010). The

do-it-yourself (DIY) and the makers' movement were trending at a time that coincided with the

push for STEM curriculum to make up for a deficit of Americans pursuing careers in the hard

sciences, engineering, medicine, and the aerospace industries (Samtani, 2013).

       A pop-up museum encourages participatory and active learning. In the spirit of Freire's

teaching praxis of dialogic learning (1972), a pop-up museum enables teachers and students to

form a reciprocal relationship. Teachers becomes museumgoers, experiencing students'

artifactual exhibits for the first time. A museum protocol reflects the most authentic aspects of

PBL (Buck Institute of Education, 2014; Delcarlo, 2011). The student's contribution to the

museum answers a challenging problem or question. Students critique, revise, and reflect on

their work. The artifact shows their fundamental knowledge, understanding, and successful

mastery of the skills of their chosen study in a sustained inquiry. The artifact is a public product,

made for an audience outside of the teacher-student paradigm (Pahl & Rowsell, 2011).

       Artifactual museums engage students in collaboration of design, images, and space.

Today's media savvy teens become mindful of the message through font, signage, placement,

color choice, traffic flow, and ambiance (Kress, 2010) when coordinating their class's museum.

These concepts reinforce the persuasive techniques of the ethos of the messenger, the logos of

evidence (the story of design and the artifact), the pathos of the audience (the needs of the

museumgoers), and the kairos of timing. All are vital to the museum experience. This critical

understanding of how to communicate and how people receive communication attunes students

to higher order thinking and critical literacy adeptness (Gee, 2010).

       Exhibiting work in a public setting encourages students to express their critical voice.

When students talk back to text dialogically, they become empowered (Blau, 2003; Freire, 1972;

Joliffe, 2008). Often, in a large classroom, the individual voice is drowned out in a sea of voices.

In a pop-up museum, each student inhabits an equal space. The individual's artifact supports an

exhibit which, in turn, contributes to the whole museum (Furo, 2011). Everyone's voice is

present, respected, visible, and cohesive to the museum-going experience (Delcarlo, 2011).

Sluys (2010) found that when teachers carry out collaborative, participatory research on a

secondary level, students engaged more with the work and repositioned themselves as active

learners within a community as opposed to passive learners awaiting curriculum. Sluys (2010)

commented, "If our focus is who and how we teach, engaging with participatory action research

in schools offers a compelling set of practices that invite inquiry into issues of local importance"

(p. 150).

Conclusion

If expert teachers build deep relationships with students, provide authentic learning

experiences for them, and incorporate voice and choice into their curricular selections, then PBL

has a vital place in the secondary ELA classroom. Achievement is measured by more than just

what multiple-choice standardized tests entail. PBL – in the form of a pop-up museum as a

formative or summative assessment – allows a teacher multiple measures of proficiency in

standards, true understanding, motivation, engagement, and life skills.

Modern ideations of critical literacy need opportunities to flourish in secondary ELA

classrooms despite contentious accountability systems that might seem counterintuitive and

retrograde in their reduction of students to quantifiable data points. The habitus (Bourdieu,

1977) established by the critical literacy praxis of talking back to texts via PBL activities will

ameliorate the standardized scores that schools desire to prove successful and foster the critical

literacy practices needed for all participants in an ever-evolving globalized culture.

CHAPTER 3: Methodology

In this study, the PBL pop-up museum activity was implemented with two 10th grade

English classes and two AP English Language and Composition classes. The researcher

mentored two teachers and trained their students on the PBL pop-up museum protocol. Students

and teachers who had undertaken PBL pop-up museums were surveyed and interviewed both

during the experience and afterward. The students and educators were guided in understanding

the concept of PBL (Krajcik & Blumenfeld, 2006; Thomas, 2000) and were offered a suite of

critical literacy tools while undergoing PBL activities. It was not a treatment or intervention per

se as a new strategy was not introduced to the other teachers' repertoires; rather, this study aimed

to record and document how students take up critical literacy practices (Comber, 2014; Riley,

2014) within the framework of an evolved PBL approach. This critical literacy protocol

incorporates text, inquiry-based learning, writing, problem-based learning, PBL, and reflection.

The one-semester time frame binded the project. The completed IRB permission responses for

both the university and the local school district is included in the appendix. The study began in

March 2017 and concluded in May 2017.

Research Design

A Critical Literacy PBL Pop-up Museum

For this research study, close reading and *talking back to the text* were introduced or

reinforced as critical literacy strategies. This approach coheres with students' planning other

academic tasks like state-standardized constructed responses, AP document-based questions

(DBQs), and the AP English Language and Composition synthesis essay (Beers & Probst, 2013;

Blau, 2003; Fajans & Falk, 1993; Gilroy, 2011; hooks, 1989; Jolliffe, 2008; Loads, 2013; Phelen,

2015; Tovani, 2011).   By directly teaching two metacognitive think-aloud reading strategies,

students addressed resources and questioned the sources for the audience, purpose, and tone to

decide if the source had something to say or add to the students' arguments. Jolliffe (2008) said,

"To read and write analytically means to examine… text, to determine both what its meanings,

purposes, and effects are and to show how its parts work together to achieve those meanings,

purposes, and effects" (p. 10).   Students often use sources to drive their research; it is optimal

for them to use arguments to drive source selection.

   A meme pop-up museum can be completed in one or several class periods using available

technology like iPads, cell phones, and laptops, although this activity can be completed using

student-drawn artifacts as well. Students close read multimodal texts, interrogated them

interstitially, and then found or created images that reflected their understanding of the text.

Next, students created memes by posting words and phrases over their image that reflected a tone

or attitude. The class members coordinated with others who created similar memes. Students

then stacked, leaned, and curated each meme to create exhibits and show concepts. The class

toured the temporary museum themselves and invited other classes or guests to tour their

museum. Students broke down their museum and returned all furniture and equipment after the

museum completed. A debriefing session began afterward to discuss the experience, the

individual entries, the curated collective displays, and the museum.

   Besides creating and exhibiting learning artifacts, the class was tasked to coordinate the

museum by considering critical literacy aspects of power, space, placement, signage, foot traffic

flow, audio, theme, and design (Freire, 1972; Gee, 1996; Kress, 1999; Leander, 2002b; Soja,

1996). In earlier iterations of the pop-up museum, a class included uniformed security and

stanchions to direct museumgoers. Another class catered and deejayed their event. These

aspects of spatial literacy factor into the experience of the museums (Burnett, 2013; Mills & Comber, 2013). A brief encapsulation of the four museums featured in the study follows:

   Museum 1. Students studied *Hamlet* and were transitioning to a unit on British Enlightenment. The classroom teacher requested Jonathan Swift and satire. Swift was introduced and students were provided definitions and examples of Horatian and Juvenalian satire. The class read aloud and discussed "A Modest Proposal." Students were asked to compose a satiric letter on a contemporary issue and a meme that reflected their viewpoint. The pop-up museum displayed their letters and memes.

   Museum 2. The students had studied Elie Wiesel's *Night*, so the researcher and the classroom teacher selected a 1999 Wiesel speech as a mentor text, "Remarks at Millennium Evening: The Perils of Indifference—Lessons Learned from a Violent Century." The class received scaffolded instruction on vocabulary concepts before the reading and completed a Cloze graphic organizer. They listened to the speech read aloud and discussed the text. Students read the speech again silently, then they went section-by-section in a class discussion format to provide context and scaffold any terms and concepts that need explication (Blau, 2003). Students discussed the speaker, occasion, audience, purpose, subject, and tone (Morse, 2016), as well as the rhetorical devices that Wiesel used to achieve his purpose (imagery, rhetorical questions, persuasive appeals, parallel structure, and anaphora). As students analyzed the text, the teacher/researcher recorded the students' comments on a digital copy projected on the board. Students were tasked to create a policy statement about an issue of interest and make a meme that reflected their sensibilities. Students exhibited their policy statement and meme in their class pop-up museum.

Museum 3. Students read two articles that supported the themes found in John Steinbeck's *The Grapes of Wrath*. They created policy briefs related to these themes and a meme to represent their viewpoint. They curated their memes and policy briefs and arranged themselves by themes. The pop-up museum was related to *The Grapes of Wrath.*

Museum 4. Students followed the pop-up museum protocol and hosted a student-led pop-up museum to exhibit the findings of yearlong service-learning projects.

The Decision to Use Qualitative Research

At its base, qualitative research can be understood as a naturalistic approach concerned with exploring phenomena using the perspectives and accounts of research participants as a starting point for interpretation (Ritchie & Lewis, 2013). Among the genres of qualitative research are ethnography, case study, grounded theory, phenomenology, narrative approach, and action research. A phenomenological case study was selected because a description of these participants' lived experiences expressing their critical literacy practices while experiencing PBL was needed. What do these participants have in common beyond PBL? If the participants' common experiences are understood, a deeper understanding of the features of PBL could be developed and how this approach enhances critical literacy. If the participants' universal essences are positive and they make learning gains through expressing their critical literacy practices, then that is interesting to the academic community, and to the greater educational teaching and policy-making community.

The study recorded anecdotes and recounted ideas through open-ended surveys, interviews, a focus group, field notes, and student work samples. Commonalities arose to the surface but lived human experiences cannot truly be quantified. Wrongful assumptions have been drawn using standardized testing in judging student achievement and teacher quality (Hout

& Elliot, 2011; Zappardino, 2012). It seemed more fitting and proper to add a rigorous, well-researched qualitative study to the literature of critical literacy pedagogy. Some things, like the essence of a students' sense of empowerment, cannot be quantified.

Phenomenological Case Study

Because these 18 student participants and two teacher participants could not be studied in a prolonged engagement like Thoreau's (1855) experience at Walden Pond, a case study was selected. By concentrating on the boundaries of the case and paying close attention to the influence of its situational contexts, information was gained regarding this group of participants. Data was gathered using naturalistic methods and data sources. All individual interviews, observations, and the focus group interview took place in situ in the researcher's or colleagues' classrooms. Data gathering including photography, audio, and videotaping were non-invasive experiences.

Setting

The setting for this study was a medium-sized, suburban high school of about 2200+ students. On the state's accountability scale, the school earned a 79.8 percent with six schools in the district scoring higher and ten high schools scoring lower (State Department of Education, 2016). All the selected participants attended or taught at this school, so the culture of the school is transparent. The school prides itself on the number of community service hours the students earn, and some students graduate with more than 1000. The school is considered the 12th best high school in the state by Niche.com's (2015) Best High School rating. The ranking is determined by: Academics Grade-50%, Health & Safety Grade-10%, Student Culture & Diversity Grade- 10%, Survey Responses-10%, Teachers Grade-10%, Resources & Facilities

Grade-5%, Extracurriculars & Activities Grade-2.5%, and Sports & Fitness Grade-2.5% (Niche.com, 2015).

The school is 18-years-old and was built to ease overcrowding from a school four miles away. A newer school opened since then to lessen overcrowding at both schools. This area, a prosperous city 25 miles away from one of the larger southern cities in the United States, continues to grow. It includes a broad range of shopping offerings, many car dealerships, a historic battle site, a regional airport, a mountain, and the third largest university in the state. It is one of the safest cities in the state with violent crimes per 1,000 at 1.08 (Advameg, Inc., 2015). In 1982, the city council made national headlines by passing a law requiring heads of households to own at least one firearm with ammunition. The property crimes per 1,000 are 16.08 (Advameg, Inc., 2015).

The school draws from bedroom and gated communities with some apartments and transitory housing in its midst. Free and reduced lunch statistics show the socio-economic levels of the student population is 31%, which has dropped from previous years. This school houses a competitive science and math magnet program drawing from the county at large and transports the magnet students on special buses to the school site. The magnet program aligns with the National Consortium for Specialized Secondary Schools of Math, Science, and Technology and is STEM-certified. The Academy enrolls 22% of the school's population and 66% of the AP Language Arts class (C--- C----- School District, 2016).

Statistics from the State Department of Education (2016) showed 1129 white students, 518 African American students, 134 Asian students, 302 Latino/a students, six American Indian students, one Pacific Islander student, and 51 students who identify as mixed-race for a total of 2141 students. During the year of the case study, enrollment went up by 100 students due to a

state choice program where students who wanted to attend a school outside of their

neighborhood school boundaries could attend if they provided transportation themselves. This

school has a waiting list of students who want to attend.

The AP English Language and Composition class, the 10th grade Honors Literature, and

the 10th grade Regular Literature classes started in January 2017 and follow a four by four block

schedule of 90-minute classes.   The study began in the sixth week of the semester and continued

until the eighteenth week. Students had opportunities to ask questions about the study and its

components. The PBL activity, the pop-up museum, and the study were outlined to parents and

school community members at the Spring Open House and on the syllabus.

<center>**Participants**</center>

Purposive sampling is non-probability sampling in which "decisions concerning the

individuals to be included in the sample are made by the researcher, based upon a variety of

criteria which may include specialist knowledge of the research issue, or a capacity and

willingness to take part in the research" (Jupp, 2006, p. 244). Eighteen students were

purposively sampled from the four classes; however, all students doing the projects were asked

for consent to take part in the study, which covered administration of surveys, document

collection for analysis, and general observations for field notes.

Participants who were selected for the face-to-face interviews, emailed questions, and the

focus group were asked to complete an additional consent form. This sample included different

genders and ethnicities in the participant group, as well as regular community school students

and magnet students from the local school or school choice community; thus, a diverse group of

students were selected. Eighteen students were chosen—four-five from each museum. Built into

the study's plan were follow-up interviews either face-to-face or by email. Two teachers were interviewed as well for context and

The students in the participant group have the same hourly schedule, the same student handbooks, and a shared understanding of school-related jargon. Englander (2012) said that "when it comes to selecting the subjects for phenomenological [case study] research, the question that the researcher has to ask him or herself is: Do you have the experience that I am looking for" (p.19)?

<div align="center">**Data Collection**</div>

Data Types and Data Gathering

To collect data, an open-ended survey was constructed. Questions on the survey ranged from what students enjoyed about English class to start the conversation, describing their critical literacy practices and compositional process, recounting their project-based learning artifacts (persuasive writing, meme, research paper or exhibition) and reflecting on their experience using PBL, the critical literacy strategies, and on the pop-up museum.

Students who did not return the consent form still participated in the survey and did not feel excluded. However, the responses from participants who returned their consent form, which was used for data collection, were partitioned away from those who did not return the form. Their responses were not considered part of the data set.

Field notes after each museum were written for thick description and detail and to recount the events as they happened. The face-to-face interview questions and focus group questions were garnered from the open-ended survey asking students to extrapolate their answers or clarify any misunderstandings. A bracketing journal was kept to record perspectives, potential biases, and ideas for follow up or clarify.

Since phenomenology requires that biases and assumptions be bracketed out, Gee's (2011) Tool #3: The Making Strange Tool helped to "try to act as if you are an outsider" (p. 19). The tool answers the question, "What if this person does not… make the inferences that render the communication so natural and taken-for-granted by insiders?" (p. 199). A second applicable tool was Tool #27: The Big D Discourse Tool. This tool asks the researcher to consider how a person is using language. For teens who vacillate and subscribe to social cues consciously and unconsciously, this tool asks why and how interviewees use language. "What is the speaker seeking to enact or get recognized? What sorts of actions, interactions, values, beliefs, and objects, tools, technologies, and environments are associated with this type of language within a particular discourse?" (Gee, 2011, p. 204)

Dedoose (2015), a web-based data collection program, was used in this study. Dedoose's (2015) platform is color-coded and has a variety of charts, tables, and graphs. Dedoose (2015) maintained all uploaded documents, memos, field notes, transcripts, images, videos, and audio files (hereafter called artifacts). To analyze the data, open and axial codes were created, codes were collapsed, and emerging themes were viewed. All artifacts in the data set were coded for emerging themes. In brief, the data was added, analyzed, and reduced until it became saturated.

Confidentiality, Collection, and Materials Management

All participants were asked to generate a pseudonym using their initials. The setting, site, and location of the study were anonymized using general reference points like "a large southern city," "10th and 11th grade students," and "a suburban high school." These means shielded minors from identification. The data set is composed mostly of digital entries- video clips, audio clips, electronic transcripts, photographs, and electronic files of student work and saved on a specific portable hard drive purchased to archive dissertation materials. The disk will

be maintained privately in a home safe for two years, after which all files will be erased. Student work samples downloaded and printed to perform manual document analysis were scanned and the paper versions were shredded. Interviewees were shown paper transcripts of audio or video recordings and asked to initial and return the transcription that reflected their discourse, words, gestures, and utterances. Physical paper copies of initialed transcripts, printed copies of drafts, and all other materials belonging to the data set both artifactual and reflective, were shredded after use.

Sources of Bias and Sample Limitations

Sometimes, in document analysis, there is insufficient detail. The work samples might have been produced for another agenda (the PBL project, the grade, the teacher), so what was perceived might not be the true essence of the students' understandings. By performing document analysis before the interview and using students' work samples to start the conversation, there was a chance to ask students about their lived experiences. In using phenomenological individual and focus group interviewing, for example, Husserl's (1980) methods, the researcher must account for the thing itself and not representations of things (Benke, 2011). If participants used metaphors or allusions, it was imperative to listen carefully in order to follow up with a question to ask the participant to explain the phenomenon in real terms. Teens like to stay on the surface of subjects and are not always willing to go deep or clarify ideas when communicating with a teacher who grades their work. The students might have perceived that the teacher/researcher would judge them or be hurt by their honesty, so they may have said something they do not mean. Thus, 30-minute semi-structured interviews with student artifacts present allowed for deeper probing of students' authentic experiences.

A student might want to parrot back the teacher's definition of critical literacy practices rather than explaining how critical literacy empowers, disempowers, or provides self-efficacy and personal agency. The students' understanding of the concept of critical literacy working in Vygotsky's Zone of Proximal Development (ZPD) needed to be scaffolded, so interviewees could apply critical literacy praxis to their lives and reflect on this experience (Smagorinsky, 2011). Performing follow-up interviews, providing transcriptions of interviews to the participants, and keeping to the semi-structured format for the interviews helped eliminate misunderstandings or assumptions. Gee's (2011) discourse analysis tools were applied to examining speech and rhetorical nuance.

Perception is also fallible and intuitive. Phenomenology distinguishes between real and irreal objects. An irreal object —like one's concept of justice or understanding of critical literacy— might not be articulated in a way that a researcher can understand the lived experience (Applebaum, 2012). Bracketing helped remove bias, as pre-understandings were suspended (Dahlberg & Dahlberg, 2003); however, bracketing of self-knowledge of the phenomenon of PBL was continued to gain access to the participants' perceptions. The researcher is not an outsider to the AP English Language classes so bridling, which goes further than bracketing, helped eliminate biases. Maintaining a bridling blog had three purposes- to restrain the pre-understandings, to practice disciplined interactions, and to communicate with the participants. Bracketing is often directed backward to compartmentalize what is previously known and assumed; while bridling has a more positive connotation and allows the phenomenon to reveal itself (Dahlberg & Dahlberg, 2003). The sample size was 18 student participants and two teacher participants was determined due to purposive sampling. A sample size this small cannot produce replicable or generalizable data. Even with 18 participants, will their experiences be typical of

the 250+ students who have undertaken a PBL project with a pop-up museum protocol at this school or particular to these participants? This is the goal of the research.

Data Analysis

Credibility, Transferability, Dependability, and Confirmability

Guba (1981) recommended that four standards be considered by qualitative researchers to assure a reliable study —credibility, transferability, dependability, and confirmability. For credibility, an appropriate and well-recognized research method was adopted, a phenomenological case study. Within its bounds, data was triangulated by way of a variety of sources of data collection (interviews, surveys, observations, a focus group, document analysis, and discourse analysis). Many informants were used —different genders, different ethnicities, magnet and non-magnet students, 10th and 11th grade students, ESOL students, students with disabilities, and several teachers. Questions were developed through surveys and informal interviews of earlier students. Thick description was provided for each participant, document, and the PBL experience so readers can picture the situations of the PBL and museum process and analysis experience. A literature review that synthesizes published research on critical literacy and PBL is included in Chapter 2.

As for transferability, it is not optimal to apply the conclusions of a qualitative study— especially this phenomenological case study— to a wider population since it was limited in time, scope, and participants. In the review of the literature, an expansive defense, definition, historical overview, chronology, and contemporary underpinnings of critical literacy and PBL pedagogy informed the readers. Providing definitions of PBL and two other pedagogical methods that people often interchange with PBL helped alleviate misunderstandings. Detailed

descriptions of examples of critical literacy and PBL were provided so readers can compare these examples with their understanding of these concepts.

To promote a level of dependability for the study, detailed steps of each teacher's lessons leading to the pop-up museum protocol were provided, so others could repeat the teaching units as well as the research study. For confirmability, the relationship with the participants was described to maintain transparency about the respondents. A detailed review of the worldview and the critical lens through which the researcher of this study sees and "reads" the world was also provided (Freire, 1972). An account was given of the methodology, and potential biases so that erroneous assumptions can be brought to the forefront if they appear in the data. The researcher alluded to several graphic organizers used to create instruments and to establish the interview protocols. Several charts and graphs were provided in the appendix area to confirm data collection and sources.

Conclusion

Phenomenological studies often take place over several years. A case study provided the boundaries of time, scope, and sample size. Despite positive anecdotal evidence of PBL and the pop-up museum protocol over the past four years from students, there is a fear that many ELA teachers express of embarking on all-encompassing PBL enterprises because of the reality of standardized testing and its misapplied implications of student, teacher, and school success. The pop-up museum aligns with state standards but does not include whole-class multiple-choice assessment practice. A pre-test and post-test for research skills, which encompass a few standards could be developed. A teacher might pass on the opportunity to implement PBL because there is little quantifiable data to be inferred from such a complex, multifaceted pedagogical entity. Numeric data tends to be privileged for its ease of collection, technological

production of data, and simple attachment of standards to each multiple-choice question in a time

where some educational leaders encourage conformity in teaching and curricular delivery

(Shoemaker & Reese, 1996).

CHAPTER 4: Findings

Many people have fond memories of museums, for example, stepping through the enormous purple atriums and ventricles in the interactive and engaging Giant Heart exhibit at the Franklin Institute in Philadelphia, Pennsylvania. One of the oldest museums in the nation, this experience filled museumgoers with wonder at the possibilities of science and passion for learning. Benjamin Franklin's spirit of inquiry is realized in his museum namesake. Museums are research and educational institutes but also social spaces. To remain relevant, museums need to serve the public in an engaging and entertaining way. Modern museumgoers create, curate, display, learn, and share all at the same time. That is why a pop-up museum is a fun addition to the curriculum. Chapter 4 supplies a narrative description of the study participants' experiences during a series of four pop-up museum events noting emergent themes arising from observational and experiential field notes, memos, student work samples, interviews, a focus group, and open-ended surveys. Four data pass throughs and an examination by a rubric of student work samples, gleaned themes from the data set.

Overview of the Data

The first examination of the data involved the use of one of the focus strategies, close reading, as the text was closely read for ideas and concepts were highlighted. This round of analysis supported purposive sampling. Of the participant data collected —76 student surveys, memes, and written responses— 18 student participants were selected to interview. These participants reflected the school's demographics, and their lived experiences provided a continuum of ideas from those grappling with critical literacy practices to those successfully embracing critical literacy practices within the PBL pop-up museum experience.

For the second round, the data was processed after reading the selected participants' written responses and open-ended surveys into Google Voice to create digital reports for each participant. Interview transcripts and students' digital images (either emailed to the researcher or photographed during the pop-up museum) were compiled in a digital report. The reports were uploaded into Dedoose, the web-based application, for analyzing and organizing multiple sources of data for the qualitative research study.

For round three, an a priori list of four pre-set codes pulled from the three overarching research questions offered coherence to the purpose of the investigation. Incidents of the benefits and limitations of using PBL, critical literacy practices, and shifts in identity, perspective, and disposition were noted.

Round four incorporated attention to a transliteracies conceptual framework– emergence, uptake, resonance, and scale. This framework enabled an account for "how meaning making and power are intertwined in and distributed across social and material relationships" (Stornaiuolo, Smith, & Phillips, 2016, p. 68). This final pass through of open coding was undertaken to evaluate the nuances, intricacies, and incongruities of the social situation (PBL and critical literacies) to reach data saturation.

In each of the three meme museums, the two-day experience started with the distribution of packets to students containing a teacher-selected reading passage and a consent form. Permission was obtained to use these readings, as well as all other readings used in the study from Commonlit.org, a non-profit literacy venture that aligns reading passages to the Common Core. The participating teachers received a photocopied set of multiple choice and open-ended assessment questions from Commonlit.org for each of the passages to use for a follow-up summative evaluation. Classes were differentiated by ability level. For the regular 10th grade co-

taught class, a graphic organizer was distributed to scaffold the reading. For the 10th grade

honors and the 11th grade AP class, an added homework reading for students was distributed to

close read and consider before they designed their memes and written responses. The researcher

teaches the AP English Language and Composition class that participated in the study.

A PowerPoint presentation set up a consistent structure for each of the meme museum

lessons. The first ten slides gave a uniform overview of the experience for all students, and

unpacked the study's research questions in student-friendly language. The researcher introduced

herself as a teacher at this school who taught down the hallway; an advisor for a school club; and

a doctoral student at the local university. It was explained that the topics of study were critical

literacy and project-based learning. The remaining slides for each museum lesson were content

specific to the reading, the class, and the course. Students used a class set of Dell laptops from a

school supplied laptop cart although some students chose to compose on their cell phones or with

paper and pen/pencil. The audience for the meme museums was the students in each of three

classes and their respective teachers.

For the Autonomy, Mastery, and Purpose (AMP) Project pop-up museum, the class's

meme museum was used as an exemplar to model how to organize, exhibit, and coordinate

students' year-long projects for a pop-up museum experience. Students designed and hosted the

class pop-up museum for the greater school community attended by teachers, students of all

grade levels, administrators, parents, and members of the local municipality. Thus, the AMP

pop-up museum had the distinction of being 100% student-created and student-directed while the

meme pop-up museums was provided structured guidance.

The Four Museums

Class 1: Meme Museum 10th Grade Honors English

Table 1- Participants in Pop-up Museum 1

Participants	Gender	Ethnicity	Designation	Topic	Level of Critical Literacy	
Sophia Hernandez	Female	Latina (Born in Mexico)	Regular School; former ELL Student	Immigration	Meme-Developing	Letter- Developing
Ethan Lever	Male	Caucasian	Regular School Student	Immigration	Meme-Proficient	Letter Developing
Dylan Thanh	Male	Asian (Family from Vietnam)	Magnet Student	Drought	Meme- Proficient	Letter- Proficient
Kostas Lazos	Male	Caucasian (Born in Greece)	Magnet Student	Math	Meme- Proficient	Letter-Accomplished
Bryan Gaston	Male	Caucasian	Magnet Student	Bees	Meme-Accomplished	Letter-Accomplished

Table 1

The Teacher. **Gus Henry is a beloved 25-year veteran teacher, with 17 years at this high school, which he opened. Henry is the baseball coach and advisor for a club that celebrates fandom for a popular epic film series. He teaches Honors British Literature (British Lit) and Honors Advanced Composition (Adv. Comp.). The focus class was a British Lit class, selected because Mr. Henry had attended a professional development session led by the researcher the previous summer and Henry was motivated to try a pop-up museum with this group. In a discussion with Henry to determine curricular choices and which class to implement the pop-up museum, Henry felt that a literature class provided a better venue for PBL** than the composition class. **Additionally, the researcher, who teaches next door, performed the study of Mr. Henry's class during a planning period and did not disrupt students'** curricular **sequence. The class was joyful, contemplative, and intellectual.**

Demographics of the Class. There were 20 students in the class. Four of the 20 students were female, and 16 were male. All students were taking the class for the first time this year. One student was African American; two students were Latino; three students were Asian, and 14 students were Caucasian. One student missed both days of the two-day experience. Nine students were gifted, and one was a recently exited English Language Learner (ELL), all of whom Mr. Henry monitored with specific accountability requirements. No students received special education services (SPED). The researcher taught the former ELL student in the 9th grade, the student's first core class outside of the ELL classroom. One student lived outside of the school's feeder pattern, but through a state lottery system, his parents requested a School Choice option, enrolling him in a higher performing school because the family's local school was identified as low performing. Eight students were members of the regular school community, and 11 were part of the rigorous STEM Magnet Academy, a highly selective application-based program.

Classroom Arrangement. Mr. Henry arranged his desks in a traditional grid formation of six rows with five desks in each row all facing front. The students did not have assigned seats, but had grown accustomed to a specific space and peers in proximity. Hanging on the walls of the room were many posters and life-size cutouts from different epic, adventure, and superhero movies. Henry sat at his desk grading papers during the lesson and the composition stages, but ventured out on the second day to view the students' work exhibited in the pop-up museum.

The Lesson. The reading, A Modest Proposal (Swift, 1729) and a follow-up satirical reading authored by a staff member of website, The Onion, "Industrial Revolution Provides Millions of Out-Of-Work Children with Jobs" (2009) were distributed. Students were finishing a unit on the play Hamlet by William Shakespeare. Henry and the researcher discussed the

curriculum ahead of time and decided that presenting satire Swift would introduce the

Enlightenment Period of British Literature. Mr. Henry and the researcher determined that the

second contemporary text would support students' understanding of satire and contemporize it.

The students were encouraged to annotate using close reading while the class read the piece.

The text was read aloud, and student readers organically volunteered to read. The reading took

about 22 minutes to complete. With a few stops for discussion, this part of the lesson took 30

minutes.

On Day One, the researcher gave directions for the lesson, explained the two anticipated

responses, and described the pop-up museum process. Several slides from the PowerPoint

presentation offered an author biography and quotes attributed to Swift. The persuasive appeal

terms *ethos, logos,* and *pathos* were reviewed as rhetorical devices to study satire. All students

said they were familiar with these terms. Another slide defined satire and two types of satire-

Horatian and Juvenalian- so students could identify the kinds of satire used in Swift's text, the

article from *The Onion*, and their created texts. Finally, models of memes were provided from

the Internet that showed the two types of satire.

Mr. Henry completed a second read of "A Modest Proposal" for content and

comprehension with the class. An overall analysis and summary of the text was given so

that the class could transition to creating, curating, and showing their work in the pop-up

museum. While the class read, a slide was displayed that broke the essay into paragraph

sections; 1-7, 8-19, 20-28, and 29-33. Chunking the text into sections was necessary for

students to see the shifts in tone and meaning as well as the structure of the persuasive text.

The students annotated the speech, a task with which they were familiar. The class

reviewed the critical literacy strategies, close reading, and talking back to the text.

Students discussed what kind of concepts they usually noted; whether they used a highlighter or selective underlining; and if they took marginal notes. No student asked if the annotation was for a grade. As they read each section, *talking back to the text* **by asking questions of the text was modeled and students were able to view the questions. The annotations were projected onto the whiteboard while the class read the essay.** The students were instructed to compose a satiric letter in the vein of Swift. A slide labeled Task 1 with a set of instructions including modeling the parts of a letter was presented. Initially, the two tasks were going to be introduced without making them chronological because of an interest in the order of the composition process. However, it was difficult to determine how to present two tasks without privileging one over the other. The slide labeled Task 2 contained the directions to create a meme that visually presented or supported the student's satiric letter**.**

  The Pop-up Museum. On Day Two, the students were allowed 30 minutes to complete their memes and written artifacts. The momentum of the flow was very smooth, and all students completed the two tasks within the allotted time. Next, the students were instructed to arrange themselves into groups to show their work. Students were not prompted by issuing instructions as to which thematic clusters to form; however, leadership arose, and one student led the other students to arrange themselves by topic— politics, immigration, the environment, science, and other topical issues.

  All students identified the difference between Juvenalian and Horatian satire; read and annotated two satiric texts; produced a letter (with degrees of satire), and exhibited a meme to reflect their letter visually. Several students decided to write to President Trump to repudiate Trump's campaign agenda even if Trump's administration had not yet launched an initiative, executive order, or bill/law on that topic. Other students supported Trump's agenda items.

Students tackled the environment, immigration, the drought, the respect for scientific and mathematic principles, education, and learning.

The Participants. **Sophia Hernandez (the student's selected pseudonym), an undocumented immigrant student from Mexico, exited the ESOL program during 8th grade. After a regular 9th grade English class last year, the researcher (who was Sophia's 9th grade teacher) recommended her for honors this year because of her work ethic, which earned her a 97 A in freshman English. Sophia was shy and sat near the door. Sophia discussed President Trump's Mexican-American border wall initiative to reflect an issue of personal interest and lived experience. Much like Swift's take on the problem of food insecurity and ill will towards the Irish by the English, Sophia commented that the misconception and fear associated with immigrant people bothered her, so she chose immigration for a topic.**

The researcher and Sophia have a two-year relationship, so Sophia was asked if her composition process could be observed and she acquiesced. Sophia did not own a cell phone; therefore, she composed on a school laptop, first searching for memes by entering the keywords "meme" and "immigration" into the Google Search bar. Of the first seven hits, four have Native American pictures. The first image stated, "So you are against immigration? Splendid! When do you leave?" The meme had white all-cap letters superimposed over a black and white image of Lakota Sioux Chief Sitting Bull. Sophia could not find what she was looking for — a Mexican family— so she did a second search. Next, Sophia entered "wall meme" into Google. The eighth result was a cartoon image from the Nickelodeon TV channel cartoon, SpongeBob SquarePants. In the meme, SpongeBob and his friend, Squidward Tentacles (a sulky, pessimistic octopus) lie in a green

grassy field interspersed with white flowers on opposite sides of a low red brick wall. The

white text, presented in sentence case, expressed "Just the three of us. You, me, and this

brick wall that you built between us." The perspective was from above. The image

originated from the popular meme website, *Know Your Meme***.**

Sophia chose a meme with President Trump's face affixed on Squidward's face and the

Mexican flag covering SpongeBob's face. Instead of the white letters over the image, Sophia

chose to reflect the picture on a black background with the white-lettered message below the

meme. She said Sponge Bob, like most Mexican people, was friendly and just wanted to "live

their life." Sophia was asked if any aspects of her life had changed since the election. Sophia

expressed pessimism and fear as she teared up, "We have nowhere to go back to … in Mexico."

She sat up straight and continued to work. She chose to address her letter to immigrants and

composed the letter after her meme.

Dear immigrants,

On the fence about immigration? It is a [sic] prodigious number of illegal aliens that are crossing the border. It has been seen that the president can only see one solution to our little problem. His only way of getting immigrants from taking American jobs is by building a wall. Honestly, that is a little foolish and childish. It can be agreed that there is a much better solution.

Some would think about giving more visas or making more jobs but the real and best solution is marriage. Getting married with an American/US citizen is the easiest solution. Think about it. You can meet new people, fall in love, and become legal all in one. It is a great deal.

Sincerely,

Sophia Hernandez

Figure 1. A photo of Sophia's letter to immigrants. Taken during Pop-up Museum #1 by Deborah Aughey

On the holistic Rubric of Critical Literacy, both Sophia's meme and letter reflected a

Developing Level (2) of critical literacy. She fulfilled the requirements of the assignment and

turned in both pieces. Sophia's meme reflected her feelings about disempowerment, but her choice did not contest authority, talk back to the text, or show a Juvenalian tone in the same way as the mentor text from Swift did. In fact, her attempt at Horatian satire was ill-chosen to express the realistic bitterness and uncertainty that Sophia felt. Her letter showed promise with the literal and figurative "on the fence," which showed an awareness of multiple meanings, but she did not expand on the idea. Her sentence variety (three sentences began with "It", but was not intended as parallel structure) demonstrated a lack of sophistication in diction, syntax and a simplistic awareness of her audience. Sophia's resolution to Trump's immigration plan, marriage with a US citizen, was also an overly literal way to achieve citizenship and not an example of satire. She eschewed a complex meditation on cultural or ethnic identity. Fattening up, selling, and eating babies show biting Juvenalian satire, absurdity, and a clear attack on the power structure ruling over Ireland during Swift's time. As Sophia talked back to Swift's text, her Horatian meme shows a wall. In the screen capture of the clip from Season 2 (2000), Sponge Bob had eaten a bomb for a pie. To prevent Sponge Bob from splattering it all over him, Squidward built a wall to protect him from Sponge Bob's guts.

The class selected a coordinator, Ethan, who was outspoken about wanting to be the leader. Ethan formulated a meme that was pro-Trump's wall. While students composed and the teacher circulated, Ethan pulled her aside to ask whether she thought his anti-immigration stance was appropriate. The teacher replied that the pop-up museum was supposed to reflect his satiric viewpoint and that satire (like Swift's) had not always been received well or understood. The teacher mirrored back, "What I heard you say is that you are wondering if you think your meme topic is appropriate. Did I get you?" Ethan said yes and wondered if his meme was too edgy. Another student, overhearing the conversation, suggested that he ask Sophia and Jairo if they

believed he was funny (satiric) or inappropriate (racist). He approached each student, showed

them his meme, and presented his letter. Both agreed that his view represented free speech, but

Sophia told him that his letter bordered on being mean. She recognized the tone and asked him

to keep it to the issue of immigration instead of denigrating Mexican people. He edited his letter

but kept his meme, a picture of Trump pushing a giant blue easy button. The class also chose to

group the three memes on the topic of immigration together to create a story of varied

viewpoints.
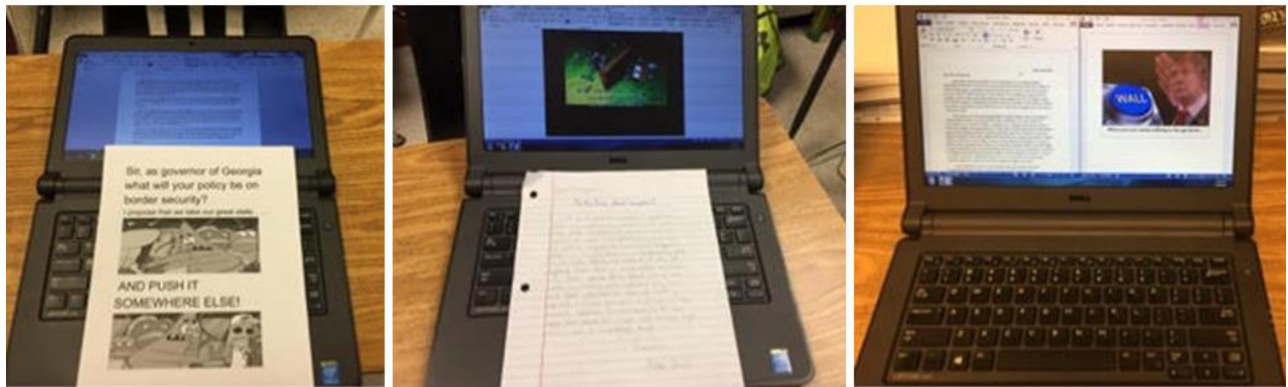
Figure 2. Photo of Sophia's work, representing that of a recent immigrant, placed in the center with Ethan's to the left and Jairo's to the right. Taken during Pop-up Museum1 by Deborah Aughey

Kostas is one of the brightest math minds in the school having earned a perfect score on

his math ACT. He competed on two of the school's academic teams and attended a prestigious

state-level math honors program the previous summer. He said that he did not know much about

memes, but acknowledged that an image he used was recognizable from his friends' and

competitors' tee shirts. *Philosoraptor* is an advice animal meme that has been on the Internet

since 2009. It features a green toothy velociraptor depicted as contemplating deep thought

paired with captions that are intellectual or paradoxical. Kostas first searched for "dinosaur

meme math" in the Google Search bar. He could not find one that reflected his thoughts, so he

found a captionless philosoraptor and superimposed his message onto the meme. He wrote, "When someone tells a teacher, 'I forgot how to tune my violin, and I will never have to play an arpeggio after school' there is outrage. Replace that with, "I forgot how to solve a quadratic equation and never have to factor after high school," and it becomes believable."

As for Kostas' writing, he discussed the United States population, recommending math re-education camps for students who find math class boring or useless. Kostas wrote:

> This backlash has, in part, caused the reduction in the rigor and depth of the mathematical curriculum in secondary education nationwide. Due to this, science classes are also dumbed-down. How can one truly understand the relationship between position and area under a velocity curve without at least a rudimentary understanding of vector calculus? After all, the language of the sciences is mathematics." He continued, "Most importantly, the camps would force a sense of appreciation into the pupil. I believe this is the only effective way to cure America of this disease" and "Think of the benefits. With an increased awareness of math, people will make better financial choices; they could play the stock market, they would be aware of scams, and they could understand the way the American banking system works."

Kosta's example of using the philosoraptor for his meme and proposing Communist re-education camps (using a cheery tone) in his letter reflected an accomplished, independent understanding of Juvenalian satire and expression of critical literacy (Level 4) for his letter. A nod to gentle Horatian satire for his meme places his meme on Level 3, Proficient. Kostas discussed gaps (those who are bored) and power (implied as those who understand math) and extrapolated the benefits to society with more mathematically literate people. If Kostas had offered his idea in an oral presentation or a poster, his wit might have been overlooked by his

peers and not engaged with because of its erudite subject. Because Kostas had to think about

audience, purpose, and tone, he received validation from his peers who acknowledged the
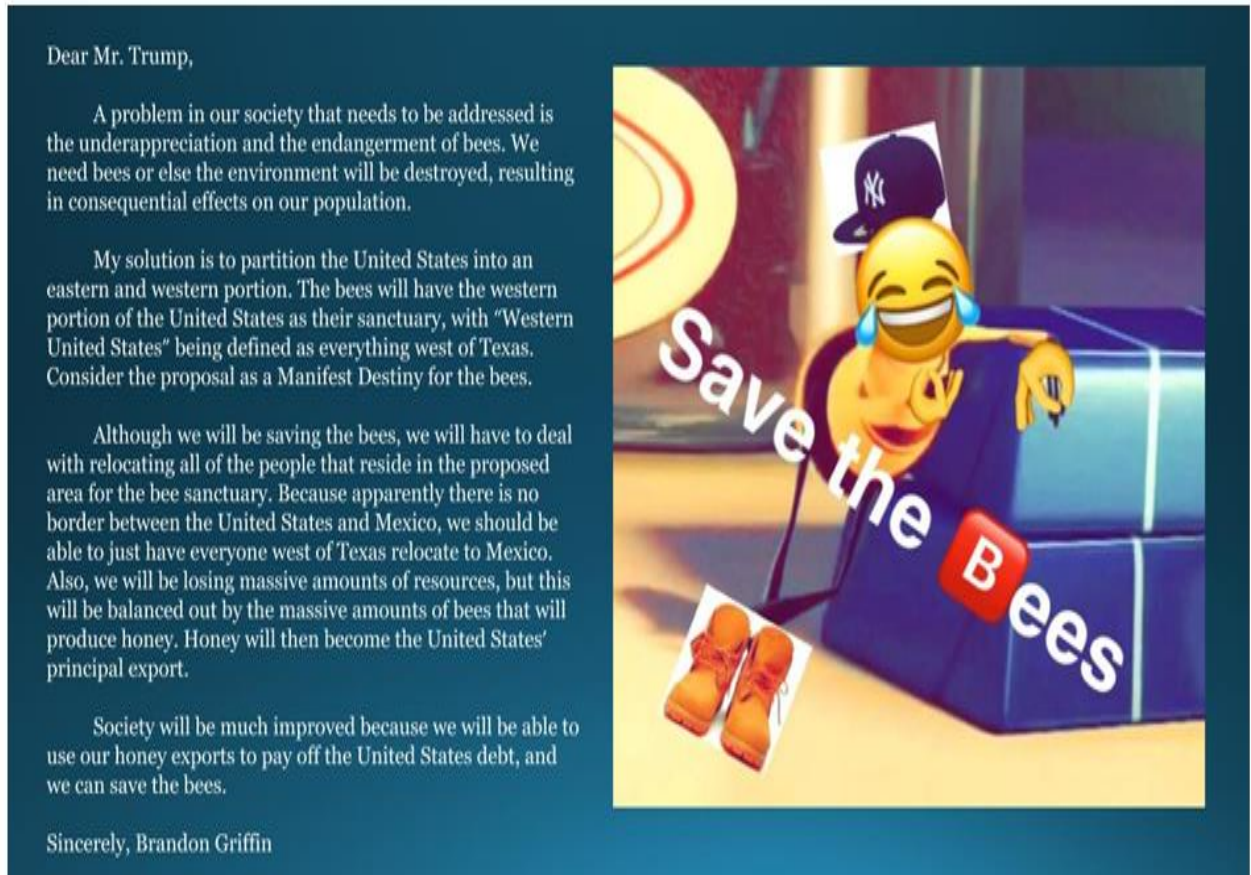
philosoraptor (Ethan: "Man, did you make this [the philosoraptor] yourself?"). Mr. Henry

laughingly commented that he might need to attend a re-education camp to do his taxes.

Figure 3. Bryan's Letter and Meme emailed from Bryan to the teacher.

One of the memes and satiric letters that received the most acclaim in this museum was a

mystery to both Mr. Henry and the teacher upon first viewing. Bryan played in the school

orchestra. He liked to write and said he "appreciates a good meme." He commented in the

discussion on "A Modest Proposal" that Swift had "burned" the English. He created an original

meme (Figure 3) with an absurdist scenario for a vexing 21st-century problem, the declining bee

population. A Google search on "why bees matter" brings up more than 20 million hits. Bryan's written solution, politely addressed to the president, shows a clear understanding of audience, purpose, and tone. An explication of the meme by Bryan details how complex and subliminal his artifact is. Bryan commented:

> So, first of all, the way it's made … It's very makeshift, and it's like, homespun. I kept the white border [around the shoes and the NY Yankees hat] because it looks sloppily done, sloppily glued on ... so when people laugh at it, they are laughing at how bad it is [design-wise]. It invokes a cringing feeling when you look at this because *The Bee Movie* itself is a meme. [It's] a movie that makes people cringe so it's become like a cultural sensation. Like a cringe-worthy anti-joke, you know, like 'What is worse than finding a worm in your apple? The Holocaust.'

Bryan continued describing his meme:

> Then, I have 'Save the Bees' … and the bee has the Emoji of the B letter. That's another meme [originating from Tumblr and Instagram]. I can't really explain the meme; it's just literally that the B replaces other letters. It's just an emoji. [from *Know your meme*: The ideogram B Button emoji features a red block with the letter "B" written inside. The symbol stands for the B blood type, the Bloods street gang, or the kinship slang term "B" (short for "brother").] It's tacky and unnecessary … And then you see the hands of the bee are emojis. Those emojis that make that shape- Jazz hands- are like what you see in a lot of Twitter responses. That, with the laughing face emoji or other cringey elements. I was poking fun at about five different social networking elements here as well, and like, you know, the laughing emoji is, itself, a meme because when you look at the emoji, you

think something is so funny that you're just crying and laughing but it's [bee extinction]

not really that funny at all… So, it kind of makes it seem out of place and just bad again.

Bryan completed his thinking by detailing the symbolism of the meme:

Manifest Destiny for the bees is funny because it's a terrible excuse for having taken over

half of the country, half of the continent. If Americans would take over half of the

continent for their own cause [colonization through the genocide of the Native

Americans], why can't we do the same for the bees? It's kind of ludicrous to think we

can evacuate an entire section of the world to fill it with bees and yet, this is what people

did 150, 200 years ago. Texas, of all places, is ironic because Texas is one of the worst

places [Bryan later elaborated that it was because of its history of racism, Cowboys and

Indians, corrupt politicians, and get-tough policies on immigration]. (Laughs) The debt is

so big and large, like Texas. Basically, the meme … the symbolism in the meme with

these emojis … What I am trying to do is make fun of the fact that people think that it

looks really cool [the whole meme] and people use that emoji, [he points] that hat, [The

New York Yankees] to show coolness. He's leaning on [points to a stack of books] …

That's one of the funniest things in *The Bee Movie*. There's a part where Barry [the bee]

is introducing himself to the woman character, and so he goes, 'Do you like jazz?' And

that's like the main meme of *The Bee Movie*. It's just so terrible. He's trying to be cool,

but he's failing at it.

The meme image and the written piece, together stand for a coded message of signs and

symbols for Bryan's museum-spectator peers. He has a clear, comprehensive, and consistent

understanding of audience, purpose, and tone. Bryan carefully constructed and organized his

meme to elicit an effect, both anti-joke (ironic words) and anti-design (deliberately

unsophisticated). He reflected a nuanced understanding of contemporary and historical power

and gaps in authority. Bryan's exhibition contributions were authentic, lived, personalized, and

layered with multiple meanings reflecting social justice and empathy. This meme was the work

of a self-actualized 16-year-old. With a traditional essay assignment and the traditional
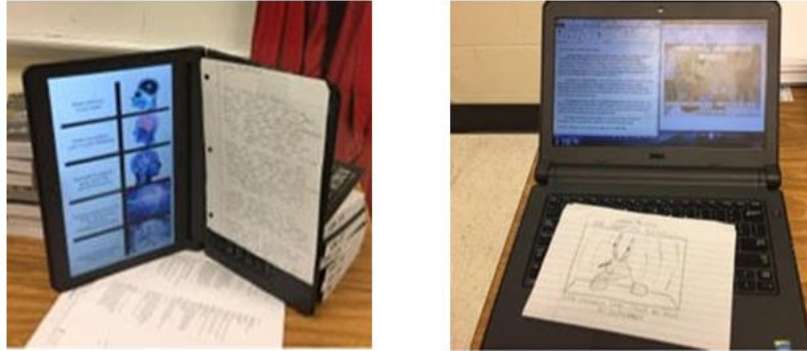
transaction between the student and the teacher for a grade, the teacher would have missed the

transformative and subversive nature of this artifact and its meaning-making third-space

presence that the pop-up museum affords and celebrates.

Figure 4. Photos of James's exhibition as he re-orients his screen. Blane submits a hand-drawn

meme. Taken by Deborah Aughey, Museum 2.

This class insisted that the text be presented next to their memes. Some used the

computer screen as a frame and the keyboard as a display place for their text. James changed the

orientation of the screen to vertical, tipped the laptop so it opened like a menu, and hung his

letter off the keyboard. Numerous students, especially those in the STEM Magnet Academy, had

discussed the issue of group work in their surveys reflecting that they did not like doing group

work overall. These students did not consider the pop-up museum model — individual work, a

small group exhibit, and whole group-museum— "group work," however, and students enjoyed

the activity. The teacher left a classroom debriefing session on the overall museum experience to

Mr. Henry because Ms. Dyson's class was scheduled the next day.

Class 2: Meme Museum 10th Grade Regular Co-taught English

Table 2- Participants in Pop-up Museum 2

Participants	Gender	Ethnicity	Designation	Topic	Level of Critical Literacy	
Zena Blake	Female	African American	Regular School Student	Sleep	Meme- Beginning	Position Statement- Beginning
Aaliyah Morgan	Female	African American	SPED; Regular School Student	Sleep	Meme- Beginning	Position Statement - Developing
Aaron Lopez	Male	Latino	Regular School Student	School lunch	Meme- Developing	Position Statement - Proficient
Liana Sanchez	Female	Latina	ELL; Regular School Student	Abortion	Meme- Proficient	Position Statement- Proficient
Jared Little	Male	Caucasian	SPED; Regular School Student	Martial arts	Meme- Developing	Position Statement- Did not submit

Table 2

The Teachers. Dana Dyson had been teaching for four years. Not only did she earned

her degrees at the nearby University, but she also completed her student teaching at this school,

the first and only school in which she has taught. She is creative, good-natured, and widely

respected. The researcher and Ms. Dyson have developed a mutually-fulfilling friendship.

When asked to take part in this study, she enthusiastically agreed. Ms. Dyson completed a pop-

up museum in the researcher's professional development workshop and at a graduate class.

Despite her youth, she was selected as the school's Teacher of the Year and as the University's

graduate student of the year. Ms. Dyson served as adviser to the yearbook. She loved teaching

British Lit and 10th grade literature (10th Lit) because of the content. The focus class, a regular

level co-taught 10th Lit class, had just completed Dyson's favorite literature unit, the memoir

Night by Holocaust survivor and Nobel Laureate, Elie Wiesel.

In addition to Dyson, two other adults were present with the students for the semester long, block schedule class. A SPED teacher checked the progress of the enrolled SPED students, offered support, and abided by the students' 504 plans and IEPs. An added support person was present each day, a sign language interpreter, as there were two deaf students and one hard of hearing student enrolled in the class. This class was selected because it was scheduled during the teacher's fourth block planning period, but also because it was intriguing to see if the pop-up museum protocol would be an effective formative assessment with such a disparate group of students. The class was fractious, distracted, and often disengaged, but they were interested in the lesson and they loved Ms. Dyson.

Demographics of the Class. There were 27 students in the class. One student missed both days. No students were gifted, five students were designated ELL, and Ms. Dyson provided them with ELL services. The SPED roster contained 14 students, including the previously mentioned deaf and hard of hearing students. Four of the ELL students were on the SPED roster, so they were receiving double services including text read aloud, preferred seating, extended time for testing, and differentiated and scaffolded instruction. The teacher taught three of the students during the previous year in ninth grade regular English. Eleven of the 27 students were female and 16 were male. No student repeated the 10th grade English class; all students were taking it for the first time. Ten students were African-American; ten students were Latino; two students were Asian, and five students were Caucasian.

Classroom Arrangement. The room h**eld 36 desks of which students occupied 26. Four rows of six desks across the front faced forward and two rows of six desks next to the teacher's desk (front, left corner) faced right. Ms. Dyson assigned seats according to student needs and class climate. The room had six desktop computers across the left side**

and several large bookshelves full of high interest young adult novels across the right side.

The walls were painted vibrant apple green with a magenta border. Patterned tablecloths

and curtains added to a festive, nurturing environment. Numerous motivational posters

and samples of student work personalized the space. The room looked like a typical

colorful language arts class on this hall but not the traditionally sparse classroom at this

school. Written neatly on the whiteboard was the daily agenda.

The Lesson. The reading passage was distributed, a transcript of the speech, "The Perils

of Indifference," by Elie Wiesel, and a guided reading graphic organizer for note-taking.

Students were just finishing the unit on Wiesel's memoir, *Night,* so Ms. Dyson and the teacher

thought that this speech, given in April 1999 at the White House — Wiesel was an honoree of

President and Mrs. Clinton— would contextualize and connect to their memoir study. Wiesel's

speech can be considered a postscript to *Night*. He began with a reflection that 54 years before

the evening's event, he was imprisoned and tortured by Nazis in Buchenwald (context the

students would know from their unit). Wiesel then launched into a compelling call to action to

remain engaged and vigilant against human rights violations worldwide.

On Day One, the teacher gave instructions for the mini-unit, an overview of the two

responses, and the pop-up museum process. A preview slide was shown so students would know

that they were going to read the transcript of the speech, discuss it, and then create a written

response and a visual meme that had to do with social justice. Then, they would exhibit their

meme and written work in a pop-up museum. The teacher presented the autobiographical and

research study slides for an introduction, as well as a biography of Wiesel, quotes from the

speech, and an overview of persuasive terms— *ethos, logos,* and *pathos*. Some students had

heard of the terms, but most expressed that the words seemed unfamiliar even though Ms. Dyson

had taught and used the terms in an earlier unit and the teacher had used the terms in lessons the

previous year with her three former students. The students were instructed to complete the

guided notes that matched the PowerPoint before the reading began and to annotate using close

reading skills as the piece was read aloud.

Students were given specific examples of persuasive appeals, for instance, logos includes

laws and statistics; ethos reflects a moral stance or a person's credibility; and pathos evokes

sympathy, personal connection, and emotion. The teacher also gave an overall analysis of the

speech because there was less interest in the students' full comprehension of the text and more

interested in the production of artifacts for the pop-up museum. The handout used a Cloze fill-

in-the-blank technique that matched the PowerPoint slides. Before they began the reading, the

teacher presented a summary of the speech and defined the term *indifference,* offering a variety

of synonyms and model sentences for the students.

The teacher elected to read the speech aloud to the students rather than to do a popcorn

read (readers pick the next reader), select a student to read, or play a recording of Elie Wiesel

speaking. Wiesel has a strong German accent and the ASL interpreter wanted to sign

uncomplicated English. Furthermore, the teacher wanted to move students to the production

stage as quickly as possible. The annotated speech projected on the whiteboard was read aloud.

While the class listened to the first five paragraphs, the teacher engaged in metacognitive reading

strategies. The same process was used to chunk the text into sections for discussion as was done

in the 10th honors class — paragraphs 1-5, 6-11, 12-15, 16-20, and 21-24. Students were

encouraged to engage with the text and take original notes, check their notes with the

researcher's projected notes as a mentor text, or just copy the notes as projected. The teacher

modeled *talking back to the text* while reading the passage.

The following questions were asked:

- I wonder what Wiesel means by that?

- How is he trying to connect with me?

- Does he seem angry here? Does he appear to shift his tone at this point?

- Why does he think that way?

- What was Wiesel's purpose given his audience and the tone he took?

A set of text-dependent standards-based multiple choice and short response questions were left with Ms. Dyson downloaded from Commonlit.com for her to assess and review students' comprehension of the speech and remediate as needed.

The teacher introduced the reading strategy, close reading. Students were nervous about annotating and asked multiple times if the activity was for a grade. The marked-up speeches were collected to measure students' annotations. Most students did not engage with the text as it was read and instead simply copied the teacher's annotations onto their paper. Ms. Dyson and the teacher decided to forego the second text for homework to compare to the speech and use the memoir *Night* as the first text and the speech as a supplemental text for the unit.

The first task students were instructed to complete was a position statement. An infographic was projected on a PowerPoint slide that said the following:

- Position Statement

- Introduce the topic in general

- Identify and describe how people have been affected by the issue

- Write a proposed solution including the counter argument

- What do you hope to achieve?

The position statement on a human rights topic that students would create matched the structure

of Wiesel's speech. The next slide explained Task 2: Create a meme that represents the issue as

described in your position statement.

       The Pop-Up Museum. On Day Two, students had 45 minutes to finish composing both

the meme and their position statement. The second day was challenging in that more than half of

the students had not completed their schedule requests for the next year (despite having a week

to do so) and were being summoned to the counseling office to select their courses. At the 45-

minute mark, the teacher instructed students to move to the next step, curating the memes into

exhibits for the pop-up museum. Students needed help in how to arrange their exhibits, so the

teacher brainstormed on the board by asking for each student's topic and then required them to

categorize the topics into themes. The teacher wanted students to arrange themselves, but they

did not take the initiative. The teacher and the three adults in the room helped brainstorm motifs

and then collapse them into unified exhibits. The themes for the exhibits in Museum 2 were:

school, sports, funny, rules, and ethical questions. Few memes matched the students' policy

statements

Figure 5. Photo of the Arrangement of Desks for Meme Museum 2. Taken by Deborah Aughey

The class was shown a photograph of students organizing a pop-up museum, so the students could visualize how to move the desks together and arrange their computers and phones. This step was especially important for the SPED, deaf, hard of hearing, and the ELL students who needed several variations of a direction set presented for comprehension. The researcher told students to consider the flow for their exhibits. How did they want their classmates to perceive their collective opinions? How should they arrange their artifacts for impact? The teacher and the class also considered that the backpacks were strewn all over the floor. How could participants move safely to each exhibit?

Because so many students had not finished their position statement, there was not enough writing to pair with the memes. After students arranged their phones and computers into exhibits and pushed the other desks and backpacks out of the way, they were instructed to go out into the hallway. In the hallway, the students were told they were no longer classmates; they were now museumgoers. It was explained that the word for a leader at a museum who takes people on tours is a *docent*. Students were asked if they had visited museums before. Half the class had experienced a real museum and half had not. Members of the class peeked into the room from outside to decide the flow of the museum. They determined that they would go to the right and then circle to the left. After students had seen all the exhibits, they met again outside. Starting from the outside, going inside, and then returning outside again changed the dynamic of the classroom so that the learning and the experience were not just contained in the four walls, supporting the third space paradigm. Once outside the room again, students were instructed to

return to the classroom, save their work, email it to the teacher, power down their laptop, and

complete the open-ended survey. Nine students completed the questionnaire and sent their

materials to the teacher.

Once the class was back inside the room again, students were still discussing what they

had seen. Several memes stood out that students mentioned in their surveys. One was a

basketball meme; one was a martial artist doing a split; and another, tied to moral rights, was

about the mistreatment of animals. While discussing the memes, students commented on

sophisticated concepts like the ethics of sports, animal rights, abortion, sexism, and immigration.

The Participants. When asked in a focus group about which meme students liked and

why Zena Blake said she liked her meme because "it was funny." She exhibited a meme that

showed an 8-10-year-old Caucasian boy rubbing tears from his eyes as he reacted to the loss of

his team during a 2017 NCAA March Madness college basketball bracket game. In white all-cap

lettering, the message read (above the image), "When it is 10:15 and your bedtime is 10:30 …

(below the picture) "and your mom says it's time to go to bed." The meme originated as "Crying

Northwestern Fan," and it appeared eight days before Zena's class's museum. Zena completed

her position statement as well. She wrote:

I believe that we are losing sleep. It has affected me during school hours. I have a

solution that we should try not to use technology after certain hours so that it will be

easier to go to sleep. I hope to get more sleep, so I don't have trouble staying up in class.

Zena is usually hyper-attuned to issues of race (The teacher taught her the previous year.) She

did not like the use of the word "Negro" in the novel *To Kill a Mockingbird* by Harper Lee. Zena

felt that the character of Atticus was racist in his court speech when he used this word. As she

was composing, the teacher asked her about their previous encounter. Zena said she still didn't

like "that word" and initially was going to take issue with racism for her meme.

In a conversation with Aaliyah, both students decided to address teens' lack of sleep.

Zena's discussion with her friend shows a developing sense of purpose. Attention to the specific

audience (her peers, the teacher, and the other teachers) was not clear in her tone, diction, or the

sentence structure of her position statement. Zena needed some support towards expressing

critical literacy (Level 1) in her writing and thinking because it was not clear from the design or

structure of her meme or written artifact that she had a clear understanding of power dynamics

(parents' rules) or gaps due to oppression. Zena selected a previously published meme that

alluded to bedtime/sleep, and her policy statement did not offer enough evidence to show growth

in context or multiple meanings. Zena's artifacts reflected her lived experience; however, and

her value of sleep and her solution show identification with the concept. Zena was out of the

room scheduling for part of the block and felt like she could have written more on her policy

statement if she had been in the room.

Figure 6. Photos of Zena and Aaron's memes from the Internet for Meme Museum 2.

Screenshot by Deborah Aughey

Zena was on the school's basketball team, so a choice of a meme from the college

basketball Sweet Sixteen was not surprising. When asked why she selected a meme with a

Caucasian boy instead of an African American person expressing a message about a lack of

sleep, she said she was more interested in the message of her chosen meme. Zena laughed and

commented, "I stayed up too late watching basketball last night, and I had so much to do. I

wanted to show how frustrated you can be when your moms [sic] is yelling at you to go to bed,

and you got stuff to do." Three students in the class mentioned in their surveys that Zena's

meme was memorable.

Aaron Lopez (focus group) had just returned from several days of suspension for

fighting. The Special Education (SPED) co-teacher said that Aaron did not usually participate in

class but he did for these activities. Aaron selected the very first meme after Googling "high

school lunch meme." This meme's category is called "unhelpful high school teacher." It shows

an Asian female standing in front of a map of the Americas pointing back towards Ecuador and

smiling as if she is calling on someone who does not know an answer. The message reads, "No

Food in Class. Eats Lunch While Students Take Test." Aaron's policy statement expressed how

he believes the government should allow junk food to be served again in schools. He noted that

the rules were put into effect to help fight obesity, but he commented, "It is decreasing sales of

school lunch" which "is how the government makes money." He wrote a paragraph in

parenthesis at the bottom of his policy statement saying:

> This is kind of related to '*The Night'* [sic] because in a way we don't get to choose what
>
> quality food we are allowed to choose from. The Concentration Camp prisoners didn't
>
> have much of a choice what they ate or what they were told to do.

Aaron's artifacts showed that he was on the Developing Level (2) of the Critical Literacy Rubric. He had an audience in mind, a purpose, and a tone, even if it was spartan and simplistic. He understood both genres and selected to construct artifacts to fulfill the assignment and reflect an opinion. He named power dynamics (teacher, government) and gaps (obese kids, concentration camp prisoners). His solution tried to rectify his issue (serve tastier food). If Aaron identified with the paradigm of high school culture, then an unhelpful hypocritical teacher and bad lunches that do not fulfill his needs show his view of the world and his lived experience. As for social justice, Aaron recognized the movement towards healthy lunches to combat obesity but did not express empathy towards multiple body types or an understanding of society's need for school lunches to contain healthy nutrients to offer students in food insecure homes proper sustenance for growth and development. Aaron was very proud of his work and asked the teacher to write about it in "her book."

Liana Sanchez was a cooperative, quiet, and hardworking ELL student. She submitted artifacts that reflect a Level 3 Proficient understanding of Critical Literacy practices. Her opening sentence, "Pregnant women are indifferent …" ties into Wiesel's warning of the perils of indifference. Where Liana's audience, purpose, and tone were underdeveloped, and her policy statement lacked a clear organization, she reflected a mature awareness of the power dynamics and gaps/silences on the abortion issue. Liana expressed an understanding of President Trump's stated political platform against abortion by writing:

> (Sic) Donald John Trump doesn't accept RIP baby in the mother's womb for nine months … If I had the power, I'll put a law where abortion is illegal. If a pregnant woman abort their baby. They will get punished. I'm strict about abortion because abortion is indifference.

Figure 7. Photo of Liana's Animal Rights Meme from the Internet for Meme Museum 2.

Originally found on the website Memegenerator.net. Screenshot by Deborah Aughey

Liana's text showed a clear worldview proven by reflective thinking. She constructed her

version of reality where she would legislate against abortion, and she even discerned whether

abortions due to rape, incest, or endangerment to the mother would also be illegal. [She was

against all forms.] Although she did not discuss a counterargument or offer evidence of

understanding of the complex reasons why abortion is legal in the United States or why women

select to abort a fetus, she justified her policy with evidence (A page and a half position

statement). Her selected meme did not match her policy statement topic of abortion. It showed a

black and white spliced image of a dog on one side and a cow on the other creating one fused

head. The black text says, "If you love one but eat the other (above the image) … Don't call

yourself an animal lover." Liana told the focus group that she could not find a meme that

reflected her stance on abortion to go with her policy statement, so she opted instead to show her

idea of the hypocrisy of privileging one life over another.

Despite the interruptions, every student in the class contributed a meme to the museum.

As students wrote and selected or constructed their memes, the three classroom teachers and the

researcher engaged actively, circulating and confirming student work and choices. Dyson said,

"I absolutely loved this idea. Some of my students who don't talk at all during class picked some of the most meaningful memes and were excited about voicing their opinions."

Jared Little, who is deaf, usually does not participate in groups or class discussion. The ASL interpreter said that his speaking voice is loud and unmodulated; thus, he did not like students' reactions to his voice. He found a meme that fourteen students on their survey thought was hilarious. He submitted a meme showing a sumo wrestler doing the splits balanced between two chairs. The message was, "Haters gonna hate." Students recalled it as "Jared's meme." This pop-up museum rendered a student—one who usually remained voiceless due to his hearing impairment and his shy personality— visible, empowered, and opinionated.

Class 3: Meme Museum 11th grade AP English Language and Composition

Table 3- Participants in Pop-up Museum 3

Participants	Gender	Ethnicity	Designation	Topic	Level of Critical Literacy	
Eboni Reardon	Female	Mixed Race	Regular School Student	Food Insecurity and Homelessness	Meme- Proficient	Policy Brief- Accomplished
Seth Zimmerman	Male	Caucasian	Magnet Student	Food Insecurity	Meme- Proficient	Policy Brief- Accomplished
Jaya Chuy	Female	Asian	Magnet Student	Climate Change	Meme- Accomplished	Policy Brief- Accomplished
Joshua Lawson	Male	Caucasian	Magnet Student	Predatory Mortgages	Meme- Accomplished	Policy Brief- Accomplished

Table 3

The Teacher**. A 28-year veteran English teacher who sponsored the school newspaper and worked with students on their college applications and scholarship essays after school each week, the teacher was both the researcher performing this study and the teacher of the selected class, one of six sections of 11th grade AP English Language and Composition. The teacher collaborated with an AP US History teacher for American Studies, where two sections of each class (A and B) were scheduled during the same period.**

The teachers' regular schedule was a 90-minute block — Monday A; Tuesday B; Wednesday (small classes, meeting with both sections for 45 minutes); Thursday A; and Friday B. Students completed half a credit each semester. The rosters for the second part of the year shuffled with students moving into other sections to avoid scheduling conflicts; however, the same students returned to the American Studies program. By April, the teacher/researcher and the students have been together since August and have formed deep bonds.

Demographics of the Class. The focus class was selected because it has schedule parity- no interruptions from late busses or tardiness from rain (first block), no breaks for lunch (third block). The second block meets from 10:00 AM to 11:40 AM, Monday- Friday with five minutes shaved off for homerooms on Wednesday. The meme museum encompassed students enrolled in section A of the second block. The class was high achieving, witty, and collaborative.

There were 25 students in the class. During the two-day meme museum activity, no students were absent. Six of the students in the class were designated gifted. Twelve of the students in the class were members of the STEM Magnet program, and 13 were local community students. Three students were in the teacher's homeroom, so these students have been familiar since 9th grade. One student started her high school career in the regular 9th grade English class, and with the teacher's encouragement, moved to honors in 10th Grade (with Mr. Henry). The class was her first Advanced Placement experience. No students are ELLs, but one student received SPED services with extra time for assessments and preferred seating. Eleven students were female and 14 students were male. Three students were Asian; three students were Latino; five students were African-American, and 14 students were Caucasian.

Classroom Arrangement. The desks in the classroom were in two four by four grids. The grid of 16 desks by the door faced left while the grid of 16 desks closer to the teacher's desk (front, left

side) faced forward. The students did not have assigned seats but sit close to preferred peers. A former teacher in this room painted the walls mocha brown with terracotta red and beige borders. More than 20 colorful abstract and modern art posters ringed the room, abutting the ceiling. A bulletin board covered in a burnt orange and gold Indonesian batik ran across the back wall, and four desktop computers lined the wall between two windows. In front, an oversized red Persian rug bordered by a couple of beanbags chairs and about 20 patterned pillows in varying sizes created an artsy, unconventional, and Bohemian vibe.

The Lesson. Copies of two articles were distributed for classwork and homework on the previous day and were posted in the Edmodo online learning space. Students started reading in small groups and annotated two articles from Commonlit.org, an excerpt from Barbara Ehrenreich's (2001) book, *Nickeled and Dimed,* and an article by a Forbes columnist, Mike Myatt (2011), "Life's Not Fair; Get Used to It." The students were expected to read and annotate the articles before class using the techniques of close reading and talking back to the text as practiced throughout the year. The study consent form, an assignment sheet for the second pop-up museum, a detailed list of leadership roles, and an editable rubric for the culminating assessment pop-up museum was distributed in a packet. The class had been reading Galati's (1991) adapted play, *John Steinbeck's The Grapes of Wrath* and selected chapters from Steinbeck's (1939) book. Students collaborated on a policy brief about an issue connected to the novel. Students synthesized evidence from the two articles, *The Grapes of Wrath*, and other sources to support their writing.

During the first part of the block, the same set of introductory PowerPoint slides including the research questions in their original form and student-friendly language were presented. A model of a policy brief was projected, reviewing the persuasive appeals— ethos,

logos, and pathos— concepts with which the students were intimately familiar with having analyzed text for rhetorical devices and written arguments over the previous nine months. Student were shown images of students arranging their technology devices for the meme museum and several short videos of past classes' pop-up AMP museums. Students got to work, constructing their memes for the meme museum.

The Pop-up Museum. The teacher led the class circulating during the composition stage and the museum, taking pictures and recording audio responses to questions. Unlike the previous two pop-up museums, the focus of the lesson was not on teaching the text. This protocol introduced the pop-up museum to the class (and to its sister section 2B for a total of 50 students) as they would be coordinating a school-wide pop-up museum three weeks later in the term during the second block where they would exhibit their year-long research projects to the school and the local community. Thus, the purpose of this museum was to show students how to evaluate incongruent artifacts, decide common themes, and organize the artifacts into cohesive exhibits to host a pop-up museum.

The Participants. Eboni Reardon was a conscientious Magnet student whose strict mother often had her worried about her grades and grounded from her phone. Her experience as a member of a mixed-race blended family in a low-income household gave lived-experience context to her classmates during discussions and Socratic Seminars. She commented about learning in an AP English class, "Writing is a big source of anxiety for me. Also, I don't like working in groups very much."

Eboni discussed the issue of food waste for her policy brief. She commented, "American culture values the aesthetic quality of food … Much of this started in the 1930s when perfection and manicured foods became a representation of safety and new technology." From three

sources, Eboni synthesized, "Today, it is ingrained in American society to throw away food once

the sell by date has passed because we are led to believe that food is not safe to consume after

that date (Ehrenreich, 2001; Oliver, 2016; Johnson, 2017)." She provided evidence from the

original text, using imagery and parallel structure, for example:

> This theme of food waste is found throughout *The Grapes of Wrath.* Steinbeck gave
>
> descriptive passages of food being covered in kerosene; potatoes being thrown down into
>
> the river; and pigs being slaughtered and dumped in a ditch to rot.
>
> Eboni's meme spoke to housing insecurity. She found a meme online of an African-

American man in his 20s sitting in a large cardboard box. The message reads, "When you finally

move *West* to get your own place." Eboni said of her composition process:

> I used a meme that was already on the Internet, but I changed some words so it would
>
> apply to *The Grapes of Wrath.* I used a sarcastic tone to show 'the expectations vs.
>
> reality' (air quotes) of the living situation in California during the time… That was the
>
> message I was trying to send.
>
> Eboni's meme, positioned next to two other memes discussing food and housing issues,

resonated with the class. Students learned about the impact of the Dust Bowl and the Great

Depression through AP US History lectures, videos, and readings. It genuinely shocked them to

discover that there was enough food during the 1930s. It just was not in the best interest of the

farming community to give it away or sell it as a loss to the Okies who had migrated west to find

work. In fact, Eboni commented as she was finding her meme, "We, as a school, donate a lot of

money to fund Thanksgiving turkey dinners for those in need. We should find ways to provide

food for all citizens in the county year-round. Kids aren't just hungry on a holiday."

On the Critical Literacy rubric, Eboni's artifacts reflected Accomplished (Level 4). Eboni's ideas reflected a clear understanding of audience, purpose, and tone. By remixing her meme to contextualize it for *The Grapes of Wrath* and synthesizing multiple sources, she showed her awareness of genres, multiple viewpoints, social justice, and a variety of paradigms- cultural, historical, and economical to name a few. She offered solutions for the disenfranchised in her policy brief showing an acute awareness and empathy for the disempowered and recognizing gaps and iniquity.

Seth Zimmerman is the second child of a Magnet family. The teacher also taught his older sister who is a first-year student at the local University. He was the product of a single parent household, although his mom earned a middle-class living in the computer industry. Seth liked to write persuasive essays and not timed writes. About group work, he said, "My favorite type is a video project on anything because it allows me to take a modern look and express historical events from a new perspective."

The title of Seth's policy brief was ingenious, "Another One Bites the Crust: Lettuce Consider That Too Much Food is at Steak." A component on the assignment rubric was a clever title designed to appeal to the reader. After a chronologically sourced accounting of the history of food production and subsidies in the US, Seth connected to the issue of food waste.

> In my personal experiences with collecting surplus food from X Bread Company to give to a local charitable organization, I was repulsed at the amount of bread that would have been, and is, thrown away every night that is not eaten and cannot be sold. There were four or five full dumpster-sized bags filled with bread that they were still baking after the store had closed for business 30 minutes prior. There are about 2,000 X Bread locations in the United States that throw away this amount of bread. Every. Single. Day. Even

though they are known for donating to charity, the waste is unconscionable. That is just

one business. What about all the others?

Seth's meme for the pop-up meme museum was original, combining the novel study's title with

a playful and sarcastic dig at the AP US History teacher. He found a black and white picture of a

bunch of grapes anthropomorphized with a male human with very muscular flexing biceps and

imposed a picture of the AP US History teacher's face over the anonymous man's face (The

Coach does a popular exercise regime).

Seth's pragmatic solution in his policy brief reflected his interest in a career in computer

science or engineering. He said, "Instead of waiting for large government agencies and farms to

reduce production, well-advertised, federally mandated, local food drives and

restaurant/company participation could help reduce total food waste and prevent thousands of

Americans from going hungry every day."

While Seth understood persuasive writing and its attention to audience, purpose, and tone

(and he likes the genre), his two artifacts represented a Critical Literacy Level 3, Proficient. His

meme, gently mocking the AP US history teacher, got a laugh from his peers but it did not

elucidate his thesis. He showed wordplay with the word "wrath" connecting it to the culture that

the Coach had established, a no-nonsense, "handle your own actions" mentality. Seth shared his

experience of collecting food surplus for charity, but did not reflect an empathetic, social justice

stance or discuss the power and interests that cause food insecurity. He deferred to the cult of

personality created by a cool teacher/coach. Seth's idea was that the government should legislate

"something," but in the meantime, non-profit and community interests should step up, so people

do not starve. These two pieces and his survey responses did not reflect a nuanced understanding

and awareness of social, cultural, historical, political, and economic paradigms in the United

States. Seth's insular life experience will expand as he moves on to college and into the

workforce. Since his family experience was socio-economically comfortable and the Magnet

culture was isolated, he had no personal interest now to foray into social justice. The pop-up

museum, for him, met a need to confirm his admiration of his teacher safely. In fact, Coach

Manner smiled and drawled, "Well, all right, Big Dog" when he stopped at Seth's exhibit.

Joshua Lawson was a Magnet student as well. He was an avid scholar-athlete serving as

captain of the varsity lacrosse team. He liked to fish and play video games. He was a reserved

intellectual who shined in Socratic Seminars. Joshua collaborated with a student in another class

to design a policy brief discussing inequity in housing. The two titled their work, "The Morality

of the Economy: Foreclosing on Foreclosure." The first line of the essay showed ease and

sophistication with diction and an awareness of audience, saying "As with any capitalist

civilization, there comes a natural separation and disparity of income between the upper and

lower echelons of society." Joshua and his partner twice alluded to *The Grapes of Wrath*,

offering historical context, and compared the plight of the Joad family of the 1930s to families

who lost their homes in the depressed housing market of 2008. They wrote, "Countless lower to

middle-income families were put into serious situations regarding their future, very like that of

the Joads in *The Grapes of Wrath*, and US citizens during the Great Depression." Their solution,

a debt forgiveness plan, is outlined as having existed since ancient Rome and sourced through

two contemporary debt forgiveness programs. The students discussed the counterargument and

sum up their ideas:

While mortgage systems and foreclosures are necessary to fuel the housing market,

improvements could be made through the supplementation of existing programs to help

with alleviating debt and through the addition of innovative programs to contribute to

making housing affordable for everyone. We can then start to tackle the problem of the

morality of the economy.
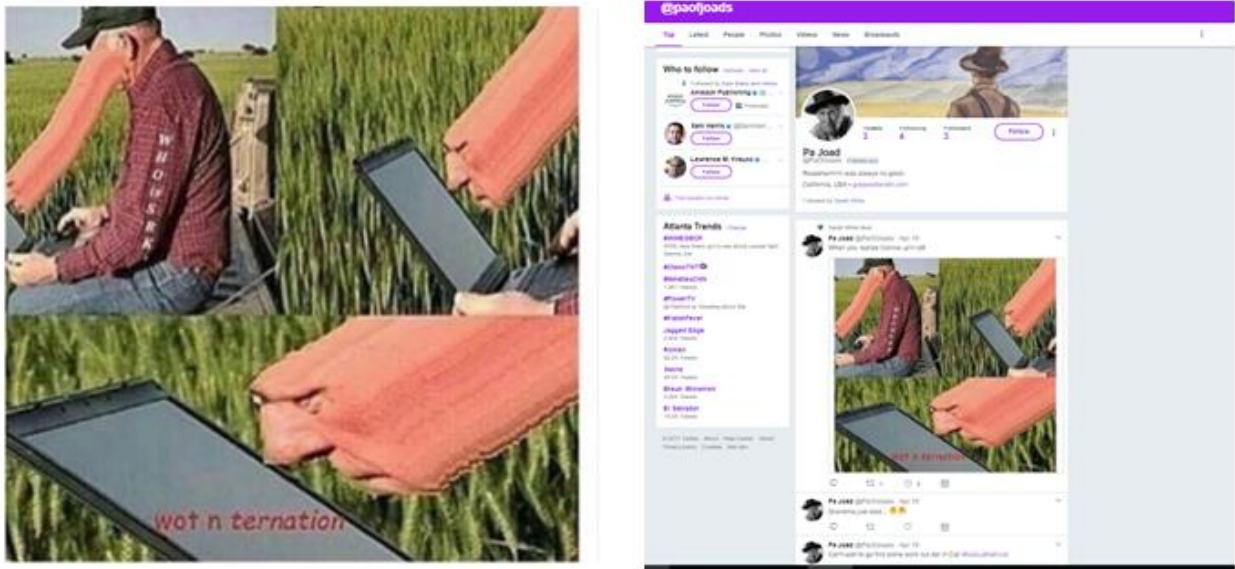
Figure 8. Photos of Joshua's Twitter and Meme for Museum 3. Screenshot by Deborah Aughey.

Joshua's meme was comparable to Bryan's of Pop-up Meme Museum #1. At first

glance, it was confusing, especially for adults, but it connected with his classmates for its

construction, symbolism, design, cultural references, correlations to the novel, humor, and

mocking tone. If a meme had an attitude, Joshua's was clear. The school blocked most social

networking sites, so it was surprising that Joshua succeeded in completing all his ideas within 40

minutes before the meme museum. First, he created a Twitter account on his phone called

"@PaoftheJoads" (at Pa of the Joads- the family in the story). He uploaded and cropped the

cover of the 1939 version of the novel *The Grapes of Wrath* from Wikipedia and put a filter on it

so that just the outline of a migrant worker is seen. Next, he included the image of Russell

Simpson, as the profile picture, the actor who played Pa Joad in the John Ford movie *The Grapes*

of Wrath starring Henry Fonda (1940). In the Twitter bio, he wrote, "Rosasherrrrn was always

no good," [Rose of Sharon], which is an allusion to the audio version of the play to which the

class had been listening and the pronounced Okie accents that the characters affected. The

students had been mimicking the accents as they listened, for example, "Rosasherrrrn, get me a

burrito." Joshua's first fake Tweet included a hashtag, "Can't wait to go find some work out der

in Cali #loadupthetruck" (hashtag (emphasis) load up the truck). The second fake post consisted

of two emojis to reflect the sad tone, "Grandma just died... 🀄🀄." The final Tweet was an

allusion to the trials of the Rose of Sharon character whose fiancé abandoned her, paired with an

apt meme to capture the experience of reading, several themes from the book, the use of dialect,

a tone of mockery, and a connection to pop culture. Joshua used a meme called Wot in

Tarnation which originated from Tumblr when someone posted the original image with the

phrase, "When you find a city slicker on FarmersOnly.com." [Farmers Only is a dating website.

According to the site, it is "meant for down-to-earth folks only."]

Joshua's image shows a tryptic of the same photo of a plaid-shirted and baseball-capped

farmer with a stretched face looking at a laptop. The farmer is first sitting on the back of a pickup

surrounded by a field of crops looking at a laptop. Then, the farmer is captured in a medium shot

with the stretched face and the laptop. Finally, there is a close-up frame of the stretched face and

the screen. Joshua cropped off the Farmers Only message, posted the image, and Tweeted,

"When you realize Connie up'n left." (Connie is character Rose of Sharon's fiancé). Given the

emergence of Twitter in the political arena as a modern game-changing communicative tool,

Joshua said he was "trying to send the message that this Old-World problem has been brought

into the new light of today symbolized by Twitter" in a "funny lighthearted" way. Like Bryan's

multi-layered bee meme, Joshua's Pa Joad Twitter artifact was multifaceted. Combined with his

policy brief, Joshua showed a keen comprehension of social justice and empathy. His meme and

his partnered policy brief showed a sophisticated sense of self-agency and an awareness of power

interests, contextual factors, and multiple-meanings. By composing and remixing multimodally,

Joshua reflected his lived experience of a teen who can capably multitask and manipulate the

resources around him for a desired outcome. He and his partner used a sophisticated tone for

their policy brief addressed to the teacher; while he alone in his meme composition used dialect,

meme-speak, and Twitter-speak for his peer audience. Given Joshua's presence on the Internet

in the gaming world, his design and text choices were deliberate on both the literal and

subliminal level. Joshua shows an Accomplished Level of Critical Literacy (Level 4).

Class 3 moved seamlessly from the theory phase to the instruction phase, to the

construction phase, to the exhibition phase, and to the reflection phase. All students submitted a

policy brief individually or with a partner. All students contributed a meme to the pop-up

museum. All students completed an open-ended survey reflecting on their experiences. During

the exhibition phase of the meme museum, the teacher told students they needed to consider

elements of design, spatiality, and flow but did not give them specific tasks, mandates, or

requirements. Students organically performed a whole class think, pair, share activity while one

student went to the board and asked students to call out themes— housing, food, immigration,

Coach Manner, and family dysfunction. The student leader directed them to gravitate to students

with similar themes, and then they used desks, books, and even a water bottle to build sets for

their exhibits. A third of the students showed their memes on their cell phones; the rest used the

school laptops. One group used textbooks to construct risers, so each laptop or cell phone was

on a different level. Once again, the exhibitors exited the room to become museumgoers and

view the museum as outsiders. Arranging the exhibits by student-selected themes allowed voice

and choice, moving students into groups determined by interest. Within each cluster were

various interpretations of the topics from simplistic to sublime. Museumgoers experienced

multiple meanings and multiple viewpoints. In today's partisan environment, one pop-up

museum could expose students to varying social, cultural, historical, political, and economic

realities.

Class 4: AMP Museum 11th grade AP English Language and Composition

Table 4- Participants in Museum 4

Participants	Gender	Ethnicity	Designation	Topic	Level of Critical Literacy	
Naresh Sidhu (with Andy Stone)	Male	Asian, Caucasian	Magnet Student	Hot Hand	Research Project-Accomplished	Exhibition-Accomplished
Ella Robinson (with Cerise Jacobs, and Chloe Victor)	Female	Caucasian, Asian, Caucasian	Magnet Student	Coaching a Special Olympics Basketball Team	Research Project-Accomplished	Exhibition-Proficient
Dax Yu (with Maria Rodriguez)	Male, Female	Asian, Latina	Magnet Student	Concussions in Lacrosse	Research Project-Accomplished	Exhibition-Accomplished
Annabelle Carter (with Martin Garner and Dina Rogan)	Female, Male, Female	Caucasian, Caucasian, Latina	Regular School Students	Orchestra tutoring	Research Project-Proficient	Exhibition-Proficient

Table 4

        Classroom Arrangement **and Set Up. Immediately after the meme museum with block**

2A, students restored order to the classroom and completed the open-ended survey. The

teacher transitioned to instructions for a more formal pop-up museum to be hosted by the

students three weeks after the meme museum.

A large conference room that holds up to 200 people was booked. On the day scheduled for the event, students entered the empty room and popped up their museum within 15 minutes of the beginning of class. The museum ran for one hour, and they had 15 minutes towards the end of class to break down the museum with all components removed from the room including the trash so the next class could construct their museum in the empty room.

The committees for the more formal AMP pop-up museum include exhibition design; social media, marketing, and public relations; security; docents; guest experiences and event services; museum technology and properties; stagehands; sound engineers; print, virtual, and media program; program designers; and collections. The teacher posted committee signup sheets in a commons area for students to select a role after the discussion session of the meme pop-up museum. Second Block B signed up for roles then Second Block A/B combined to hold an election to choose the two leaders. Each committee selected a leader, except the stagehands who decided to be a Communist cell where all voices were equal. The teacher communicated with the two co-leaders; the leaders met with their committee chairs (and the Communists), and the committee members all had responsibilities in addition to being expected to prepare an exhibit for the pop-up museum.

Second Block A/B decided their overarching theme would be Space. They posted black flyers around campus designed with white letters and moons and yellow stars proclaiming "Food! Hands-on Exhibits! Games! Learn about Table Tennis, Brain Science, The Arts, Robots, and More!" They designed a map of the conference room that included electrical outlets accounting for power needs, flow, and spacing. The committee labeled each exhibit with signage sporting the recurrent theme. One challenge for this class was that several exhibits needed significant space or attention to audio features, for example, exhibits featured many

musical instruments (tuba, violins, and keyboard) or special components (a cheerleader with

mats, a ping-pong table, a working robot, and an exhibit with a water tank.) This is a typical

obstacle as the first block class had to factor in a dog for a service animal exhibit and the third

block class had to account for three electric guitars. The two coordinators were also allowed to

accept the default teacher/researcher-made rubric or revise it. They chose to edit the grading

tool, redistributing the points, and added in a dress code requirement. They offered food at a

snack table and accounted for movement, trash, and clean up. One committee handled recording

the event and producing a video by Monday, following the Friday event.

The Pop-Up Museum. On the day of the event, students brought in carefully engineered

exhibits to the teacher's room before school. The team leaders discussed how all the components

needed to be ready to display within 10 minutes. The students heeded their leaders' admonitions

and the staging went as planned. The day before the museum, the class had a trivia day in the

conference room. Students did a dry run, the leaders coordinated, and moved into the exhibitors

into their places where their exhibit would pop up the next day. A few tweaks to the plan were

made and the class was ready.

The Participants. Naresh Sidhu worked with Andy Stone, a student in the first block

class. Students could collaborate with friends in other classes as their planning documents and

research were contained in a shared Google Drive folder. The two sports aficionados were

fascinated with the concept of the hot hand in NBA basketball. Both students were members of

the Magnet program and took four AP classes – Statistics, Calculus, English Language and

Composition, and US History. The AMP Project allowed them to pursue a passion for

determining whether the hot hand exists. Naresh liked to write academic papers but he

particularly liked writing research papers. He said about the experience:

The first study tested the hot hand in the situation usually recognized: the basketball court. For this study, earlier research had shown that the hot hand does not exist and is merely a random sequence of events. However, we decided to test the hot hand theory because the amount of research saying the hot hand theory existed, although small, had been increasing in the past few years. We hypothesized that the hot hand does not exist. In our study, we concluded that the players we tested did not possess the hot hand. In our second study, we tested the hot hand theory not just as a series of successes, but by quantifying the theory to test if Fantasy Basketball players invested in NBA players who had a short run of scoring above their season average. This allowed us to change the hot hand's applicability from just basketball players to the general population's application of the hot hand theory. We hypothesized that fantasy players do invest in NBA players based on the hot hand theory. To conduct our study, we gathered data on the five most-owned players across a period of ten days then removed players whose performances were affected by trades or injuries to isolate for those variables. Then we recorded the number of points those players scored in their three most recent games before the night their ownership percentage was recorded. We then removed players who were averaging fewer points in their three most recent games than across the season. After conducting a t-test for inference for linear regression, we rejected our alternative hypothesis and concluded that fantasy players do not invest in NBA players based on the short run above average performances, such as those that would occur in the hot hand theory.

Students were to consider the interests of the student body for their interactive exhibits particularly 9th grade regular school students who might not understand sophisticated math and science concepts.

Naresh and Andy used a trifold board with a cut out for a computer monitor. They attached it to an Xbox One. Naresh wrote (in a follow up email after his interview): We had cut out a slot for a computer monitor and a slit for the front of its stand so we could make the monitor flush with the rest of the exhibit. To this monitor, we attached an Xbox One and started the basketball game NBA 2K17. We used this to help simulate the hot hand theory by allowing our audience to try shooting three consecutive shots while being allowed to take up to 10 shots in total. As we expected, through our research and that of others, few people succeeded.

Naresh and Andy considered their audience not only by incorporating an Xbox game into their exhibit, but they hacked into the program and put a picture of the AP US History teacher onto the court of the basketball game. Thus, the two considered their audience. Museumgoers who played their video game experienced the hot hand theory disproven, while their avatars playfully stomped all over the basketball coach's face. (The coach was impressed by their innovation.) Naresh and Andy's topic was steeped in confirmation bias. Gamblers and fantasy sports fanatics live and die with the idea that some players are fortunate and lucky streaks exist. Naresh and Andy attended to the needs of a general school audience and got their point across on a topic on which their audience might already have formed an opinion. They adopted a light-hearted tone, appealed to school and social culture, incorporated gaming technology, and even wore the uniforms of the local professional basketball team. Their construction and organization of the exhibit allowed for participants to experience the randomness that their research proved.

Hacking the game so the participants' players would run all over the teacher/coach's picture reflected ownership of the power dynamics of their exhibit. The coach, himself, said that he had believed the hot hand theory and thought Naresh and Andy's exhibit was convincing. At

one point, he was playing their game, his avatar running all over his own face. Their lived

experience, a love for the Moneyball aspect of their favorite sport, was evident in their project

and exhibit. They reflected an accomplished level of Critical Literacy in presenting visual text to

support their scholarly text.

Ella Robinson was a gifted long-distance runner on the school's track and cross-country

teams. Her drive in her sport was apparent in the classroom as well. She is personable,

cooperative, and responsible. She worked with two partners on their AMP project and decided

to exhibit during the second block museum. The trio volunteered as coaches and mentors for

two Special Olympic Basketball teams. They coached them every week to prepare for a big

tournament where one of their teams ended up winning a gold medal. They conducted an

observational study of the emotional and physical effects of Special Olympic sports on its

participants.

For their exhibit, they had a cardboard display with pictures and a summary of their study

along with how to get involved in the Special Olympics program. They also had a basketball net

with bouncy balls set up at their station to engage museumgoers. Ella said:

We had to decide how to display information without displaying ALL of it since we

found many results about our topic. We knew everyone liked basketball and hoped to

draw people to our station with this fun game. Then, we hoped to tell them about our

volunteer work and the desperate need for programs like the Special Olympics supported

with the evidence from our study.

Ella sensed that museumgoers enjoyed the basketball station, but were unable to make the

connection between the game and the trio's project, coaching a Special Olympics Basketball

team. Although the research component received high marks (Accomplished), the trio's pop-up

museum exhibited achieved a level of Proficient which is lower than they usually earn. Ella and her group had fun at their exhibit, but Ella expressed that she and her group should have moved beyond what Ella called "a school carnival display." They had hoped to persuade museumgoers to take part in the Special Olympics as coaches and mentors. Their flyer gave an overview of the program and their findings. Displaying an Accomplished Level of critical literacy is aspirational, and the students felt they had missed an opportunity. Building in reflection after the pop-up museum was vital for students to think about their work. Since their audience was their peers, not just the teacher, sometimes, students were their own harshest critics. At the end of the museum, all their flyers had been taken. Thus, throwing baskets might not have offered the overview of the project that they had intended but their flyer filled in any gaps.

Dax Yu was an affable school leader who excelled in the science magnet program. He received a large scholarship for high-achieving low-income students that will pay for his college tuition to one of the best colleges in the United States. Dax and his partner, Maria Rodriguez, both lacrosse players, decided to do the yearlong project on sports helmets and concussions. They started their project by doing some preliminary research, asking the questions: 1) What makes a good helmet? 2) What are the strengths and weaknesses of current sports helmets? and 3) What materials are being used for these helmets and how could they reconstruct a helmet to be better than the current ones? Dax and Maria researched specific materials to reduce the impact from a contact force, such as "non-Newtonian materials" to go deeper within their study. They also researched how specific positioning of the padding could affect the force as it is transferred from the head to the ground to the head again. They included the research of both physics and chemistry into their sketches of their helmet. Their research was high concept, so they decided they want an interactive exhibit. Dax said:

My experience with the AMP pop-up museum has definitely been a positive one. It was after AP exams and after 95% of my finals, so I got to experience two periods of pop-up museums (2nd and 3rd). Through the process, I've learned more on how to conduct research and how to write a research paper. I enjoyed the experience. It was educational and gave me an opportunity to really show my peers what I have accomplished.

Dax and Maria enlisted the aid of a science teacher as a mentor. They went through many trials and errors on constructing a helmet that would cradle the skull upon impact to the ground, but provided flexibility so that the helmet wouldn't slam back into the head. They stumbled across rolling technology used in building construction in Japan, a place notable for earthquakes. Their final model incorporated the rolling flexibility they proposed as well as other safety features and low cost. As they approached the time for the pop-up museum, they were investigating patenting their idea and proposing it to several sports equipment companies. Their exhibit was stationed next to Joshua Lawson's who had served as a youth lacrosse coach and mentor. Joshua had a lacrosse net up and he wore the uniform and pads of a goalie. Dax and Maria had an exhibit with a plastic head, a current lacrosse helmet, their sketches, a letter from a patent attorney, and a bowl of composite material for museumgoers to feel/squish so they could experience the material they envisioned for their updated helmet.

The leadership of the class decided that the two exhibits needed to be next to each other to tell a story. Joshua's exhibit was similar to Ella's group and Andy and Naresh's group in that he had a sports scenario where museumgoers could engage with the exhibit and take shots. Where it differed from Ella's, however, was that like the middle school league that Joshua refereed, mentored, and coached, Joshua coached participants to take the best shot as he explained shot style, hand positioning, and body posture. Dax and Maria, also varsity lacrosse

players, were coaching and mentoring with him while Joshua pitched in to help with their

exhibit, showing museumgoers his helmet and explaining how it felt to get a concussion from

such a fast-paced sport. Dax and Maria's exhibit earned an Accomplished Level 4 on the

Critical Literacy rubric (as did Joshua's). The teacher conceived of the pop-up museum protocol

to foster student agency and self-efficacy. Joshua, Maria, and Dax's curation, by merging their

stations into one interactive exhibit, demonstrated a high level of critical thinking on the part of

the students and the leaders.

Annabelle Carter was a conscientious, nurturing, and mature junior who worked with two

friends from orchestra, Martin Garner and Dina Rogan, to implement a music tutoring program

at the middle school where all three students matriculated. She took the lead for the group,

organizing the team's tutoring and the research process. She enjoyed novel studies and Socratic

Seminars and prided herself on turning in her work early. Annabelle preferred assignments that

have all the expectations clarified. She asked for rubrics throughout the year and often met with

the teacher before school or emailed her to ask for directions. Annabelle's group succeeded on

the research project earning a level of Proficient, but she expressed nervousness about presenting

in the pop-up museum. There were many questions that the teacher left for the students to figure

out. Annabelle said of the pop-up museum:

> For me, it was an interesting and new experience having other students view our work.
>
> For the most part, everyone was respectful and kind to listen to our presentation and the
>
> music we played. I felt like I was out in the open, but we were treated kindly, and it was
>
> rewarding to see our work be appreciated.

As a high achieving student, Annabelle placed much of her identity on earning exemplary

grades. Several times throughout the year, Annabelle had to be challenged to stretch her comfort

level and take a risk. One particular day, she had arranged with the orchestra teacher to tutor

during the middle school hours. She and Dina served as mentors for the high school orchestra

class so they had permission from the teacher and both of their parents to leave school and tutor

the middle school students. No one alerted the middle school receptionist that the middle school

orchestra teacher would be having guests so they were denied entry to the school. Annabelle

related that she was mortified especially because the school receptionist, she remembered from

her days as a student at the school, was notoriously aggressive. Annabelle and Dina left the

school and got back into Dina's car to return to the high school, but Annabelle said she had a

epiphany when she said:

> I did everything right. I got my parents' permission to sign out; my teacher's
>
> [permission] to leave; your permission to do the project [the researcher's]; and Ms. Jack's
>
> [the middle school orchestra teacher] to tutor. Why was I running away ashamed to
>
> cause trouble? I had a right to be there.

She and Dina emailed the researcher and the middle school orchestra teacher that they

would be giving their phone numbers to the receptionist. The middle school receptionist called

to verify that they had permission to be on the middle school campus. The teacher/researcher

explained the project and vouched for the students. After a quick lecture from the receptionist

for not pre-arranging the visit (Ms. Jacks had overlooked this step), they were allowed on

campus. For Annabelle, she explained that she felt exhilarated to stand up to authority and

succeed in getting what she wanted. This new sense of empowerment was less evident in their

pop-up museum exhibit as the trio organized a mini-concert, added some trivia, and played

throughout the museum's hour. The new level of confidence did show through in their research

project, however, as the tone of the study advocated strongly for music tutoring to improve

middle school students academically and socially.

Conclusion

These four pop-up museums show a variety of students in different scenarios. Three pop-

up museums took place after close reading, talking back to text, and constructing memes to

reflect the students' identity with and understanding of text. One museum was the culmination

of a yearlong project. All museums popped up and took place over a brief period of time. All

museums had an organizational structure designed by the students themselves (with an assist

from the teachers and teacher/researcher in the 10th grade on-level class). All artifacts for the

museums were created with varying levels of success with the museum goer in mind. Students'

intentionality in their creation, curation, and exhibition was clear and, in all cases, students felt

empowered to represent their voices and choices to their peers and their school community.

These four museums expressed students' literacy power (Bourdieu, 1977; Freire, 1972;

Gee, 1996; Galloway, 2015; Janks, 2009). Through voice and choice of exhibit, space and place,

meme, project, topic, stance, and positionality, students emancipated themselves from the

precepts of teacher expectations and authentically displayed their thoughts, opinions, and beliefs

through their multimodal artifacts for an audience wider than the teacher-student transaction,.

They read the world as they manipulated the word multimodally for their own conscientization

(Freire, 1972), paying heed to design (Kress, 2010), culture (Ladson-Billings, 1995b), and

figured worlds (Holland, 1998). Through apprenticeship of expertise and identities (Gee, 2000)

in an authentic literacy event (Street, 2012), students expressed rhizomatic fusion literacy

(Deleuze & Guattari, 1987; Millard, 2003) by sedimenting (Holland & Leander, 2002; Rowsell

& Pahl, 2007) their work samples through curation of artifacts, staging of exhibits, and whole

museum design. A nod to Nodding's (2005) attention to a caring environment was fostered as the

students created, curated, and witnessed each other's' artifacts and expressed critical artifactual

literacy (Pahl & Rowsell, 2011). In creating a museum habitus, or an ecoscape (Leander, 2002;

2010), students composed and existed in first, second, and third space (Soja, 1996)

synchronistically. Delcarlo's (2011) vision of pop-up museums as temporary public spatial

gatherings to share cultural information was fully realized; while Bakhtin's (1981) metaphor of

laminating chronotopes of meaning emerged. Chapter 5 looks at some of the themes that arose

from these experiences and discusses the limitations and implications of future research and

considerations for educators who would like to replicate the pop-up museum concept and bring it

into their own classrooms.

CHAPTER 5: Discussion and Conclusion

Introduction

This phenomenological case study explored how students expressed their critical literacy practices while taking part in a project-based learning exhibition protocol. The study was designed to understand the lived experiences of 18 students and three teachers through their participation, artifacts, and testimony. An analysis of student work samples gleaned from four pop-up museums added to the understanding of these phenomena. Chapter 5 used the body of data gleaned from the pop-up museums and the participants to discuss the implications, offer context, detail limitations, and make recommendations for further study.

Discussion of Findings

Chapter 5 uses the data detailed in Chapter 4 to frame the three research questions:

1. What are the benefits and limitations for high school English teachers using a PBL approach to foster students' critical literacy practices?

2. How are students' critical literacy practices represented when constructing artifacts to reflect literacy, learning, and mastery?

3. How can a PBL pop-up museum reflect a "shift in identity, perception, disposition, action, and practice" (Rish, 2014) in expressing critical literacy practices?

Data from these pop-up museum experiences revealed participant perceptions, successes, and obstacles in the conception, creation, display, and whole-class events. Each research question branched into numerous sub-themes during data analysis. The themes extrapolated are: benefits and limitations of using PBL; critical literacy practices; shifts in identity, perspective, and disposition; and the emergence, uptake, resonance, and scale of the transliteracies framework.

Discussion of the overarching themes, as well as those gleaned by using the transliteracies conceptual framework follow.

Museum 1

A class can complete a pop-up museum with varying levels of technology. Some students handwrote their text response and others composed it on their phone or the school laptop. One student drew his meme while others used their cell phones or the school laptop to create their meme. Some students sought meme generator apps while others composed in PowerPoint or Microsoft Word. There was an inability to track which of the two tasks students initialized and why. It was observed, however, that most of this class selected to remix a previously available meme to support their letter. Of the 19 class members, six used previously published memes to support their written piece and 13 incorporated some form of original work. A follow up Socratic Seminar on the class's experience would have been interesting, but the second pop-up museum was scheduled for the next day. Mr. Henry said he would definitely use the pop-up museum with the Swift lesson the following school year.

Museum 2

An obstacle that was not expected to factor into the protocol was the availability of technology given that the students in the first museum selected to hand draw or use their personal devices or the school's technology. On the first day of Museum 2, a computer cart was obtained, but the computers were so old that some students chose not to compose their meme on a slow version of Microsoft Office; rather, many expressed frustration and just downloaded a pre-made meme to reflect their idea. Likewise, of the students in the class who completed the position statement, only one used a class or home computer. The other students submitted handwritten position statements. It was difficult to track which of the two tasks students initialized and why.

On Day Two, when students were composing before the museum using laptops from a newer computer cart, members of the class were moving in and out of the classroom to go the counselors' office. Not only did this break the momentum of the activity flow, as the class constructed and then moved into the museum protocol, but some students were unable to finish their policy statements, so they were instructed to just proceed to the meme.

Students sincerely wanted to complete their memes, so it was hard to move them to the arrangement phase. It is believed that students can continue to work on construction while other students move on to the arrangement of the exhibition. Sometimes, students are nervous about other people looking at their work. If their meme was incomplete, but they knew in which display that they would be exhibiting their work, they could see other students completed work to conceptualize their finished products. The students were crowded around computers encouraging the students who had incomplete work with ideas to complete their memes.

Each group displayed its work differently. In some cases, one student in the group arose to take up the leadership responsibilities and told his or her peers how to arrange the exhibit. In other groups, direction and curation seemed to be a collective effort. Hand gestures and collaboration were utilized. In two cases, students encouraged other students in their group who had their phones locked to unlock them and to leave their personal devices in the museum exhibit unattended. This level of trust is sometimes unusual in a regular class.

Two blocks of 90 minutes were not enough time for this on level class to read and annotate a text; construct a different text that has the same structure as the original text; and create a visual artifact that reflected the purpose, tone, and attitude of their position to the museum audience. Given the interruptions and the technology glitches, a third day might have

provided more complete and polished artifacts. This class could also have benefitted from a formalized discussion like a Socratic Seminar.

Museum 3

The students enrolled in AP English, who were also older than the two 10th grade groups, had the most success in the time management needed to read text, create an alternative text, and create a visual artifact to represent their ideas. Since the policy brief was an ongoing assignment and not one attached to the pop-up museum, this contributed to the success of their museum. A pop-up museum could be the culminating assessment rather than a step of the writing process. The two 10th grade classes could have benefitted from a revised order which the 11th grade students had due to the nature of their curriculum- introduce the reading, read, and discuss the piece (or do a Socratic Seminar about the reading). Then, implement the pop-up museum as a step in the composition process. An interest was expressed in each museum in observing whether students compose visually then write or do they write and compose visually. The 11th grade students had an ongoing assignment already assigned. Some students completed their policy brief before moving on to their artifact, while others created the artifact as an impetus for creating their policy brief. In the next iteration of the project, the students' composition process can be observed and questioned as to which they privilege and why. The question of order of composition would make an interesting follow up study.

Museum 4

The pop-up museum as a summative assessment instead of a formative assessment (meme museum) lends itself well as an authentic tool to measure students' understanding of checkpoint concepts leading to a larger body of information or end of a unit of instruction to show what students know. Since each student (or group) must curate an artifact and stand at its

exhibition discussing and defending their work, it is difficult to ride the coat tails of more

academically achieving or organized students. Students in Museum 2 were the most vocal about

their distaste for group work, but noted in their open-ended survey that they did not believe that

the pop up museum reflected the traditional concept of group work. Pop-up Museum 4 was a

celebratory achievement. Too often students spend time on amazingly creative projects only to

have to place them into a pile on the teacher's desk. The AMP Project garnered some truly

remarkable yearlong projects. The participants discussed in Chapter 4 attest to the range of

curiosity, service, and interests of today's students- Fantasy Basketball's hot hand, volunteering

with the Special Olympics, patenting a safer and more comfortable lacrosse helmet to prevent

concussions, and the effect that orchestra tutoring has on middle school students' academic

performance.

Other projects showcased in this pop-up museum were starting a table tennis club, the

polarization of female African-American hair, how to spot fake news, the effects of human

trafficking, publishing an age-appropriate original children's book (and they had the books

available to purchase), building a robot and a drone, organizing and hosting a dodge ball

tournament to raise money for breast cancer research (by the daughter of a breast cancer

survivor), and earning the Eagle Scout badge for maintaining the trails of a local historic site. All

students in their academic career should be given the opportunity to pursue a topic with

autonomy, to set their own level of mastery, and to determine when and whether he or she

achieved the purpose that they set out to accomplish. The pop-up museum was the icing on the

cake. These participants and their classmates should be proud of their efforts and their peers and

the school community including parents, teachers, and the mayor of the city were able to witness

their achievements.

Research Question 1: The Benefits and Limitations of Project-Based Learning

A group of pre-set codes were devised for the first coding pass through related to the three research questions- the benefits and limitations of project-based learning; critical literacy practices; and shifts in identity, perception, and disposition. Six sub-themes emerged from the benefits of PBL, and five related to the limitations. Each of the sub-themes is extrapolated with commentary reflecting participants' lived experience of the phenomena.

Nineteen participants expressed ideas about thinking and learning. Teacher Dana Dyson said that PBL "showcases student knowledge." Dylan Thanh said that PBL "requires the student to use all of their skills … not just writing." Eboni Reardon stated that it was more "interactive;" Seth Zimmerman called it, "hands on", and Sophia Hernandez said, "It gets the blood pumping." Joshua Lawson commented, "Typical learning usually involves a teacher speaking AT students, but this [PBL] allowed the student to draw upon their knowledge and synthesize it in their own way." Ella Robinson concurred. Mr. Henry expressed that the energy for the teacher is spent walking around seeing students create and exhibit instead of watching them for behavior transgressions. Dax Yu spoke of an opportunity to reflect on failure and turn it into a success. He said, "I helped to (re)create the museum organization after the first layout design proved to be unsuccessful when we tried to set it up."

Thirteen participants expressed fun, engagement, and enjoyment. "I believe our pop-up museum was successful as every visitor and presenter seemed to enjoy the experience and learn from it," commented Naresh Sidhu. The field notes for Museum 1 said students encouraged each other to complete their memes and shared ideas. Dylan spoke of active engagement while Aaron Lopez stated that he liked it a lot, "We got to look at life." Zena Blake said, "It was cool

and exciting. We got to talk to other people." Liana Hernandez added, "I liked it a lot. It was something fun to do in class. I thought it was a good idea."

Nine participants expressed ideas about seeing others' perspectives. Aaron said, "We got to read each other's things." Bryan commented that everyone could set up his or her work and look around to see everyone else's work. Ella said of the PBL AMP pop-up museum, "It was a creative and relaxed way to share information on many topics. It allowed for all of us to see and appreciate each other's work while working together to put on this big event."

Nine participants reflected on how the PBL pop-up museum could be used in other disciplines. Ms. Dyson said:

> I feel that I could literally use it in every unit. For example, social issues with *Night,*
> gender studies with *A Midsummer Night's Dream*, and the list goes on! There's some
> theme or point to any unit, and I feel as if it is applicable.

She added, "Even math can create this type of museum by applying mathematical equations and results to real-life experiences." Mr. Henry said he is definitely going to do it [the PBL pop-up museum] again. Other subject areas and occasions mentioned where a PBL pop-up museum would be beneficial were science, social studies, art, open house, student elections, and a club fair.

Seven participants expressed that PBL allowed students to show ownership of learning and peer responses. Dax said he could show his peers what he accomplished. Ella said it was "extremely rewarding" and everything [her class and her exhibition group] "had hoped for."

Six participants noted that the activity evoked their creativity. Dax commented that his and his partner's lacrosse helmet exhibit in the AMP pop-up museum included "a tactile function for our audience to touch and feel what kind of material can protect them." Dylan enjoyed a

group activity where students create artifacts and Naresh commented that this creativity "does not often occur in other ways [of curriculum delivery]." Eboni said, "All the memes made me laugh, and it was enjoyable. It felt good as if I was getting props for my creativity."

Far fewer participants commented on the limitations of PBL. Three participants expressed ideas related to student effort and engagement. Aaron noted, in his meme pop-up museum, "there was too much chaos." He added that "it was ok but not worth the work." Seth mused about the yearlong AMP Project and its corresponding museum, "conducting the project with a lot of freedom was difficult."

Three participants discussed teaching and grading. Mr. Henry wondered about the copyright issue of students remixing memes and potentially publishing the remixes online. He also reviewed the issue of students completing the components of the PBL assignments "just to meet points on a rubric for a grade." Kostas said aloud while he completed his survey, "I do not like group activities." Nine other participants from the 10th grade honors class concurred while students in the 11th grade AP class and the 10th regular class did not overly discuss the issue of group activities. PBL does not always need to be completed in small groups. The pop-up museum's group component occurs in forming exhibits (small group) and hosting the museum (whole group).

Three participants discussed time management. Time ran out in the two tenth grade museums. Mr. Henry commented, "If you're going to do one of these one-day pop-up museums, you would have to do something that students can compose quickly. You can't guarantee that students can produce something on one day and then do the museum the next."

Counselors needed to pull out about half of Ms. Dyson's class while the students were composing their memes and policy statements. Thus, the lesson plan sequence lost the fidelity

and flow of the composing process. Mr. Henry commented that a follow-up discussion would have been interesting, but the researcher needed to move on to the next class.

Three participants also noted issues related to technology. At this school, it is hard to sign up for the school's computer carts two days in a row. The field notes for Ms. Dyson's museum noted availability of technology as a problem. (The class had to use unreliable, old computers, which frustrated some students.) In fact, some of the students in the Museum 2 class returned to paper to compose their position statements and hand drew their memes.

Finally, the school's mission was addressed. Mr. Henry commented, "It is hard to come up with clever ideas like this these days [PBL and the pop-up museum]. Too often our professional development is comprised of training for data collection to improve standardized testing." Teachers might have to seek PBL professional development and lesson plans on their own time at their own expense.

Research Question 2: Students Exhibiting Critical Literacy Practices

The lesson plans for three of the four museums began with the guided or independent reading of unfamiliar but related passages to the curriculum of the class. Two critical literacy strategies, *close reading* and *talking back to the text* were modeled. Participants responded to prompts in interviews and on the open-ended survey related to elements of critical literacy.

Seventeen participant comments related to the audience, purpose, and tone of their artifacts. Dax and his partner intended for the public to understand "how misleading current [lacrosse] helmets can be regarding protection." Ella, Bryan, Kostas, Jaya, and Seth addressed the message of their memes: "… to understand fairness in life" (Ella); "… to save the bees" (Bryan); "…to recognize the significance of math, especially in a social/cultural way" (Kostas); "… to make fun of Coach Manner and his basketball skills" (Jaya); and "to reflect the story and

Coach's personality together" (Seth). Eboni said she used a sarcastic tone. Sophia based her

meme off one she found on the internet to "express [the] loneliness" of the undocumented

immigrant in America. Kostas commented that the tone of his meme was "not very caustic"

while Joshua was going for a blithe tone. Ella and Jaya implemented a mocking tone. Bryan's

tone was a multilayered, sweet, and mocking statement on the plight of the bees, and the

proliferation of poorly designed memes. He lashed out at armchair "slacktivism," where people

post memes about existential and environmental crises from the safety of their computers but do

not do the difficult work of conservation or behavior modification.

Even with a verbal prompt during the focus group and a question on the open-ended

survey, only four participants actively discussed the use of close reading. Ten responded yes and

six responded no, if they used it. The question might not have been designed in a way to elicit

extended commentary. Bryan exhorted, "You have to be able to analyze the author's

purpose/message so you can fully understand the text." Kostas said, "When close reading, you

question the motivations of the author, checking his facts, and attempting to destroy his

argument." There was no opportunity to follow up on the concept of "destroying" an argument.

Sophia expressed that she has trouble close reading. She said, "It confuses and throws

me off what I am reading." Seth agreed by saying that close reading was "jarring" and it loses

his flow. Although Aaron from Museum 2 said of close reading, "it helps with what you read or

actually understand," he stated that he did not remember much of the reading the day before,

even with a guided reading graphic organizer, and a whole class close reading exercise. As

previously mentioned, he intended to annotate only when the teacher graded his work.

To achieve and perform at an accomplished level of critical literacy, one must understand

the context of social, cultural, historical, political, and economic paradigms and have a self-

actualized awareness of one's lived experience of how text reveals itself through thought and actions. (See the rubric accounting for evidence of critical literacy in Appendix). Students from the Honors and the Advanced Placement pop-up museum classes expressed a developing to an accomplished level of critical literacy. Dylan deliberately made design choices in captions so that the font of his meme matched the tone and attitude. He said, "You are interacting physically with the text." Joshua created a Twitter account and posted as the character of Pa from the *Grapes of Wrath* intentionally using tone, dialogue, and dialect for effect. The field notes reflected that the same apprenticing of close reading was not seen in the 10th grade regular class. The notes said, "I am not sure if I succeeded in imparting the importance of close reading other than [students] copying my annotations from the projector."

Likewise, few participants commented on the process of talking back to the text. It was noted that no students in the 10th grade regular class asked any questions of their own on the copies of the speech collected. The class had just completed reading a memoir by Elie Wiesel. The speech from the same author might not have needed its content or credibility challenged. Dylan said," It is okay to question the author because it brings out perspective." Joshua stated that talking back to the text is "useful." He said, "This will help us later in life because it helps us take on critical thinking."

Only Liana during the focus group of regular 10th grade students self-reported that she remembered Wiesel's speech in detail. Aaliyah Morgan commented in her survey that she mostly understood it. She said:

> It's not good to be rude … Not to be indifferent. Elie (sic) was mad about the things that happened. He talks about how we will witness suffering and do nothing about it. The world hasn't changed much, from the time of his imprisonment.

Aaron said about the speech, "It was too long."

The response of whether students would take up close reading and question the text also reflected unenthusiastic responses including Zena's comment when asked if she would continue to question and mark the text. "Probably not; (laughs) I will do annotate [sic] when the teacher tells us to especially when it's a grade." However, Liana said she would continue to mark text "when reading articles in my free time. It helps with what you read or actually understand."

Research Question 3: Shifts in Identities, Perceptions, and Disposition

This study on students' expressions of critical literacy, while undertaking project-based learning, examined whether students shift their identities, perceptions, and dispositions. Each of these characteristics were scrutinized. Thirty-three comments reflected participants' lived experiences manifesting these understandings.

Kostas took up the identity of a person of authority as he satirically modeled Swift's "A Modest Proposal" by imagining math re-education camps for students who cannot pass standardized math examinations. Seth apprenticed authority when he expressed both admiration and frustration to his AP US History teacher when he created a meme of a muscular Coach Manner superimposed on a bunch of grapes shouting, "I'm angry, Big Dawg!" (One of the coach's catch phrases). Jared, a Deaf student in Ms. Dyson's class, took on the identity of a creator when he humorously remixed a martial arts meme. Students were impressed with his meme and told him so through the ASL interpreter. Dax said, "I felt proud- like a proud dad" when describing his lacrosse study, prototype, and exhibit. Eboni also commented on taking up the identity of a confident creator. Mr. Henry summed up the experience by saying:

This museum idea where people create something individually, and then they come together, and they view it, and experience it collectively … It is an event, and it's not. It's

not just an assignment; it's something that they're doing that's bigger than themselves—

they are creating new personas for themselves.

Pop-up museums invite others to see how a variety of people interpret a wide-ranging

theme. Participants responded favorably to recognizing a change in perception from

experiencing a PBL pop-up museum. Annabelle and Ella both commented that the experience

was exciting but "nerve-wracking" (Ella) and "full of anxiety, but it worked out okay"

(Annabelle). Dylan commented that textbook work could be long and boring, but a pop-up

museum allowed his classmates genuinely to understand his opinion. He wrote satirically about

drought prevention, "Everybody should treat the ground like a person, giving it three 'meals' a

day." Kostas commented, "As the curriculum becomes shallower and based on the

memorization of formulas, students dislike the [math] class even more, for a good reason: they

don't understand where the formulas are coming from. This self-perpetuating loop must be

stopped." Dax reflected his intentionality like this, "My partner and I decided that we wanted a

very hands-on exhibit because we figured if people are touching and learning about the topic

then they would learn more." Ella explained her thinking, "We also had to decide how to deal

with the sensitive yet serious matter of those with disabilities while still being fun and

interesting" when determining the artifacts to represent her study in her AMP exhibit. Naresh

spoke of his class's goals for their museum presentation, "… This [curated arrangement]

allowed visitors to experience each exhibit equally and understand each research topic."

Annabelle's thoughts about her class museum were like the comments about her exhibit. She

said, "We wanted our exhibit to show our research but still get the attention of students briefly

passing through." The field notes for the Museum 2 class revealed, "This level of trust and

camaraderie is unusual in an on-level class" referring to the students who unlocked their cell phones and left them in their exhibits and after the public appreciation of Jared's meme.

The most difficult level to achieve on the Critical Literacy rubric is genuine empathy for others. Students' changed their behaviors during the pop-up museum in both the creation and the exhibition stages. Dax and his partner wanted their audience to understand that both have "felt first-hand how easily a person can receive a concussion." They expressed their personal pain and hoped their prototype could further the research of a vexing problem in both professional and amateur sports. During the creation phase of Mr. Henry's museum, a student discussed with Sophia whether his wall meme was respectful of her Latino culture. Students can often be cruel and torment each other without thinking of the hurtful consequences. After four museums for the study and ten earlier museums, acting cruelly or disrespectfully to other students during this protocol did not take place.

Whole-class museum planning also reflected a change in behavior as students took responsibility for others' enjoyment and engagement within their museum. Dax wrote about the dry run through the day before his class did for Museum 4 and the changes they made before the museum the next day.

> This was to maximize how much a person can see as soon as they walk in the door. Then they can gravitate to wherever their hearts' desire. It also alleviates any traffic problems because- since there is no line to go through- there is no traffic jam.

Annabelle added, "Our designers decided to have the flow of our room in a circle with our [display] boards, two to a table. Some of the groups were placed outside the doorway to allow a less stuffy and flowing design."

As stated in the field notes for Museum 4, "This class put much thought into audience experience, display, spatialization, and flow." Annabelle discussed her exhibit. "We decided to have trivia so that we could have a little fun competition between music and non-music students."

In a typical project assignment cycle, the teacher prepares the curriculum and delivers it. The student produces something, trying to meet the teacher's expectations. The teacher assesses the product based on a rubric or by comparing it to other students' performances. Then, the class moves on to the next unit. Neither the teacher nor the student addresses others' lens, interests, or engagement. The pop-up museum protocol considers students' changing identities, perceptions, and dispositions as factors of the experience.

The Transliteracies Framework

Literacy had evolved more in the last 50 years than in a millennium. Today's student might have a cell phone in her pocket, but she might be tethered to her neighborhood socioeconomically. She might not know her neighbor of five years but have intimate friendships across the globe from social networking or gaming. To attend to the paradox of mobilities, Stornaiuolo, Smith, and Phillips (2017) developed a set of methodological tools for literacy researchers to account for the instability of literacy practices on the move. The framework offers a recursive continuum to conceive of how students read, write, communicate, and create literacy artifacts. The four tools- emergence, uptake, resonance, and scale—require an inquiry stance to understand the "emic meaning-making processes, work to balance multiple perspectives, account for privilege and position, question normative assumptions and beliefs, and engage in and value multiple ways of knowing" (Stornaiuolo, Smith, and Phillips, 2017, p. 68).

  Emergence. Participants' responses grouped into the emergence theme reflected 48 instances and were further stratified into five sub-themes. Leander and Boldt (2012) encouraged researchers to position themselves amid the activity rather than observing it from the side. Thus, meaning making was witnessed as it emerged, bubbling up from "asymmetrical, disenfranchising, or empowering aspects of moment-to-moment activity" (Stornaiuolo, Smith, and Phillips, 2017, p. 77).

  Teachers and students detailed successful strategies to foster the sub-theme, *emergent actions*. Mr. Henry said he needed to help students "pick appropriate book choices" and " to write as much as possible in different genres, to require students to mark the texts, and to read texts several times for various purposes." Dax talked about brainstorming with his partner about coordinating the yearlong project, and after an idea session, they settled on redesigning a lacrosse helmet to prevent concussions. Eboni expressed how she liked group activities that involve presentations and that she was open to risk-taking when she could do something she liked. The field notes for Mr. Henry's pop-up museum detailed scaffolding the reading of "A Modest Proposal" and another text to get students thinking of various kinds of satire so they could produce it themselves.

  The subtheme *meaning-making* encompasses how teachers and students apprentice and use emergent strategies to understand their literacy practices. Ms. Dyson said,

   With writing, I teach it in steps … I even show the students some of my personal papers

   and I give them step-by-step instructions for their Works Cited pages, supporting quoted

   evidence, citing, and even [model] how to format their paper properly.

Mr. Henry added:

> My main technique is a reading guide, and students will look for things in the text and
>
> take notes on the reading guide. It [multiple types of text] should be read differently.
>
> Some things you skim and scan other things you read closely.
>
> Twelve students revealed that they use technology in their learning and each had a

different process for using applications, word processing, gaming, and resources like YouTube

videos (Khan Academy, Crash Course) to support deficits and gaps. Learning does not happen

in a vacuum. Both the scaffolding strategies of teachers and personal preferences of students

reveal ways that participants make meaning of their literacy practices.

As for *micro-analytic interactions*, Mr. Henry relayed that students need to mark text for

plot and character development but also discuss passages aloud so that they can analyze literature

and rhetoric. These critical thinking exercises pay off in better products and better learning.

The AMP project lesson was started with the teacher/researcher's class by showing

students two videos of the previous year's pop-up museums. *Modeling* is another emergent tool

that helps students understand the scope of an assignment and the expectations of the teacher.

Annotations, thinking aloud, text exemplars, and oral reading were modeled. "The most

important thing for reading and annotating for me in my own classroom is modeling for the

students," said Ms. Dyson. The field notes for both Ms. Dyson's and Mr. Henry's pop-up

museum lesson detailed modeling of talking back to the text by asking questions of the text and

showing students questions. Naresh expressed that he likes to read his peers' persuasive and

narrative writing to get an idea of how to set up his own.

With *place making*, the field notes for the meme museums reflect that in each of the

lessons, photographs of students were displayed organizing pop-up museums, so students could

visualize a sense of place and placement of desks and technology. Place making, like modeling, gives students an understanding of expectations and ideas to build upon.

Another emergent sub theme is *pathways and trajectories*. This subtheme can be seen in the thinking of Annabelle's group. She said, "For our project, we did a semester long study of the freshman orchestra class. Our beliefs going into this study were that prior music knowledge improves the ability to play music later on."

As students and teachers express their emergent tools, they start thinking critically about their place in the world. Although Aaron expressed that he annotated only for a grade, the students in both Mr. Henry's and the teacher's classes did not ask about grading. They had internalized the strategy of close reading and made connections to the text because these strategies helped them visualize the space and place of learning.

Uptake. Thirty-six comments reflected the theme of uptake stratified into six sub themes. According to Stornaiuolo, Smith, and Phillips (2016), uptake traces the ways that peoples' "bodies and material/semiotic objects respond to one another and otherwise make visible collaborative sense-making processes" (p. 79)

Students move toward an accomplished level of critical literacy when they recognize *contextualizing cues* (Gumperz, 1986) which explore how people understand others' actions and intentions through verbal and nonverbal signs, prosodic shifts, and the manipulation of artifacts. Ms. Dyson noted students' proficiency in annotation and citation as aspirational goals. Dyson scaffolds students' ability by implementing daily journals and small stakes writing activities. Ella explained that she marks significant and uncommon verbs when reading and she reads the text differently depending on the genre of text because she is questioning the author's purpose. Kostas speedreads "but the complicated nature of novels makes it impossible for me to

understand anything while speedreading, so I reserve slow reading for fiction." Eboni

commented about the teacher's class, "I analyze much more- books I read for fun, speeches, the

news, social media … Even videos. I am thinking about the speaker's message to me, even the

nonverbal stuff." Contextualizing cues move readers further on the critical literacy continuum.

As students and teachers take up critical literacy practices, they start to reshape narratives

that previously belonged to the mainstream canon of information. *Fan practices/restorying*

appeared as a sub-theme that shows how students use new media tools to change a narrative or

inscribe themselves into a pre-written story of the greater communicative body.

Bryan said, "I took a photo from *The Bee Movie* and then modified it. The meme was very

sarcastic and based off ironic memes with similar formats. The message was to save the bees. I

wanted to be extra [unnecessarily excessive for effect]."

Jaya Chuy's subtle restorying of her meme earned her credibility and social capital from

Coach Manner. She knew Mr. Manner would be attending her class's pop-up museum. He is

youthful but strict. Jaya and Coach's relationship was tense, and she was constantly getting her

phone taken away. She found a picture of the coach in a suit courtside holding a basketball. She

incorporated two 100%'s, "a laughing until I cry" emoji, and a gemstone posted on top of the

image as well as a pair of sunglasses rendering the image uncool as if he were trying too hard

and earned an award for participation. Jaya's caption read, "So you're a baller? Well, I'm the

14th man" which implies that he sits on the bench and isn't very good. In this environment, Jaya

could "dis" [speak disrespectfully about] a teacher without repercussion, taking the authority that

he has in his classroom and transferring it to her as the creator of the narrative and the exhibitor

of the artifact. The coach thought it was hilarious. A pop-up museum allows students to show

restoried or alternative timelines in a safe, collaborative environment.

In Museum 1 and Museum 2, students sought the teacher/researcher's approval of their artifacts as they created. A mirroring technique common in psychotherapy was used to respond to the students. A student in Ms. Dyson's class asked the teacher if he could use an image of Hall of Fame basketball player Michael Jordan crying in his meme. The teacher responded, "What I heard you say is that you wanted to use the image of a crying Michael Jordan in your meme. Did I get you?" The student affirmed and then shared the meme with another student who laughed. The student wavered between using an image of Michael Jordan on a basketball court in his familiar Air Jordan pose or the picture of Jordan at the Basketball Hall of Fame ceremony overcome with emotion. Students need to feel they are on equal footing in design and decision-making in a pop-up museum, as well as feel the confidence that they are entitled to their choices, even if their ideas do not fit the traditional way of conceiving something. *Footing and entitlement* are sub-themes in Uptake.

Students expressed their critical literacy practices as they composed, accounting for what came before and what would be in the future. The *historic/proleptic* sub-theme explores this concept. Naresh expressed about his and his partner's project and exhibit, "In the past when I've written research essays all the work I've done goes into a grade. In this case, my work went into creating a memorable experience." Pop-up museums can be implemented at any time in a unit of curriculum. Students could compose artifacts in anticipation of content, predicting what they think they will learn or even as a pretest or diagnostic. Students can compose artifacts during a curricular unit to show what that have learned, anticipating the next set of skills or ideas. Students can compose artifacts for a culmination as an alternative to a standardized assessment, as an authentic assessment, or even as a summative assessment.

The subtheme of *micro-dimensions* of power/ideology arose in all three of the meme museums. The teacher noticed that in each class, regardless of grade or level, students scrolled through published memes to find the message reflecting their stance. To dismiss a meme was as empowering as to select a meme. The image was important, but the message had primacy and power. Some captions appear on many meme pictures and can become racialized, sexualized, or neutral depending on the context. In the AMP museum, Dax and his partner put much thought into selecting a malleable material, finally making one themselves with the help of a science teacher, to mimic the material in their lacrosse helmet prototype that reduces the impact from contact force. They felt empowered to control the perspective of the museumgoer through their choices.

Spreadability and *"What takes hold"* are sub-themes that deal with how things and people share meaning and what becomes internalized (Stornaiuolo, Smith, & Phillips, 2016). Students physically moved back and forth, composing on one piece of technology (The school laptop blocked by district firewalls; censored content) and researching on another (Their cell phone powered by a private carrier; non-censored content). Students posted and responded to their memes on Snapchat and Instagram (blocked by the school; outside the purview of the teacher/researcher) while composing and before the class's meme museum began. Thus, the students' messages and audience had spread inside and outside of the class synchronously and asynchronously.

During Museum 2, the students needed to be able to arrange themselves thematically, but they could not do so aid was enlisted of of Ms. Dyson, the SPED teacher, and the ASL translator who generated themes for the students like school, sports, funny, rules, and ethical questions. The students were passively accepting of the adult-devised groupings and did not question or

push back against them. With more opportunity for voice and choice through PBL and pop-up museums, students will be able to transition to a higher level of Bloom's Taxonomy of Cognitive Development. They will practice and eventually take up the following concepts: selecting, ranking, justifying, appraising, arguing for, supporting, valuing, and evaluating their choices both in individual design but also in a whole class arrangement.

Resonance. Stornaiuolo, Smith, and Phillips (2016) used resonance as a conceptual metaphor because it emphasizes how phenomena interact. In the transliteracies framework, resonance reflects "how ideas, practices, symbols, objects, and the like become 'shared' and circulate across spaces and times, even when they do not seem to share direct links or traces to follow" (pp. 80-81). When information resonates with people, it is appealing, connecting, and reverberating.

To create is to resonate. The process of creating starts with students conceiving ideas and then composing them into existence. The two teachers agree that critical thinking exercises help students organize their thinking, so they can compose. When teaching writing, Ms. Dyson uses graphic organizers for the introduction and conclusion along with peer review and multiple drafts. Mr. Henry described his process, "I give students a choice either outlining, webbing, or brainstorming before they start writing. The next thing they do is try to craft a thesis statement because it will keep it [their writing] cohesive and to the purpose." The same process can be used in creating visual texts.

The pop-up museum brings together student artifacts that might seem disconnected but resonate when placed and spaced together to form an exhibit. Stornaiuolo, Smith, and Phillips (2016) cited Debord's (2006) *drifting* approach which explains how remixing and shared meaning bring together unrelated concepts to make meaning. Hence, this explains Sophia's

choice in using a Sponge Bob meme with a wall to make a statement about the loneliness of being "othered" as an undocumented immigrant. Naresh recognized that his research paper expressed his ideas through writing and his exhibit expressed his written ideas visually, but it was the interaction with museumgoers, in the public speaking domain, where he spoke his creation to life by connecting with people he didn't know. He said:

> I saw it as a learning experience. Every time I meet a new person, I tend to learn something about communication and this museum gave me the opportunity to amplify that. As this was primarily public speaking, I was able to use and work on skills I don't have to very often.

When students *sanction* the creation process, they need to feel safe enough to take risks and allow themselves to feel vulnerable and share their artifacts. They invest emotions to foster meaning. Dax commented that it was empowering to him that museumgoers had a look "of awe" when he explained the concept behind the helmet. Eboni said it felt good to interact with other museumgoers and watch others' reactions as they experienced her work. Kostas expressed the in-depth nature of PBL that allowed him to invest his time and effort.

Making meaning for one's self more than completing assignments that have meaning for someone else (a teacher) is a transformative process as identities and self-agency arise. When the teacher/researcher and the other teachers encouraged students to move from the creation stage to the exhibition stage some students hadn't finished their meme. Students gravitated towards their themed area to construct an exhibit but also co-created with students who were not finished so their artifacts could be shown in the museum as well. What had been a solitary experience because collaborative and shared. There was a true movement of mobile technology and transliteracies as students carried devices across a room, passed them off to others to co-

create, and downloaded, emailed, instant messaged, and blue-toothed images from peers to complete their artifacts.

The composition process is usually chronological but in a pop-up museum, organizers get to see ideas manifest themselves plucked from third space and virtual space. In Ms. Dyson's class, a student who was the most tech savvy (not the most academic or outgoing) stepped up to "hack" a solution by opening a virtual personal network (VPN) to access a website that was blocked by the school's technology, set up a virtual hot spot (to make one's cellphone into a wireless modem), and port (transfer) over the image that a student needed to complete his meme. His peers *apprenticed* his skills making him a temporary expert to make their exhibit resonate (Gee, 2006).

Mr. Henry strives for students to reach a level of *understanding multiple meanings*. Henry said, "I'll have students find parts [of text] that they disagree with and parts that they agree with to challenge or consider the other point of view." An image or concept might resonate in diverse ways for different people. Memes in Museums 1, 2, and 3 were both funny and mocking. The reading strategy, talking back to text, encourages students to reach for those duel meanings. Swift's multilayered essay and Wiesel's complex speech used rhetorical devices to layer tone, attitude, and persuasion. Mr. Henry wants his students to question an author's purpose because often the author might use sarcasm or other techniques that the students are supposed to pick up. If they are at a surface level of understanding, they won't get the author's intention.

Jaya said about her reading process, "I normally mark the text if I can write on a reading passage. I mark figurative language, anything that catches my eyes, words I don't know, and quotes/paraphrases. I read various kinds of text differently." When a student close reads, he or

she observes facts and details about the text. The student may focus on a particular passage or on the text as a whole. Their aim may be to notice all the striking features of the text, including rhetorical features, structural elements, and cultural references; or their aim may be to notice only selected features of the text—for instance, oppositions and correspondences, or historical references. Seth commented that he close reads when:

> it depends on what I'm being assessed on or expected to do. If I have to analyze for figurative language, I will normally mark the text. If I have to analyze for certain events or statistics, I will underline specific numbers or conditions.

Naresh concurs with Seth and commented, "This strategy is helpful in thinking through the goal of a piece of literature, in particular, by writing your thoughts, you are giving a response to the author." For all three students, there is an intentionality in how they read and why. This deliberate implementation of *metacognitive strategies* to make academic reading resonate was mostly absent from the students in Museum 2.

Another way to show resonance is the idea of *stickiness* which helps decide what information gets privileged over other pieces of information. "I created a new meme to capture my thoughts. The tone was mocking. The message was about fairness in life in a joking manner and our choice about our attitude," said Ella. Dax expressed stickiness and privileging information when he discussed how the positioning of the paddings can affect how force from a blow to the head is transferred. He and his partner were figuring out the take-away, the information museumgoers would leave with after interacting with their exhibit.

Continuing with the sound metaphor of resonance, some information during the creation process gets *amplified* while other ideas get *muffled.* Seth spoke of this when he said about close reading, "I feel distracted from the text." For the meme museums, many of the students decided

to address President Trump and pushed back against Trump's campaign agenda even if the administration had not yet acted upon an issue. For example, students discussed the environment, immigration, the drought, respecting science, and advocating for mathematical principles, pro-intellect, education, and learning. One student who supported building a wall between the US and Mexico (and recognizing that three students were Latino of Mexican origin in the class) wanted to express a clear a pro-Trump stance. The extra step of consulting with the immigrant students in the class to get their opinion if his letter or meme was too much is a step towards empathy.

Teachers share ideas every day. Ms. Dyson mused if the department could schedule a pop-up museum. For example, there could be a day where "everybody shows their work." She continued, "This could be a way, you know, maybe instead of Open House, every teacher could have a Pop-Up Museum. Dyson speaks to *spatial/temporal relationships*, another subtheme. Mr. Henry said, "We are training students for jobs that haven't been created yet (laughs)." He spoke of students moving on to college producing work for their college professors and then eventually in the workplace. As students move to each place and space, they will be required to have the flexibility to adapt and change as needed. Opportunities to collaborate within and outside the classroom will benefit students in their future endeavors in the changing post-secondary and professional workplace and workspace.

Dax showed some of this divergent awareness when he explained how his class conceived their museum using critical thinking skills needed in this future academic and career paradigm. He said, "The idea was that after the people have walked around in the commons and decide to go into the big room, we want the tables to fan out in two rows and the audience would 'diffuse' into the room." In the field notes for Museum 2, it stated:

When the kids were putting their exhibits in order, it was interesting to see them critically think. You could see leadership emerging. You could see them thinking if they were going to push all the desks together and have people walk all the way around their exhibit or were they going to put it in an L against the wall and then have people come in and go left to right. They were really thinking about the placement and arrangement of the memes and the impact on the audience to tell their stories.

Naresh commented about the way his class *negotiated inequalities* in their museum planning. He said:

We agreed to start our pop-up museum design from the number of groups which would require electrical outlets so we would have a good foundation to build upon which allowed each group to exhibit their research with no limitations based on the need for power. We also decided to offer food at the end of the museum in exchange for a ticket of information about each visitor's favorite exhibit and their overall experience. We did this so each visitor would have an incentive to fill out the ticket. If food was offered at the beginning of the museum, this would not have been the case. All visitors would have to walk past each exhibit to get to the end of the museum, thus supporting the [class organizers'] goal of allowing each exhibit to be viewed equally. I believe our pop-up museum was successful as every visitor and presenter seemed to enjoy the experience and learn from it.

Aaliyah commented during the focus group:

Once we went outside and then came back in and then toured the museum … that was inspiring because even some of the shy kids, the ones that don't often speak out loud in the classroom, you know, the students would stop at their memes. I know these kids.

When I saw their work … they were witty, or funny, or whatever but the rest of the class

doesn't know that all the time.

Strategic response is similar to negotiated inequalities. Dax commented on one his

classmates, Liza, as she was trying to point out the hypocrisy of people in her own

neighborhood. Liza is a gifted poet and has recently become socially active, especially in terms

of race, gender, feminism, and poverty issues. Dax said:

Her comments when we were doing a discussion of *The Grapes of Wrath* were

empathetic and aware. She was lit! But nobody knew because she is so quiet. It didn't

surprise me that for her meme she was talking about the hypocrisy of people she knows

who were complaining about … I guess they're calling it, 'white people's problems' or,

you know, 'first world problems.' Well, there are people that are starving today. It really

surprised me that Liza would put herself out there and choose a meme to reflect the

theme of hunger in that way. People noticed."

Scale.   The final concept in the transliteracies framework serves as a theme with

subthemes. Stornaiuolo, Smith, and Phillips (2016) conceptualized six *scalar* moves that people

make when negotiating literacy practices with each other — upscaling, downscaling, aligning,

contesting, anchoring, and embedding. They describe how scale can "illuminate how people and

things index other people, places, and objects in differential relationships to one another" (p. 83).

Scale helps define asymmetries and inequities.

In the hallway for Museums 1, 2, and 3, the teacher told students they were no longer

classmates they were now museumgoers. People who attend a museum have power. They

choose to go, often on a day appointed for leisure or vacation; they pay the admission price or

have the resources to search for a discount coupon; and they transport themselves to a museum.

Museum staff members earn specialized degrees and have archival skills and aesthetic expertise to serve as gatekeepers and maintain these repositories. Museums even have a grammar and a vocabulary. Students were introduced to the term "docent," a leader or tour guide at a museum who takes people around and knows the short cuts and backstories of the content. Each class needed to decide the flow of the museum, so outside of the room the docent and the class decided the path they would take to tour the museum. This mapping or ranking defines the chronology of the museum's story. It is vital that students change their identity from disempowered youth to creator and curator, then to museum-goer. It is through this critical eye that students can view each other's work and make critical literacy judgments.

In the field notes for Museum 2, it stated:

In the meme museum, students arrange the laptops, iPads and even their phones so the technology is virtual, figurative, and literal at the same time. The technology frames their meme artifact as they were framing their arguments. Indexical traits emerged as students ranked and positioned their work. For the AMP museum, students looped presentations, brought in models and tactile interactive components, implemented games or apps, produced flyers and webpages all to equalize the scale so that the museumgoers would not just be entertained but would understand and connect to their curated artifacts.

Conclusion and Recommendations for Further Study

Project-based learning engages students and should not be limited to the STEM fields. The English Language Arts classes benefit from project-based learning and should not over-rely on standardized test preparation, traditional lecture, prescriptive writing, scripted lessons, or direct teaching where students lack the opportunity to collaborate, wonder, problem-solve, make mistakes, and create something bigger than the classroom and more real and meaningful to their

lives. The pop-up museum is one means of flexible assessment that can be applied at many

points in a curriculum sequence to enhance student buy-in and illuminate academic content.

This study revealed overwhelmingly positive anecdotes, comments, and trends about

project-based learning as an instructional approach from the teachers and the student

participants. Data revealed that students were engaged in deeper, more fulfilling learning

whether they took part in the two-day meme pop-up museum or the yearlong AMP museum.

Learning moved from traditional first space (classroom) to third space (virtual, social

networking) as students created, curated, and hosted museums for their peers and their

community.

Limitations of the Study

Did this study capture the essence of such a personal experience as one's critical literacy

practices and present these findings in a scalable form for subsequent practitioners who might

want to replicate this study? During the interviews and focus groups, did the researcher's role as

a teacher and colleague impede her role as a researcher? These are a few of the limitations that

were accounted for and considered carefully. Limitations of time and technology breach many

educational initiatives. Participants in all the museum experiences expressed frustration with

time constraints and inconsistent technology glitches. Although the AMP Project took place over

the course of the year, observation and interview data were collected during an eight-week

window constrained by the school district's procedural requirements. More observation time

could yield more robust data.

Recommendations for Further Study

This case study examined two 10th grade classes and one 11th grade class and focused on

18 students, four to five participants from each museum. Two teachers provided context and

clarity for the 10th grade classes. Expanding the protocol to 7th- 9th grade and 12th grade classes

and to the lived experiences of students in other subject areas or other classrooms across the

district, state, country, or world would offer more of a longitudinal study and track the

implementation of PBL over a semester or an entire school year.

This study was grounded in phenomenology and focused primarily on the lived-

experience of participants experiencing pop-up museum events. An ethnographic study of third

space culture would add nuance and perspective of how students express their critical and

artifactual transliteracies while undertaking PBL experiences. The culture of students composing

and creating in third space has yet to be explored.

As for critical literacy practices, the school highlighted in the study relies on teacher

recommendations to place students into sections of courses with peers who perform on the same

intellectual and academic level. The culture of tracking remains in place by teacher, parent, and

student choice. This school, and many others like it, does not intend to create heterogeneous

classes. As schools adapt the technology to offer hybrid and artificial intelligence, pop-up

museums can expand from the brick and mortar traditional school to a conception of school that

is on the horizon but hasn't yet been rendered or realized. Classes might encompass students

from regions across the globe mirroring globalization in the workforce. How students express

their critical literacy practices in a world of transliteracies given the paradigm of mobilities

remains to be seen. These trends merit scrutiny.

It was quite apparent from the Critical Literacy rubric that students in the on-level co-

taught 10th grade class fell further down the continuum than the honors 10th grade students and

the 11th grade Advanced Placement students. This is not necessarily bad. Whether participants

demonstrated a beginning or developing level of critical literacy or a proficient or accomplished

level of critical literacy, there is time and room to grow. Critical literacy does not taper off and

is a nuanced, lifetime understanding. Students might become "woke" to power and pushback

against oppression in their 20s or because of an online community where they apprentice peer

awareness in third space. What is important is that teachers foster the environment for students

to think independently, interpedently, critically, and creatively.

A future study focusing on students' compositional preferences—visual or written—

would return additional data given the move towards hybrid and paperless classrooms, digital

submissions, and online classes. It is with regret that there was not an option to videotape the

focus group, transcribe it, and then offer a follow up session where the focus group could view

their videotape to assess nonverbal cues and scaling (from the transliteracies framework).

Because of time constraints, only interviews and a focus group could be hosted and students

were emailed individually to pursue follow up questions.

Formalized professional development on project-based learning would be beneficial to

teachers as a regular part of the school improvement plan and a goal for professional learning

communities instead of the piecemeal system of attending voluntary workshops or stumbling

across PBL during a university class or a summer in-service. There is data to be gleaned from

students' exhibition practices and it is as important as multiple-choice percentages of

standardized testing. The movement towards amassing digital academic career portfolios is a

positive trend that could also include PBL artifacts, photos, and videos of students' experiences.

The paradigm shift of direct teaching to a coaching model takes time and nurturing.

Building stronger teacher-student relationships, differentiation, personalized learning, and

reteaching/remediation can all be addressed through project-based learning. The portable and

critical skills that emerge from project-based learning are vital to post-secondary academia and

the changing workforce. Likewise, students will need to adjust to the coaching model and take

risks to become comfortable in collaborative groups, allow for uncertainty in the curriculum, and relish open ended questions of problems with no pre-established answer. The payoff is an uptick in critical literacy, confidence, empowerment, and ownership of learning. These are desirable outcomes that could counter the rise of fake news and the isolation and marginalization of socio-economic class and diverse cultures.

This conceptual shift needs to take place on the district or school level. The pushback from parents or other teachers who feel vulnerable or threatened by change might disallow for a systemic reconfiguration of power dynamics. If teachers cannot commit to scheduled pop-up museums to exhibit student work, despite there being models for one day and whole semester protocols, there is always a virtual pop-up museum. Google Drive Slides and Documents, Microsoft Office 365 apps, eMaze, Prezi, and Flipgrid are just a few collaborative spaces where students can publicly curate and display their voices and choices.

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Appendix A: University IRB Form

GMail
by Google   Deborah Aughey   ████████████████

Study 17-297: The Pop-up Museum: Exhibiting Critical Literacy Practices Through Project-based Learning

3 messages

████████████████████████   Tue, Feb 7, 2017 at 4:00 PM
████████████████████████

2/7/2017

Deborah Aughey

Re: Your followup submission of 1/31/2017, Study #17-297: The Pop-up Museum: Exhibiting Critical Literacy Practices
Through Project-based Learning

Dear Ms. Aughey:

Your application has been reviewed by IRB members. Your study is eligible for expedited review under the FDA and
DHHS (OHRP) designation of category 7 - Individual or group characteristics or behavior.

This is to confirm that your application has been approved. The protocol approved is Student and teacher interviews, a
focus group, document analysis from student work samples, field notes, memos, journal entries, and open ended survey
from student-participants to determine how high school students understand and exhibit critical literacy practices. The
consent procedure described is in effect.

NOTE: All surveys, recruitment flyers/emails, and consent forms must include the IRB study number noted above,
prominently displayed on the first page of all materials.

You are granted permission to conduct your study as described in your application effective immediately. The IRB calls
your attention to the following obligations as Principal Investigator of this study.

1. The study is subject to continuing review on or before 2/7/2018. At least two weeks prior to that time, go to
http://resea████████████rogress-report-form.php to submit a progress report. Progress reports not received in a
timely manner will result in expiration and closure of the study.

2. Any proposed changes to the approved study must be reported and approved prior to implementation. This is
accomplished through submission of a progress report along with revised consent forms and survey instruments.

3. All records relating to conducted research, including signed consent documents, must be retained for at least three
years following completion of the research. You are responsible for ensuring that all records are accessible for inspection
by authorized representatives as needed. Should you leave or end your professional relationship with KSU for any
reason, you are responsible for providing the IRB with information regarding the housing of research records and who will
maintain control over the records during this period.

4. Unanticipated problems or adverse events relating to the research must be reported promptly to the IRB. See
http://research.████████████rting-unanticipated-problems.php for definitions and reporting guidance.

5. A final progress report should be provided to the IRB at the closure of the study.

Contact the IRB at irb@kennesaw.edu or at (470) 578-2268 if you have any questions or require further information.

Sincerely,

Christine Ziegler, Ph.D.
████   Institutional Review Board Chair and Director

cc: jdail1@kennesaw.edu

Appendix B: School District IRB Form

███████████████████████   ███████████████

March 20, 2017

Ms. Deborah Aughey
████████████████

Dear Ms. Aughey:

Your research project titled, **The Pop-Up Museum: Exhibiting Critical Literacy Practices Through Project-based Learning**, has been approved. Listed below is the school where approval to conduct the research is complete. Please work with the school administrator to schedule administration of instruments or conduct interviews.

School

██████████████████

Should modifications or changes in research procedures become necessary during the research project, changes must be submitted in writing to the department of Accountability, Research & Grants prior to implementation. At the conclusion of your research project, you are expected to submit a copy of your results to this office. Results cannot reference ██████████████████ or any District schools or departments.
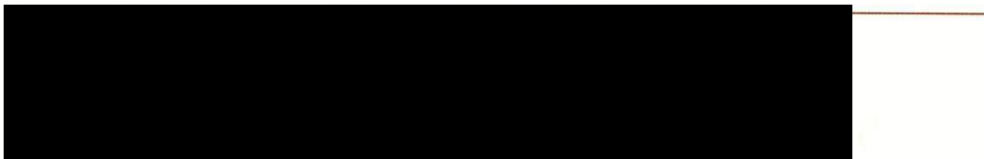
Research files are not considered complete until results are received. If you have any questions regarding the process, contact our office at ████████.

Sincerely,

Cindy Nichols
Grants & Research Manager
Accountability, Research & Grants

nf

███████████████████████████████████

Appendix C: Parent Consent Form

February 21, 2017

Dear Parents and Guardians:

My name is Deborah Aughey, and I am a ███████████████████████████ English teacher enrolled in an English Education doctoral program at ██████████████████. This is my 27th year in the English classroom. I am studying critical literacy and project-based learning for my dissertation.

I will be working with your student's English teacher this semester to teach critical literacy strategies and facilitate a project-based learning activity. After completing the mini-unit, some students will be contacted for interviews to provide feedback on the classroom activities. I will also be making copies and taking pictures of their work samples.

Parental Consent Form

My signature indicates that I have read the information provided. I understand that my student will be participating in curricular activities that will be part of a qualitative study titled "The Pop-up Museum: Exhibiting Critical Literacy Practices Through Project-based Learning" to be conducted at my student's school between the dates of March 1, 2017 and April 30, 2017. I understand that the signatures of the principal and classroom teacher indicate they have agreed to participate in this research project.

I understand that the purpose of the research project will be to understand how students use critical literacy strategies and project-based learning in English classes.

As part of the English curriculum, all students will participate in the school's lesson plan and the teacher's classroom procedures. Students will complete the following:
- Read an informational text with the teacher and participate in teacher-modeled guided reading.
- Participate in class discussion and follow up activities about the text.
- Practice the reading strategies individually on a second informational text.
- Compose a written response and a digital response that reflects a theme from the texts.
- Exhibit student artifacts in a pop-up museum.
- Reflect on the experience in a class discussion and open-ended survey.

As part of the voluntary study, selected students will complete the following:
- Participate in an interview or focus group
- Share work samples with the teacher-researcher for analysis

The potential benefits of the mini-unit:		
☐ Students will learn and apply critical literacy strategies ☐ Students will be able to organize and host an event.	☐ Students will be engaged in activities through creativity, choice, and student voice.	☐ Students will exhibit work to a wider audience than just the teacher, a school-to-workplace skill.
The potential benefits of the study:		
The research provides evidence that project-based learning is a successful instructional approach in English Language Arts classes as well as the STEM classes.		

I agree to the following conditions with the understanding that I can withdraw my child from the study at any time should I choose to discontinue participation.

- The identity of participants will be protected. (The school, school system, student names, interview comments, and student work samples will be anonymized.)
- Information gathered during the project will become part of the data analysis and may contribute to published research reports and presentations.
- There are no foreseeable inconveniences or risks involved to my child participating in the study.
- Participation in the class activities are part of the curriculum but participation in the study is voluntary and will not affect either student grades or placement decisions. If I decide to withdraw permission after the study begins, I will notify the school of my decision.

If further information is needed regarding the research study, I can Ms. Aughey at ████████████████████ I am very excited to work with your student.

Signature _____
      Parent   Date

Signature_____
      Principal   Date

Signature_____
      Classroom Teacher   Date

Signature_____
      Researcher   Date

Appendix D: Teacher Consent Form

Teacher Consent for Voluntary Participation in in a Research Study:

The Pop-up Museum: Exhibiting Critical Literacy Practices Through Project-based Learning

I, _____, submit that I am between age 18 and 50 and agree to participate in the research project entitled "The Pop-up Museum: Exhibiting Critical Literacy Practices Through Project-based Learning" during the spring semester of 2017 at ▮▮▮▮▮ ▮▮▮▮▮▮▮▮▮▮

I understand that participation in the lesson plan, the interview, and the open-ended survey is voluntary and that I may withdraw consent at any time without penalty.

The project is being conducted and supervised by Deborah Aughey, a doctoral student enrolled in ▮▮▮▮▮▮▮▮▮▮▮▮, and your teaching colleague at ▮▮▮▮▮▮▮▮▮▮▮▮▮.

For further information about this project, contact Deborah Aughey at ▮▮▮▮▮▮▮, ▮▮▮▮▮▮▮▮▮▮ or ▮▮▮▮▮▮▮▮▮▮

I am under the supervision of Dr. Jennifer Dail, at ▮▮▮▮▮▮▮▮▮. Dr. Dail's contact information is:
Jennifer S. Dail, Ph.D. Associate Professor,

▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

Research conducted through ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮ ▮ involves human participants is carried out under the oversight of each organization's Institutional Review Board.

Institutional Review Board, ▮▮▮▮▮▮▮▮ ▮▮▮▮▮▮▮▮▮▮ 470) 578-2268		▮▮▮▮▮▮▮▮▮▮
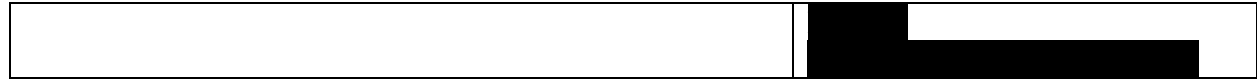
The following points have been explained to me:

1. The purpose of this study is to determine the benefits and limitations for high school English teachers using a project-based learning approach to enhance students' critical literacy practices.
2. Ms. Aughey will be gathering data from students during and after the mini-unit to understand how students' critical literacy practices are represented, internalized, and exhibited when constructing artifacts to reflect literacy, learning, and mastery for a pop-up museum.
3. Ms. Aughey will also be gathering data from English teachers on how they perceive critical literacy strategies and a project-based learning instructional approach.
4. Ms. Aughey will be keeping a journal and making observations recorded as field notes and memos. If you would like to see Ms. Aughey's notes, they will be made available to you.
5. Students may benefit from the classroom activities by improving their reading, writing, listening, and speaking skills. The research seeks to understand what this phenomenon looks like.
6. The procedures are as follows:
    a. **Before the Mini-unit**- Ms. Aughey will meet with you ahead of time, provide a complete lesson plan, and discuss the teaching materials and the classroom procedures.
    b. **Lesson 1-** Ms. Aughey will co-teach with you an informational text and introduce (or in the case of higher achieving students, reinforce) the critical literacy strategies- close reading and talking back to the text. Ms. Aughey has selected to use the Commonlit.org text selections that include standards-based comprehension questions and follow up activities. A teacher's guide is included as well.
        i. 9th grade- "The Perils of Indifference," speech by Elie Wiesel (an audio version is available)
        ii. 10th grade- an excerpt from "A Modest Proposal," satirical essay by Jonathan Swift (an audio version is available)
        iii. Students will be introduced to the pop-up museum and roles for the museum will be established.
    c. **Lesson 2-** Students will read a second informational text piece and demonstrate their critical literacy practices. These text selections are from Commonlit.org as well and have follow up comprehension questions and activities. I selected these passages because they were recommended to be paired together.
    d. **Lesson 3-** The student will select a theme from both pieces and compose two artifacts- a meme and a written response- that reflect the student's understanding of the theme. For higher achieving students, a partnered brainstorm will take place so students can select from a variety of themes. For struggling students, five themes will be projected on the white board so that the student can select from pre-established themes. Co-teachers can modify and differentiate the lesson as needed.
    e. **Lesson 4-** Students will curate, exhibit and host a pop-up museum for another class.

       f. **Lesson 5-** Students will have an opportunity to discuss and reflect on their experiences.

       g. **After the mini-unit-** Ms. Aughey will be interviewing students and teachers individually and in focus groups about the experience. She will collect work samples from students participating in the study.

7. Ms. Aughey will provide you with a transcript of your interview so you can check it for accuracy. She will also provide you with copies of her findings before submitting the final copy of her dissertation to ▮▮▮▮▮▮ ▮▮▮▮▮▮▮▮▮▮

8. Students will complete the classroom activities with his or her English class during regular curricular instruction. The class curriculum is mandatory. The study is voluntary.

9. Participation in this research entails no known risks to students or teachers. No discomforts or stresses are expected because of this research.

10. A student's classroom grade should not be affected by this research as it is voluntary and not part of the classroom activities.

The results of student and teacher participation will be confidential and will not be released in any individually identifiable form without the prior consent of the participant unless required by law. While research is underway, all documents and data containing my and my student's information will be stored in a home safe at Ms. Aughey's residence. All data will be destroyed within three years of research conclusion.

_____

Signature of Participant   **Date**

_____

Signature of Researcher   **Date**

_____PLEASE SIGN BOTH COPIES, KEEP ONE AND RETURN THE OTHER TO THE INVESTIGATOR

Appendix E: Semi-structured Interview Questions for Students

- Thank you so much for agreeing to let me interview you. I have a few questions about the lessons and the pop-up museum that you experienced with your teacher. I will be recording you as we speak. May I start the recording?

- Describe the things you enjoy doing in an English class. [PROBES: What kinds of books or stories do you like to read? What kinds of writing do you like to do? What is your favorite kind of group activity? How do projects help you learn? Is there anything that bothers you about English class?]

  This is a conversational start to put the interviewees at their ease. I want to get a sense of students' overall experiences in English so that I can glean information on their literacies, their use of literacy strategies, their compositional order, and their experiences with PBL within a broader context.

- Think of the ways you normally read in class. Describe your typical reading experience. [PROBES: What systems for reading do you have? For example, do you normally mark the text if you can write on a reading passage? What kinds of things do you mark? Do you read different kinds of text differently or do you read all kinds of text the same way?]

- Think about the lesson you completed before the pop-up museum. You were introduced to a literacy strategy called close reading. Can you describe how you talk back to text? Is it ok to question what an author's purpose is? [PROBES: Do you think you will use this strategy in the future? If a text is published, should readers question it?

- Tell me about your composing experience. Did you complete the meme first or the written response? Why did you compose in that order?

  [PROBES: When you compose writing, do you pre-write? Does your pre-write look more like a web or an outline? Did you base your meme on an image that was already on the Internet or did you create a new one for to capture your thoughts? Did you select a tone for your writing or your meme? What was it? Why? How did your express your identity in your artifacts? What message were you trying to send through your artifacts? What theme did consider when composing your artifacts? Why?]

- Take me through your meme. Tell me what you were attempting to show your classmates. Or Describe your project. What message was your exhibit trying to get across to the museumgoers?

- Project Based Learning (PBL) is a teaching approach in which students gain knowledge and skills by responding to an authentic, engaging and complex challenge. The Pop-up Museum

is an example of PBL. How is project-based learning different from other ways that you learn in a classroom? Tell me about your experience with the pop-up museum. Did you enjoy the experience? Why or why not? What did it feel like to have students that you did not know view your work?

[PROBE: Can you think of other classes where a pop-up museum would be a good way to exhibit student work? Do you think that students who saw your work got your meaning or message? Describe the choices you made when displaying your artifacts in the pop-up museum.]

- What did you learn about yourself as a reader, writer, or learner? What techniques did the authors of your texts use to influence your thinking? What techniques did you use to influence the people who would see your work?

  [Probes: Whose voice were you trying to represent in your artifacts? Whose voices were the authors representing in your readings? Did you agree with the texts? Why or why not? Did the texts change the way you think? What actions should you take because of reading the texts or composing the artifacts?]

- Thank you very much. Do you have any questions for me? I will be in contact soon to show you a transcript of your responses so you can check it for accuracy.

Appendix F: Semi-structured Interview Questions for Teachers

Thank you so much for agreeing to let me interview you. I have a few questions about the lessons and the pop-up museum that you experienced with your students. I will be recording you as we speak. May I start the recording?

1. Describe the things you enjoy teaching in an English class. [PROBES: What kinds of books or stories do you like to teach? What kinds of writing do you like to do? What is your favorite kind of group activity? How do projects help students learn? Is there anything that bothers you about English class?]

This is a conversational start to put the interviewees at their ease. I want to get a sense of teachers' overall experiences in English so that I can glean information on their understanding of literacies, their use of literacy strategies, their philosophy of teaching writing, and their experiences with PBL within a broader context.

2.   Think of the ways you normally teach reading in class. Describe your typical reading experience. [PROBES: What systems for reading do you have? For example, do you normally require students to mark the text? What kinds of things do you want students to mark? Do you believe text should be read differently or do you believe that one should read all sorts of text the same way?]

3.   Think about the lessons your students completed before the pop-up museum. They were introduced to a literacy strategy (or had it re-introduced to them) called close reading. Can you describe how your students talked back to text? Is it ok for your students to question an author's purpose? [PROBES: Do you think your students will use this strategy in the future? In class? On standardized tests? If a text is published, should readers question it?]

4.   Tell me about the way you teach the writing process. Did you get a sense that students composed the meme first or the written response? Why did they compose in that order? [PROBES: When you teach writing, do you encourage pre-writing? Does your students' pre-writing look more like a web or an outline? How successful were your students at synthesizing two pieces of text to explain a theme? How successful were they at creating a meme to represent a theme? Did your students include a mood or a tone in their writing or memes? Tell me about a few students' artifacts. How did they express their identity in their artifacts? What message were they trying to send through their artifacts? What theme did they consider when composing their artifacts? Why?]

5.   Project Based Learning (PBL) is a teaching approach in which students gain knowledge and skills by responding to an authentic, engaging and complex challenge. The Pop-up Museum is an example of PBL. How is project-based learning different from other ways that you teach in your classroom? Tell me about your experience with the pop-up museum. Did you enjoy the experience? Why or why not? What did it feel like to have students that you did not know view

your students' work? [PROBE: Can you think of other classes where a pop-up museum would be a good way to exhibit student work? Do you think that students who saw your students' work got their meaning or message? Describe the choices your students made when displaying their artifacts in the pop-up museum.]

6.   What did you learn about yourself as a teacher, reader, writer, or learner? What techniques did the authors of your students' texts use to influence their thinking? [Probes: Whose voice were your students trying to represent in their artifacts? Whose voices were the authors representing in the readings? Did you agree with the texts? Why or why not? Did the texts change the way you think? What actions should you take because of reading the texts or composing the artifacts?]

Thank you very much. Do you have any questions for me? I will be in contact soon to show you a transcript of your responses so you can check it for accuracy.

Appendix G: Data Collection Matrix

Data	Informed the Researcher	Coding for Themes	Critical Literacy Rubric
Interviews of former students x 2	X		
Student Surveys x 96	X		
Museum #1- Participant Interviews x 4		X	
Participant Open Ended Surveys			X
Participant Satiric Letters			X
Participant Memes			X
Photos of Museum	X		
Field Notes of Museum	X		
Memo of Museum	X		
Museum #2- Participant Focus Group Interview – 4 students		X	
Participant Open Ended Surveys			X
Participant Position Statement			X
Participant Memes			X
Photos of Museum	X		
Field Notes of Museum	X		
Memo of Museum	X		
Museum #3- Participant Interviews x 4		X	
Participant Policy Briefs			X
Participant Memes			X
Photos of Museum	X		
Field Notes of Museum	X		
Memo of Museum	X		
Museum #4- Participant Interviews x 4		X	
Participant Research Papers			X
Video and Photos of Museum			X
Field Notes of Museum	X		
Memo of Museum	X		
Bracketing Journal	X		

Appendix H: Data Analysis Rubric

Data Analysis- Rubric Accounting for Evidence of Critical Literacy in Student artifacts and documents

Name:

Criteria	Artifact:			
		Accomplished: Independent	**Acceptable:** Justifies	**Developing:** Identifies	**Not Evident:** Needs Support
Overview	**A clear, consistent, and comprehensive idea of audience, purpose and tone.** What is this text about? How do we know? Who would be most likely to read and/or view this text and why? Why are we reading and/or viewing this text? What does the composer of the text want us to know?			
How things or people are represented- People/ animals/ topics represented in text				
Structure, Design, and Features	**An understanding of genre with obvious and deliberate sense of organization and construction.** What are the structures and features of the text? What sort of genre does the text belong to? What do the images suggest? What do the words suggest? What kind of language is used in the text? How are children, teenagers or young adults constructed in this text? How are adults constructed in this text? Why has the composer of the text represented the characters or features in a particular way?			
Who or what is included or excluded- Occurrence of in/ exclusion in text				
Gaps and silences	**Addresses power and shows an awareness of disempowerment.** Are there "gaps" and "silences" in the text? Who is missing from the text? What questions about itself does the text not raise?			
Power and interest	In whose interest is the text? Who benefits from the text? Is the text fair? What knowledge does the reader/viewer need to bring to this text to understand it? What positions, voices and interests are at play in the text? How is the reader or viewer positioned in relation to the composer of the text? How does the text depict age, gender and/or cultural groups? Whose views are excluded or privileged in the text? Who is allowed to speak? Who is quoted? Why is the text written the way it is?			
Brings different knowledge and experiences to text- Links between text and personal experience/ knowledge				
Context	**Comprehension of social, cultural, historical, political and economic paradigms.** What view of the world is the text presenting? What kinds of social realities does the text portray? How does the text construct a version of reality? What is real in the text? How would the text be different if it were told in another time, place or culture?			
Awareness of how texts influence thoughts and actions- Influence of text on his/her thinking				
Creator	**Expresses lived experience through text or artifacts.** What kind of person, and with what interests and values, composed the text? What view of the world and values does the composer of the text assume that the reader/viewer holds? How do we know?			
Make sense of text- Multiple viewpoints				
Multiple meanings	**Displays an awareness of social justice or empathy.** What different interpretations of the text are possible? How do contextual factors influence how the text is interpreted?			
	How does the text [encourage you to make] meaning]? How else could the text have been written?			
Comments				

Adapted from Dr. Susan Sandretto's "Critical Literacy Rubric" and "Critical Literacy Questions" (2011) from the WikiSpace *Planting Seeds: Embedding Critical Literacy into Your Classroom Programme https://plantingseedswithcriticalliteracy.wikispaces.com/*

Appendix I: Participant Demographics (Pseudonyms)

Gender	Museum	Rubric	Name (Pseudonym)	Ethnicity	Magnet/Non Mag	Grade or Position	Type of Data
Female	Meme	Developing	Sophia Hernandez	Latino	Non-magnet	10th grade honors	Interview Transcript
Male	Meme	Accomplished	Kostas Dimas	Caucasian	STEM Magnet	10th grade honors	Interview Transcript
Male	Meme	Accomplished	Dylan Thanh	Asian	STEM Magnet	10th grade honors	Interview Transcript
Male	Meme	Accomplished	Brian Gaston	Caucasian	Non-magnet	10th grade honors	Interview Transcript
Male	Meme	Developing	Aaron Lopez	Latino	Non-magnet	10th grade regular	Focus Group Transcript
Female	Meme	Not Evident	Zena Blake	African American	Non-magnet	10th grade regular	Focus Group Transcript
Female	Meme	Developing	Aaliyah Morgan	African American	Non-magnet	10th grade regular	Focus Group Transcript
Female	Meme	Acceptable	Liana Sanchez	Latino	Non-magnet	10th grade regular	Focus Group Transcript
Female	AMP	Accomplished	Ella Reason	Caucasian	STEM Magnet	11th grade AP	Interview Transcript
Male	AMP	Accomplished	Naresh Sidhu	Asian	STEM Magnet	11th grade AP	Interview Transcript
Male	AMP	Accomplished	Dax Yu	Asian	STEM Magnet	11th grade AP	Interview Transcript
Female	Meme	Acceptable	Eboni Robinson	Mixed Race	Non-magnet	11th grade AP	Interview Transcript
Female	Meme	Accomplished	Jaya Chi	Asian	STEM Magnet	11th grade AP	Interview Transcript
Male	Meme	Accomplished	Seth Zimmerman	Caucasian	STEM Magnet	11th grade AP	Interview Transcript
Female	AMP	Acceptable	Annabelle Carson	Caucasian	STEM Magnet	11th grade AP	Interview Transcript
Male	Meme	Accomplished	Joshua Lawson	Caucasian	STEM Magnet	11th grade AP	Interview Transcript
Male	Meme	X	Gus Henry	Caucasian	X	Teacher	Interview Transcript
Female	AMP	X	Nora Dallas	Caucasian	X	Teacher	Interview Transcript
Female	Meme	X	Dana Dyson	Caucasian	X	Teacher	Interview Transcript
X	Meme	X	Field Notes DA	X	X	X	Field Notes
X	AMP	X	Field Notes DA	X	X	X	Field Notes
X	Meme	X	Field Notes DD	X	X	X	Field Notes
X	Meme	X	Field Notes GH	X	X	X	Field Notes
X	Meme	X	Setting DA	X	X	X	Memo
X	AMP	X	Setting DA	X	X	X	Meme
X	Meme	X	Setting DD	X	X	X	Memo
X	Meme	X	Setting GH	X	X	X	Memo

Appendix J: Definition of Key Terms

Access- Coined by Millard (2006, pp. 248), Access applies to "whose meanings will be given room in the classroom" (p. 248).

Accountability- Accountability rounds out a literacy of fusion where teachers attend to the interests and skills that students bring into the classroom to account for students' responses and choices (Millard, 2006, p. 250).

Affinity space- An informal place-based or digital space is where people make meaning and learn often apprenticing another in their learning (Gee, 1996, p. 83).

Affordance- These build on Dewey and Bruner's child-centered learning ideas (Brown, 1992) but consider the teacher's role in selecting "particular modes of communication" to develop critical awareness (Millard, 2006, p. 249).

Agency- Students have agency when they express an awareness of themselves and their abilities; self-advocacy (Gallagher, 2000, p. 2).

Appropriacy- This conceit refers to teachers helping students understand what modes are best to create and communicate artifacts (Millard 2006, p. 250).

Arena- The arena is the context for learning. Shaping and transforming meanings are how students internalize agency (Millard, 2006, p. 249).

Artifactual Literacy- Using photos, stories, and other tangible multimodal genres reflect communicative actions (Pahl & Rowsell, 2011a).

Artifactual Critical Literacy- A framework unites a material cultural-studies approach with critical literacy to address balances of power (Pahl & Rowsell, 2011b, p. 129).

Bridling Journal- A technique from phenomenology whereby the researcher reflects on the subject to bracket away biases (Dahlberg & Dahlberg, 2003, pp. 129).

Chronotope- Bakhtin's notion of chronotopes –layered time sequences– comes into play as a spatiotemporal construct (Bakhtin & Holquist, 1981).

Conscientization- It is the process of developing a critical awareness of one's social reality through reflection and action (Freire, 1970, p. 39).

Critical Literacy- Comber (2006) defines critical literacies as "people using language to exercise power, to enhance everyday life in schools and communities, and to question practices of privilege and injustice (pp. 1-2).

Cultural Capital- It is non-economical human resources encouraging social mobility beyond financial means. Some examples include education, intellect, speech, dress, or physical appearance (Bourdieu, 1977; DiMaggio, 1982).

Culturally Relevant Pedagogy- (CRP) addresses three areas: "an ability to develop students academically, a willingness to nurture and support cultural competence, and the development of a sociopolitical or critical consciousness (Ladson-Billings,1995b, p. 483).

Curation- The process to gather, organize, select, validate and preserve data or material for a specific purpose (Choudhury, 2010, p. 195).

Dialogic- It is a cohesive unit that dialogues to gain knowledge of their social reality (Freire & Shor, 1987).

Digital Turn- A play on Gee's *Social Turn* (2000, p. 180; Mills, 2010), it describes the movement in literacy studies to account for online and e-learning, and digital consumption and production.

Exhibit- A group of artifacts curated and designed in a collection for a specific purpose.

Figured Worlds- These are "socially produced, culturally constituted activities" (Holland, 1998, pp. 40).

Formative Assessment- This is when an instructor makes judgments about student progress by analyzing responses to adjust instruction leading up to a summative evaluation (Black & Wiliam, 2009).

Fusion Literacy- From Millard (2003), it is merging students' cultural interests with school requirements.

Great Divide- It is a binary division of people into two categories –literate versus non-literate– based on traditional reading and writing dichotomies (Scribner & Cole, 1981). Literary theorists lined up on these traditional sides of looking at literacy and new literacies which include multiliteracies and NLS. The proponents of NLS opposed a conventional psychological approach to literacy which viewed literacy as a cognitive function and defined literacy regarding mental states and mental processing. Reading and writing were assumed to be interactions inside people's heads.

Habitus- Bordeau (1977) sees power as socially, culturally and symbolically-created. Habitus includes socialized norms or tendencies guiding behavior and rationale.

Heterotopic- From Foucault (1977), it is a space that might have a foil or a comparison. For example, a prison cell can be compared to a utopic or idealized space.

Inquiry-based Learning- It is a student-centered, active learning approach focusing on questioning, critical thinking, and problem solving (Bruner, 1986).

Interactivity- It is defined as moving from page to screen and back (Kress, 2010).

Laminating Chronotopes- Bakhtin (1981) proposed that the dispersed, fluid chains of places, times, people, and artifacts be connected and overlaid by trajectories of literacy.

Linguistic Turn- The move from analytic philosophy to linguistic philosophy made popular by Rorty (1992). The linguistic turn predated the social turn in literacy studies.

Literacy events- They are observable conditions or situations during literacy practices (Street, 1984).

Literacy practices- They are ideas and beliefs embedded into social and cultural mores (Street, 1984).

Meme- It is an idea, behavior or style spreading from person to person often electronically in witty, sarcastic, pithy, or tonal text over image creations related to pop culture Dawkins, 1989).

Multiliteracies- An approach to literacy theory and pedagogy theorized by the New London Group (Cope & Kalantzis, 1996) that highlights two key aspects of literacy: linguistic diversity and multimodal forms of language expression and representation.

Multimodalities- These are communication practices composed from textual, aural, linguistic, spatial, and visual modes (Kress, 2003).

New Literacy Studies (NLS)- It is a departure from a psychological conception of literacy that conceived literacy as social and included multiliteracies (Cope & Kalantzis, 1996).

New London Group (NLG)- It is a group of literacy theorists from a variety of disciplines who conceived of NLS and multiliteracies (Cope & Kalantzis, 1996).

Phenomenology- A mode of research based on the work of 20th-century philosopher Edmund Husserl focusing on participants' perceptions, perspectives, and understandings of a situation. When a researcher explores multiple perspectives of the same event, some generalizations of an insider's perspective can be gleaned (Husserl, 1980).

Pop-up Movement- The pop-up movement is a temporary community and civic gathering centered on a theme. Pop-ups include eateries, food trucks, libraries, and even think tanks.

Pop-up Museum- It is "a short-term institution existing in a temporary space," and "a way to catalyze conversations among diverse people, mediated by their objects" (Simon, 2013, n.p.).

Praxis- Coined by Paolo Freire (1970), the term represents an active reflection of the teaching and learning dialogic.

Problem-based Learning- A student-centered pedagogy where students learn through thinking strategies and the experience of solving open-ended activities or scenarios (Prince & Felder, 2006, p. 15).

Project-based Learning- A student-centered pedagogy where students gain knowledge and skills investigating and responding to an engaging and complex question, problem, or challenge. The project is the curriculum (Krajcik & Blumenfeld, 2006).

Rhizomatic- A plant metaphor to explain spatial literacy practices branching out instead of root (Deleuze & Guattari,1987).

Sedimented Space- Layers of meaning (literacy practices) that students bring to school from multiple first, second, and third spaces (Holland & Leander, 2002; Rowsell & Pahl, 2007).

Signifiers- Forms (ideas or utterances) with the potential for becoming signs and meaning shaped by one's social environment (Chandler, 2002).

Signs- In semiotic theory, a sign is an image, object, sound or action that stands for something else, including objects and concepts (Chandler, 2002).

Social turn- Gee's (1996) concept of the social turn is the moment the focus shifted from literacy as a quantitative accounting (how fast one reads; how many words) to a qualitative anthropologic accounting (what one reads and communicates; how, where, why, with whom, and in what context).

Space, first, second, and third - Coined by Edward Soja (1996) from Lefebre's work (1991), *first space* refers to home, school or geographical locations, or perceived space. *Second space* concerns conceived space, for example, how two people understand a movie. *Third space* is other –virtual, social, or imagined. Third space includes lived experiences, context, and emotion.

Spatial Turn- It is a movement in literacy studies to account for first, second, and third spaces as defined by Soja (1996).

Structuration- The state or process of structure in an organized form (Giddens, 1985).

Summative Assessment- It is used to evaluate student learning, skill acquisition, standards mastery, and academic achievement to conclude a defined instructional period—typically at the end of a project, unit, course, semester, program, or school year (Black & Wiliam, 2009).

Talking Back to Texts- This is when a person converses with or questions the context, meaning, and message of a print or non-print text (Blau, 2003; Jolliffe, 2008).

Theory of Care- Noddings (1995) theorized that teachers should exhibit genuine interest and care for their students and the main goal of education is to produce competent, caring, loving and lovable people (p. 8). If students have not experienced being cared for at home, it is the job of the school (and teacher) to forge authentic caring relationships with students.

Transformative pedagogy- An activist pedagogy combines the elements of constructivist and critical pedagogy empowering students to examine their beliefs, values, and knowledge with the goal of developing a reflective knowledge base, an appreciation for multiple perspectives, and a sense of critical consciousness and agency (Ukpokodu, 2009).

Trilectic- Lefebvre (1991) coined the term to refer to the perceived, conceived, and lived spaces where students express their critical literacy practices.

Appendix K: Permission to Use Commonlit.org Materials

Appendix L: Permission to Use Critical Literacy Rubric
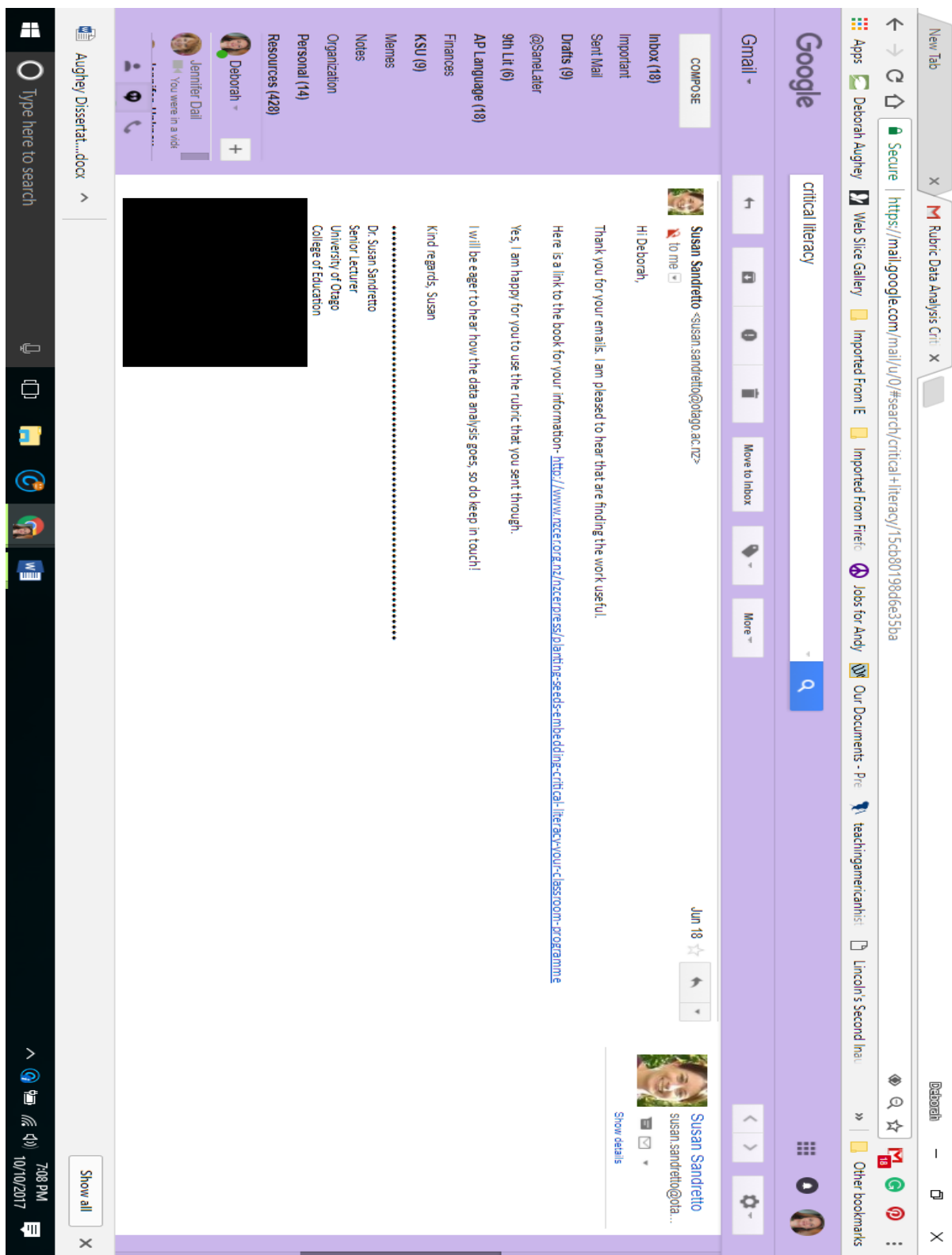
Appendix M: Permission to Use BIE's Essential Project Design Elements Checklist

John Larmer <johnlarmer@bie.org>
to me

Hello Deborah,
Yes, you may use the checklist, just cite us as the source. I'd be interested in seeing your case study, please send it to me?

On Sun, Feb 12, 2017 at 9:28 AM, Deborah Aughey <deborah.aughey@gmail.com> wrote:

Dear Mr. Larmer-

May I use the "Essential Project Design Elements Checklist" in my dissertation study? I am doing a phenomenological case study of how high school English teachers and students perceive critical literacy practices in a PBL exhibition activity called the Pop-up Museum. I will be implementing the study in March and April 2017.

Thank you,

Deborah Aughey, NBCT