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Rise of the Cyborg Collaborator and Practitioner: Composition, Co-operation, Expertise, and Mediated Praxis Across Face-to-face and Digital Sites of Learning and Practice

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Rise of the Cyborg Collaborator and Practitioner: Composition, Co-operation, Expertise, and Mediated Praxis Across Face-to-face and Digital Sites of Learning and Practice

By

José Ramón Lizárraga

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requirements for the degree of

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Committee in charge:

Professor Glynda A. Hull, Chair
Professor Kris D. Gutiérrez
Professor Abigail De Kosnik

Summer 2019

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Abstract

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By

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Technology and digital media are increasingly present in today's classrooms, often used as tools for learning, connectivity, or even subversion. This dissertation project examines how everyday cybernetic practices–the blurring of the boundaries between human and machine, and between the physical and non-physical (Haraway, 2006)–are intentionally leveraged in the individual and collective development and enactment of expertise. Specifically, I explore how diverse undergraduate novice teachers, representing a range of majors, ethnicities, nationalities, and language practices, participated in a hybrid (online/in-person) education practicum course aimed at developing critical practices of service learning and engaged scholarship.

This study is grounded in Cultural Historical Activity Theory (Engeström, 1999) which posits that learning is situated and dependent on social, historical, and cultural contexts that we navigate in our everyday. Following this theory, I examine how learning is mediated by material and psychological tools that are passed down through generations but always have the potential to be changed and transformed (Cole, 1996). Special attention is paid in this study to the way that digital tools, in the age of the cyborg (Haraway 2006; Lupton, 2012), can be transformed across timescales in ways that allow us to trace a person's history of engagement with material and psychological tools almost instantly.

As a social design-based experiment (Gutiérrez & Jurow, 2016), this research project employed ethnographic and social data analytic methods to illuminate cyclical and iterative processes of collaborative inquiry and co-operation (Goodwin, 2017) when students used custom-designed, state-of-the-art digital collaboration tools, across multiple sites (digital and face-to-face) of learning. To this end, data included video recordings of classroom interactions, field notes generated by study participants and myself, digital artifacts, back-end network analytics, student surveys and semi-structured interviews. By employing analytic tools from actor-network theory (Latour, 1996) as well as participation frameworks (Goodwin, 2007), this study aimed to illuminate (a) the discursive and textual features of face-to-face and online collaboration; (b) the tools and contexts that mediate these practices; and (c) the relationship between digital and face-to-face interactions and the development and sharing of expertise.

Findings demonstrate that in tool-dense spaces learners engaged in robust collaborative inquiry that leveraged the connectivity and rhetorical affordances of digital technologies. The first iteration of the designed study, where the online aspect of the course was intentionally integrated into face-to-face interactions in our class, highlights how undergraduate novice teachers make use of their *cyborg* selves to openly share and develop expertise around teaching and learning. Over the course of this iteration, the following theories of collaboration and learning emerged: (1) Sustained attention to the social organization of learning in the design of a hybrid course resulted in collaboration at the intersection of the digital and in-person interactions that are characterized as *meshworks* marked by careful relationship building, and the creation, sharing, and remixing of syncretic (Gutiérrez, 2008) digital artifacts/texts across the digital and physical terrains; and (2) Through this collaborative *meshwork* of enactment of expertise, undergraduates begin to collectively develop models for teaching and learning. Further analysis of the composition and archiving practices that were fostered by the design of this course also illuminate the following: (1) When everyday practices of digital production and curation are privileged in a course, students engaged in archival processes by means of which students curated their own and their classmates' language, images, responses, likes, and pins (cf. DeKoskink, 2016; Gutierrez, 2008) that then became salient compositional resources; (2) These multimodal, translingual, and "transmodal" (Lizárraga, Hull & Scott, 2015) archives then informed the writing of a variety academic texts; and (3) *Syncretic texts* that merged everyday and academic knowledge served as resources for the appropriation of socio-critical literacy perspectives.

This research has implications for both the research and design of learning environments that aim to leverage digitally-mediated collaboration and multimodal composition. Methodologically, this study highlights the need for employing a variety of analytical tools from the digital humanities and sociocultural disciplines in order to understand the complex ways that undergraduates connect and collaborate at the intersection of the digital and face-to-face. The findings of this dissertation further highlight the necessity of designing courses at the undergraduate level that recognize the fluidity with which learners navigate virtual and in-person terrains in everyday activity of meaning-making and knowledge production, and nurturing of social relationships. This work also contributes to understandings of how undergraduate novice teachers develop notions of service learning and engaged scholarship in an increasingly digitized and interconnected world.

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Hoy como otros días yo seguiré tratando ser mejor
y sonriendo haré las cosas con amor
-Juan Gabriel

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CHAPTER 1: INTRODUCTION, LITERATURE REVIEW, AND THEORETICAL FRAMEWORK

Introduction: A New Communication Ecology in Undergraduate Education

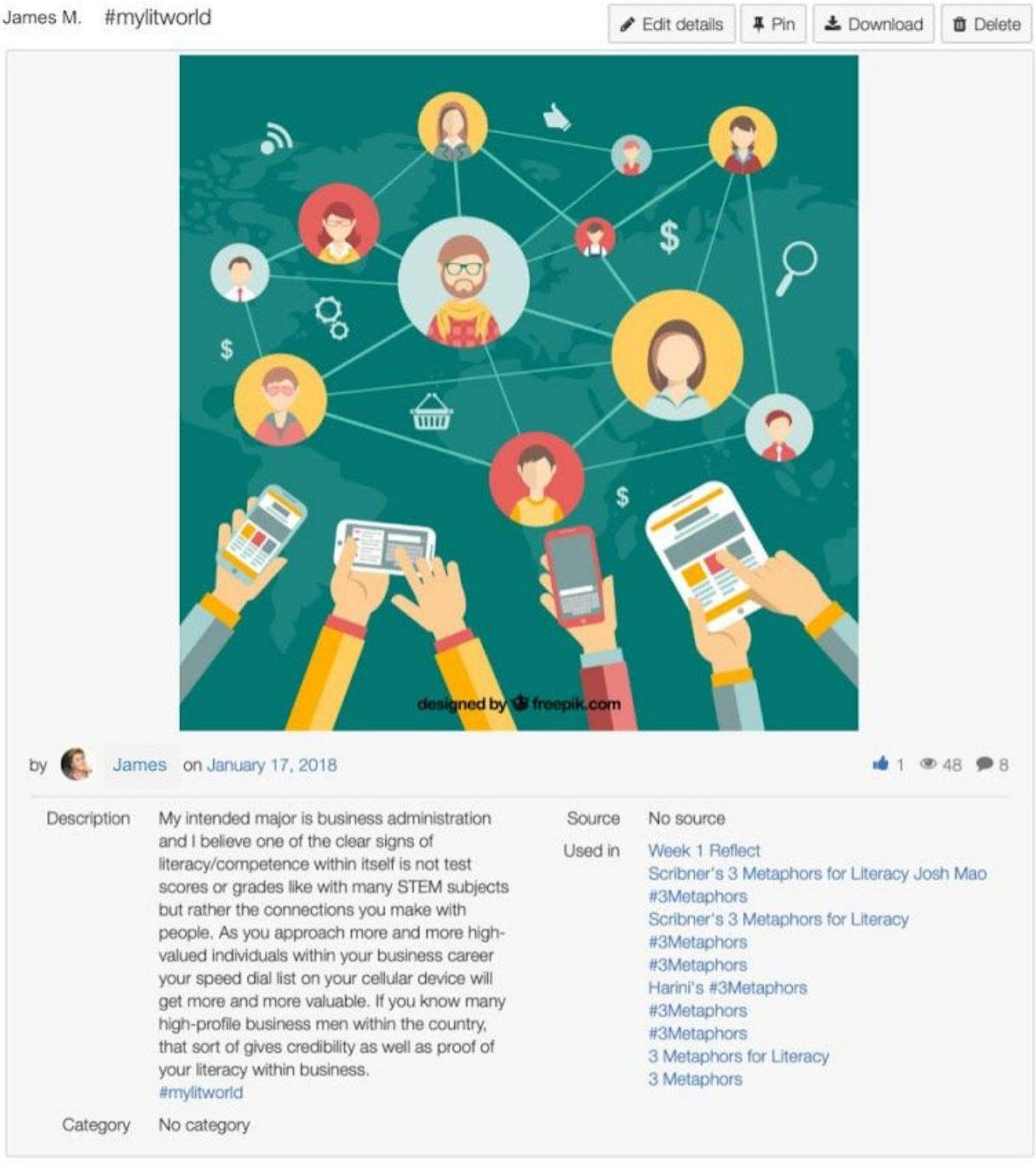


Figure 1.1: Online contribution by James answering the prompt:
"Add an image, video, gif, or audio file to the Asset Library that represents what it means to be literate in your major (or potential major)."

There is a new communication ecology in higher education, one that incorporates digital instruments into various aspects of learning for students. This new reality is part of unprecedented times of connectivity, where we are able to access flows of information and texts on a global and local scale, as Castells (1996, 2011, 2015) reminds us. Indeed, this has caused broad shifts in public perceptions in how access to knowledge is becoming increasingly democratized and how it has charted new possibilities for social transformation (Castells, 2006; Collis, 2006; Couldry, 2012; DeKosnik, 2016), even with increasing concerns that digital connectivity can distort truth (Hancock, 2007; Ringrose, 2018). In this respect, our everyday engagement with expertise in a connected society has also shifted, in ways that "have greater chances of recognition, thus resulting in cross-pollination of learning communities" (Siemens, 2005, p. 6). Scholars have gone even further to suggest that we live in an age of the cyborg, where digital technologies are not only mediators of communication and knowledge, but enhance us humans (Lupton, 2012). Today's undergraduate students are keenly aware of this reality and how, as illustrated in Figure 1.1, digital connectivity and collaboration are key considerations across disciplines of study.

In the past decade, institutions of higher learning have engaged with how to best design consequential learning that takes into account these technological shifts. Undergraduates today are generally seen as *digital natives*[1] (Bennett, Maton, & Kervin, 2008) who have broadly been exposed to digital tools that mediate many aspects of their daily lives. This awareness offers fertile ground for how to thoughtfully incorporate digital tools in the undergraduate experience. Most of the empirical work around the implementation of digital tools in the undergraduate classroom has widely involved studying how they can be designed to heighten engagement and collaboration (Dahlstrom, Walker, & Dziuban, 2013; Jones & Lea, 2008; Kai-Wai Chu & Kennedy, 2011; Lea & Jones, 2011) in courses that are becoming increasingly hybridized (Collopy & Arnold, 2009; Koohang & Durante, 2003) or moving completely online (Crews, Wilkinson, & Neill, 2015; McCutcheon, Lohan, Traynor, & Martin, 2015). In the following, however, I propose that these explorations have been insufficient as they do not fully seek to leverage the full potential of digital communication and meaning-making in the age of everyday cyborg activity. Moreover, these approaches to exploring digital pedagogy in higher education continue to uphold the institutions as the sole arbiters of knowledge, which can stifle the everyday creativity, agency, and ingenuity that we see emerge in everyday digital practices (Jenkins, 2016).

Indeed, as DiZio (2017) shows us in her study of digital collaboration in an undergraduate language course, students are bogged down by concerns over their individual success in courses, despite the best intentions of instructors to integrate innovative and engaging technologies. In my view, this illustrates the need to re-mediate[2] how digital collaboration is operationalized in the undergraduate classroom, toward a pedagogy that considers learning as a

[1] A debate persists over the notion that undergraduates are indeed "digital natives." Some scholars argue against the use of the term as it may reify dichotomies of tool access and ability and does not attend the multiplicity and diversity that exists in digital tool use by today's college students (Bennett & Maton, 2010). My use of the term here is meant to illustrate how the undergraduates, who are the focus of this study, have found their everyday lives saturated with digitally mediated production and collaboration, from a young age.

[2] Re-mediation (building upon the work of Cole & Griffin, 1986; Gutiérrez, Hunter, & Arzubiaga, 2009; Gutiérrez, Morales, & Martinez, 2009) relates to efforts in creating systemic change in learning rather than "fixing" individuals, as the term remediation often advances.

social accomplishment rather than an individual one. This latter view is what animates this dissertation.

Of specific focus in this study is how digital collaboration fosters distribution of expertise that leads to *engaged scholarship*, or learning that happens for undergraduates beyond the walls of the university. There exists a dearth in literature examining *engaged scholarship* as it intersects with online learning and the role digital tools play in consequential community-university learning. Gubrium (2009) explains how digital story-telling was pivotal in the learning experiences of anthropology graduate students:

> Digital storytelling serves as a potentially fruitful method for engaged scholarship [...] The digital story may be used as a form of individual or community advocacy or action. In addition, the digital storytelling process may prove cathartic for some participants. Through activities such as story circles, script revising, digital media construction (p. 9)

While this study by Gubrium offers clear potential for how digital tools can be used for self-reflection, it continues to advance a vision where knowledge production occurs by virtue of how the student does this work for the purposes of classroom learning.

Through the work described herein, I take a position of seeing the University as one of the many sites where undergraduates engage in learning and appropriation of expertise that is then enacted in and across their communities. In this regard, I aimed to build on scholarship that has explored the potential of digital tools in building collaborative inquiry amongst students and incorporating self reflection, where undergraduates use digital and other tools to create *syncretic texts* that combine everyday and academic knowledge (Gutiérrez, 2008) and that can be leveraged toward a *mediated praxis* (Gutiérrez & Vossoughi, 2010) where robust reflection practices with the use of learning theory informs teaching practice. Specifically, this study explored how undergraduates, as novice teachers, enacted and distributed expertise at the intersection of digital and in-person terrains of practice, and across the boundaries of the university and community. That is to say that as I explored how undergraduates *learn* through their experiences across different sites of practice, I also explored how they learn how to *teach* across these same sites.

In the past twenty years, institutions of higher learning have contended with their role in preparing members of society at a time of significant technological shifts. Special attention has been paid to how universities can provide professional development (Webster-Wright, 2009), with particular attention to how such preparation maps on to the needs of our U.S. society in terms of diversity, race, and socio-economics (Wlodkowski & Ginsberg, 1995). In the last two decades, these efforts have been institutionalized as *engaged scholarship* initiatives that aim to fortify relationships between the university and communities (Calleson, Jordan, & Seifer, 2005; Van de Ven, 2007), while creating concrete avenues for the *expertise* that is being generated at the institution to make an impact in the "real world" (Peterson, 2009). As I will elucidate further in the literature review, these initiatives have largely fallen under categories of developing "civic engagement" with undergraduates (Chapin, 1998; Harkavy & Benson, 1998; Jacoby, 2009; Schumer & Belbas, 1996; Waterman 1997) and providing "service" (O'Grady & Chappell, 2000; Wade, 2000) to communities.

More recently, efforts by programs, housed specifically in schools of education within universities, have sought to explore these university-community links through critical cultural-historical approaches (Cole & Distributive Literacy Consortium, 2006) that are attuned to the ways that learning by undergraduates travels in dynamic multi-directional ways across university boundaries (Gutiérrez, Hunter & Arzubiaga, 2009). Despite these latter efforts, institutional approaches to *engaged scholarship* continue to broadly suffer from an inability to fully grasp how knowledge and expertise that travels across contexts (Vossoughi & Gutiérrez, 2014) and can result in the development of new powerful and transformative literacies and pedagogies for learning. Moreover, these mainstream approaches still fail to leverage the ways that contemporary learners currently see and use texts and engage with expertise in their everyday *transmedia* (Costanza-Chock, 2013; Jenkins, 2016; Soriano, 2016) interactions in an interconnected and global world.

This dissertation addresses a dearth in scholarship examining undergraduate education at the intersection of engaged scholarship and new media. Little, if any, empirical work has examined the role of digital tools at the university level as instruments for *expansive learning* (Engeström, 2001; Engeström & Sannino, 2010) where everyday knowledges and contradictions are centered and learners organize to transform their collective learning experiences. More specifically, this project aimed to unearth the ways that *transmedia mobilization* (Costanza-Chock, 2012) of the everyday can inform how digital tools can function as cultural tools (Gutiérrez & Rogoff, 2003) that influence how undergraduates enact their expertise in in-person and virtual interactions; indeed, how they learn expansively in the everyday.

I center *expansive learning* in my study as a project of exploring equity in learning at the undergraduate level. This is based on a review of the literature that continues to paint a stark landscape of the experiences of non-dominant students at the university level (Solorzano, Ceja, & Yosso, 2000; Solórzano, Villalpando, & Oseguera, 2005; Yosso, Smith, Ceja, & Solórzano, 2009). I build upon the powerful work of scholars who have designed transformative learning experiences for non-dominant undergraduates that are culturally-sustaining (Ladson-Billings, 2014, 2017) and dignity-affirming (Yosso, Smith, Ceja, & Solórzano, 2009; Espinoza & Vossoughi, 2014). I specifically leverage a social design-based approach (Gutiérrez, 2016; Gutiérrez & Jurow, 2016) that highlights dynamic tool use, reflection processes, and participation structures that foster relational equity (DiGiacomo & Gutiérrez, 2017) and ultimately result in transformative literacy and learning opportunities. Further, I center an exploration of transmedia mobilization based on the observations of new media educational scholars like Jenkins (2016) who observed that "Many American youth are making calculated choices that they may be more effective at bringing about change through educational or cultural mechanisms than through electoral or institutional means and through a consensus rather than a partisan approach--addressing social problems on levels where voluntary actions can make a difference" (p. 9). This latter point signals a powerful turn toward agentive transformation that can occur in the everyday interactions that are facilitated by digital networking tools. As will become clear in this dissertation, when offered the opportunities, undergraduates participate in digitally-mediated practices to engage with socio-political issues in powerful ways. These are practices that then travel into their work with young people.

By bringing in everyday acts of resistance (Pacheco, 2012) and transformation, I further sought to understand how undergraduate novice teachers are making sense of how to enact culturally sustaining pedagogies (Alim & Paris, 2017) as they begin to understand culture not as

a set of traits but as a repertoire of literacy practices (Gutiérrez & Rogoff, 2003). This requires both a reflexivity around the common-sense activities they engage in as they become professionalized in their majors and are socialized in their undergraduate experiences to become members of broader society. In other words, it is my intention to design for opportunities for undergraduates to depart from understandings of universities as sites where static *knowledge* and *expertise* are developed, moving instead toward an understanding of universities as sites where cultural practices relating to expertise and identities of societal participation are cultivated. As I will explain further in Chapter 2, it is my belief that designing for these opportunities of reflexivity are key for transforming teaching and learning practices in interactions between undergraduate novice teachers and youth, and their *engaged scholarship*.

This orientation toward reflexivity and transformative literacies requires a renewed engagement with digital tools in the undergraduate classroom--an engagement that I will expand upon later in this dissertation. Broadly speaking, this study examines how we as scholars and practitioners should see digital tools as functioning beyond instruments of connectivity, evaluation, and collaboration, toward seeing them as artifacts that mediate access to alternative archives of knowledge (DeKosnik, 2016), agentive narratives of self (Hull & Katz, 2006; Stornaiuolo, Hull, & Nelson, 2009), participatory appropriation (Rogoff, 2008), and historical acting (Gutiérrez, 2008; Gutiérrez & Jurow, 2016; Tejeda, Espinoza, & Gutiérrez, 2003).

In the following dissertation, I will present a research project that aimed to examine these new realities and tensions at the textual (Bakhtin 1986; Briggs and Bauman 1992; Kress 1993) and interactional level (Barton, 1994; Barton & Hamilton, 2005; Gee, 2005; Goodwin, 1996, 2017). The literature review will explore *engaged scholarship* with special attention given to the ways that the role of *expertise* has been framed, and how institutions have begun to critically examine the university-community relationship. I will further explore how scholars have studied the teaching/learning relationships between undergraduates participating in *engaged scholarship* with youth, from a cultural-historical perspective. As I outline the concept of *engaged scholarship*, I will also explicate how I view the participants of my study as *novice teachers* and *everyday pedagogues*, despite the majority of them expressing that they had not interest in becoming teachers. The theoretical framework will outline an orientation toward examining teaching and learning that privileges syncretic approaches (Gutiérrez, 2008), repertoires of practice (Gutiérrez & Rogoff, 2003), multimodality (Hull & Nelson, 2005) and *polylingualism* (Gutiérrez, Bien, Selland, & Pierce, 2011). These serve as a springboard for finding ways to operationalize the digital and *cyborg* practices of the participants of this study—practices where new literacies emerge, where new divisions of labor and engagement with expertise can develop, and that can mobilize new learning and visions for a new world. In Chapter 2, I will then outline a social design experiment that closely examined how digital and analog tools and texts mediated the development of new literacies, hybrid literacies that blend practices shared between undergraduate novice teachers and between undergraduate novice teachers and youth. Chapters 3 and 4 outline findings which highlight, respectively, the distribution of expertise, collaborative compositions, and shifts in pedagogy that emerged for students as part of this design-based study. I will conclude with the implications that this study suggests for research in undergraduate education, *engaged scholarship*, and a growing body of research in online learning and technology-mediated instruction in higher education.

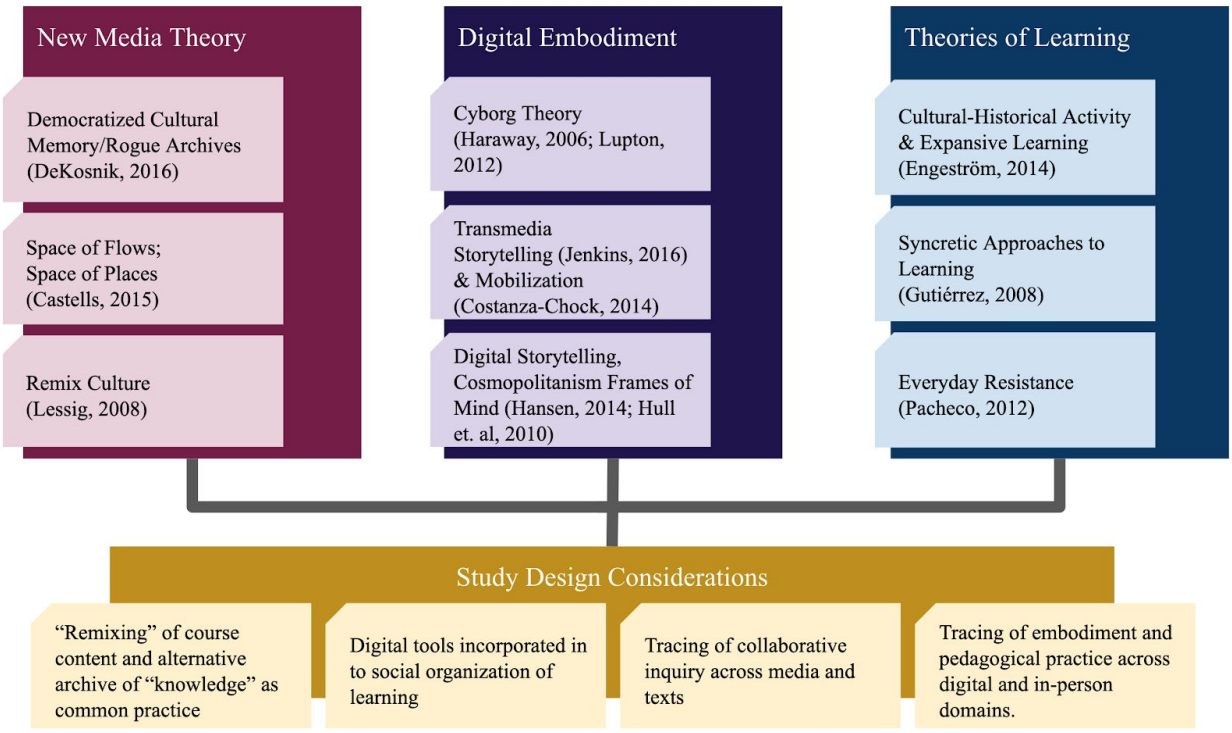


Figure 1.2: Theoretical and Study Design Framework

Literature Review

In this section I will undertake a review of literature on undergraduate education, specifically as it relates to expertise, engaged scholarship, and new media. In the first section I will briefly review how engaged scholarship initiatives have embodied a variety of purposes at the university level. As part of this first initial review, I will review critiques of engaged scholarship and attempts to re-mediate (Cole & Griffin, 1986; Gutiérrez, Hunter, & Arzubiaga, 2009) these projects. I will continue this section by reviewing empirical work that has aimed to fortify university-community links through a cultural-historical approach and through designed-based interventions. As part of this secondary review, I will look at the work of learning scientists who have examined how transformative learning can emerge in designed third spaces of literacy development (Gutiérrez, 2008). This review will continue with a look at how universities have begun shifting toward the digital and the global in learning design. I will end this review by examining empirical work that has provided theoretical and methodological tools for studying the power of authoring multimodal and polylingual artifacts that index agentive identities and narratives of self, as well as work that has examined the emergent power of transmedia mobilization by young learners in transforming their everyday experiences.

Undergraduate Education: Expertise and Engaged Scholarship

In his influential piece *Creating the New American College*, Ernest Boyer (1994) posited that "Higher education has more intellectual talent than any other institution in our culture" (p.48). By and large, institutions of higher learning have historically been seen as centers of

intellect and expertise. These institutions have often been coined as gatekeepers to new social and professional opportunities and trajectories (Day, 1999; Jarvis, 2004; Knapper & Cropley, 2000). To this end, universities, specifically, pride themselves in providing robust professional development opportunities specific to disciplines. In short, universities have been historically seen as sites where new powerful knowledge (theories, methods, innovations) are developed and then shared with the rest of the world. It is this institutionalized attempt at sharing expertise and knowledge by universities that I aim to address in this subsection--the concept of *engaged scholarship*.

Scholars have traced the emergence of engaged scholarship initiatives to the propositions of Ernest Boyer (1991, 1994, 1996), who posited a need for the university to attend to the needs of our society. He specifically saw *scholarship of engagement* as a means for "[...] connecting the rich resources of the university to our most pressing social, civic and ethical problems, to our children, to our schools, to our teachers and to our cities [...]" (Boyer, 1991, p. 26).

Engaged Scholarship has become a mainstay in many institutions of higher education, often as umbrella initiatives that are operated across majors and departments and broadly aim to impact undergraduate student learning outcomes by increasing engagement with academic content (Astin & Sax, 1998) and preparing students to be active members of society (Eyler, Giles, & Braxton, 1997; Markus, Howard, & King, 1993). Different approaches to *engaged scholarship* have emerged in recent years, approaches that construct distinct notions of the expertise being generated by the undergraduate and the role such expertise plays in these community-university relationships.

One such approach posits that engaged scholarship is an opportunity for the university to "give back" to its surrounding communities through service learning. In many respects, service learning serves a philanthropic purpose by distributing wealth, in this case the wealth of expertise. O'Grady (2000) notes that what distinguishes service learning from mere volunteerism is that "[i]n a service learning program, individuals engage in community activities in a context of rigorous academic experience" (p. 7). This indexes a centering of a type of meaning-making and knowledge production process--one where the ultimate goal is for the learning that occurs at the institution to be deemed rigorous and legitimate. This is then the *knowledge* that is shared with the community. Inevitably, such an attitude toward the centrality of the university can reify deficit oriented views of the communities that undergraduates work with (Densmore, 2000; Wade, 2000).

Peterson (2009) offers an apt critique of these deficit oriented approaches to engaged scholarship by proposing pedagogical considerations for how these types of programs should be organized:

> Successful community-based education programs involve a classroom forum that theoretically grounds the experiential learning experience of students, a curriculum that rigorously analyzes the complexities of service and social justice, and on-going relationship building, communication, and assessment of the shared values and goals of the community-campus partnership (p. 541).

It is clear from this articulation that pedagogy plays a key role in the formation of meaningful and consequential *engaged scholarship* that is particularly attuned to issues of equity and social justice.

As illustrated above, engaged scholarship operates from good intentions, yet continues to reify certain encapsulated (Engeström, 1991) notions of schooling where valuable knowledge is developed and resides in institutions. In the following, I will review empirical work that has moved towards redesigning engaged scholarship for more expansive and equitable ends. This latter orientation proved important to my study as I strived to design an undergraduate classroom that helped novice teachers develop and enact expertise in work *with* communities rather than *on* communities.

Re-mediating the University

My work builds upon the powerful work that cultural-historical theorists and learning scientists have done in redesigning the undergraduate experience, especially as it relates to the institutional relationship with communities and the type of learning that emerges for both youth in communities and undergraduates at the university. Michael Cole and the Distributive Literacy Consortium (2006) long-standing work on the *Fifth Dimension* has served this purpose. Established in the 1980s as a community-college partnership to build consequential educational after-school programs, the Fifth Dimension emphasized diversity and the use of emerging computer technology[3]. Importantly, the program has incorporated the latest child development theories and has provided college undergraduates opportunities to apply their developing understanding of learning and child development to practicum with young learners. Through a longitudinal study where undergraduates attended an undergraduate course, participated in field work, wrote field notes, and authored a final paper, Cole and colleagues discovered the following shifts in their understanding of teaching and learning:

> They moved away from beliefs that teaching is mainly the transmission of knowledge, learning is passive reception, and pupils should be sequestered and controlled and came to believe instead that teaching is organizing learning activity, learning is the social construction of meaning by active participants, and children are more successful as their participation in learning activities increases (Cole et al., 2006, p. 145).

The Fifth Dimension model has informed many subsequent engaged scholarship initiatives, specifically within schools of education (Underwood, Parker, & Stone, 2013)–the study outlined herein being one of them. Most importantly, through this work one has been able to see how knowledge and expertise is generated by virtue of pedagogical practices across an ecology, decentering the university as the primary site where legitimate knowledge is generated.

One important subsequent project that has followed this model, has been longitudinal, multi-sited, social-design based work by Kris Gutiérrez (2008). This work is of significant influence on this study, specifically as it relates to the design of collective, hybrid *third spaces*

[3] The Fifth Dimension had five program goals from its inception: (1) Provide age-appropriate and development-enhancing environments for children; (2) Use emergent digital technologies to address the underrepresentation of non-dominant populations in the technology industry; (3) Bring together youth and adults from diverse cultural, economic, racial and religious backgrounds; (4) Establish relationships between the university and community that were mutually beneficial, intellectually and developmentally; and (5) Maintain sustainable relationships between the university and community programs (Cole et al., 2006, p. 5-6)

"where teacher and student scripts—the formal and informal, the official and unofficial spaces of the learning environment—intersect, creating the potential for authentic interaction and a shift in the social organization of learning and what counts as knowledge" (p. 152). In particular, her work designing and implementing the Migrant Student Leadership Institute (MSLI) housed at the University of California, Los Angeles demonstrates how learning spaces can be designed to foster profound social analysis. This program, geared toward non-dominant Latinx youth from immigrant families, designed opportunities for youth historicize their learning trajectories (Gutiérrez, 2008, p. 153) while developing "sociocritical literacies" (p. 148). From the onset, young learners were engaged in deep social analysis in collective *third spaces* that have been especially designed to facilitate this engagement through the saturation of tools of reflection and historicity. Of special importance to my work here, are the written syncretic texts that were produced by the participants, those that operated as "a hybrid text, a sociopolitical narrative shared orally and witnessed in an intimate and respectful learning community and, at the same time, written using the traditional conventions of academic texts and the editorial assistance of peers and instructors to develop students' new understandings about themselves and their relations to the immediate and the larger social world" (Gutiérrez, 2008 p. 149).

Gutiérrez, Hunter, and Arzubiaga (2009) further sought to *re-mediate* the institution of the university; a concerted effort to combat notions of "remediation" courses which tend to reify deficit notions of individual learners. Assignments in an innovative Equal Opportunity Program for non-dominant university student took on a distinct valance: "Reading and writing in this learning ecology became occasions to develop new literacy practices mediated by the production of syncretic texts that brought together the everyday and the historical with conventional rhetorical tools and practices" (p. 17). In their work they found that "Sustained learning and engagement were facilitated through a range of practices" (p.10) by paying special attention to the social organization of learning. Gutiérrez et al offer important considerations for how undergraduate courses should be organized for expansive learning opportunities: 1) saturate the environment with a variety of meaning-making and mediating tools; 2) embed socialization and allow for the transformation/rearrangement of spatial configurations; 3) provide ongoing assessment and continuous assistance; and 4) provide instances of direct instruction (p. 10). By attending to this social organization of learning, the authors found that students who had historically struggled with writing were able to benefit from the distribution of expertise and joint activity that emerged in this re-mediated undergraduate classroom.

These models for re-mediating the undergraduate experience serve as springboards for imagining and designing engaged scholarship classes that attend to the multivoicedness that a diverse group of students may bring to the classroom. In this regard, paying attention to the social organization of learning, the multivoicedness, and the types of tools that saturate the learning environment becomes key in unearthing and leveraging the multiplicity of expertise that can be brought to bear in learning experiences that become social accomplishments. This research project is animated by this powerful work, and pays special attention to the digital tools that are increasingly present in the undergraduate classroom. In the case of this study, these are digital collaboration tools designed by a team of researchers, educators, and myself. As will be illustrated shortly, this project interrogates and centers digital tools that are modeled after the tools of connectivity and collaboration that are part and parcel of our everyday lives as *cyborgs.*

Undergraduates as novice teachers. By centering re-mediation and a renewed approach to *engaged scholarship*, this project sought to examine how pedagogy and learning manifests in

everyday contexts, within and outside formal learning institution of the university (Rogoff, Callanan, Gutiérrez, & Erickson, 2016). In this vein, I centered the ways in which undergraduates, many of whom do not consider themselves teachers or have any interest in pursuing careers as teachers, can learn to see how they are indeed *novice teachers* who engage in everyday practices as pedagogues. I look to the powerful work that university programs have done in positioning undergraduates as educators, who engage in robust forms of reflection on teaching practice, in informal learning environments (Stone & Gutiérrez, 2007). Moreover, this work is inspired by the side-by-side and intergenerational learning (Gutiérrez, Baquedano-Lopez, Alvarez, & Chiu, 1999) and relational equity (DiGiacomo & Gutiérrez, 2016) that these designed environments foster. In positioning the undergraduates of this study as novice teachers, I highlight the ways that a design study like this one can extend scholarship that centers the undergraduate classroom as a site for new forms of teacher education (Gutiérrez, 2000)

Cyborg Theory, Mobilization and Transformation Through Digital Means

It is unquestionable that the way in which we participate in society has shifted significantly in the last decade, or so. This participation has been deeply impacted by the proliferation of digital modes of self-representation and connectivity with the people, places, and spaces that surround us both locally and globally (Appiah, 2006). According to a recent Pew Survey, an estimated 95% of young people in the U.S. own a smartphone, and 45% are constantly connected to the internet (Anderson & Jiang, 2018). This same survey reports that as a result of the proliferation of these technologies and social media platforms, young people are feeling more connected to each other–people they know personally and people they've never met–and feel more exposed to a diverse world. In this regard, our everyday lives function at the intersection of the physical and the virtual where the assumed boundaries between these spaces and places and the versions of ourselves that we portray in these spaces and places are becoming increasingly blurred. Indeed, some new media scholars have proposed that we live in an age were our very bodies are augmented by new digital technologies, making us cyborgs (Haraway, 2006). Lupton (2012) posits that as *cyborgs*, we engage in "[...] regular use of computerised devices [that] shapes physical aspects of human embodiment, including changing brain structure and functioning, or consciousness, modes of seeing and operating within the world" (p. 233). In this regard, today's sophisticated technologies are impacting the very way that we interact with each other and how we conceive of our connections to each other.

In my work I aimed to complicate notions of transformation that can emerge simply from connection and access. Specifically, I sought to illuminate how *transmedia mobilization* (Jenkins, 2016) and *transliteracies* (Stornaiuolo, Smith, & Phillips, 2017) can offer a helpful heuristic for how collective transformation can be facilitated across digital and physical terrains of practice. These considerations resonate profoundly with the types of transformative and expansive learning potential that have been advanced by learning scientists who have examined learning in today's digital and interconnected world (cf. Garcia, 2017; Kirshner & Middaugh, 2014).

Foundational to meaning-making in today's digital age is the practice of remixing. According to Knobel and Lankshear (2008) remix is "the practice of taking cultural artifacts and combining and manipulating them into a new kind of creative blend" (p. 22). Building upon ideas of perpetual hybridization of discursive practice where "Every conversation is full of

transmissions and interpretations of other people's words" (Bakhtin, 2010, p. 77), one can make the claim that remixing, indeed, is a necessary literacy practice in today's world. Therefore, the expansive learning potential is clear, according to Knobel and Lankshear (2008):

> In the sense that each new mix becomes a meaning-making resource (affordance) for subsequent remixes, there is no 'end' to remixing. Each remix in principle expands the possibilities for further remix (p. 26).

Today's realities relating the production (and re-production) of texts also informs a new reality in how cultural knowledge is archived. DeKosnik (2016) posits:

> Media users have seized hold of all of mass culture as an archive, an enormous repository of narratives, characters, worlds, images, graphics, and sounds from which they can extract the raw matter they need for their own creations, their alternatives to or customizations of the sources (p.4).

This demonstrates a necessary shift in how educational spaces leverage digital tools in learning activities. Educational research has examined the type of transformational learning that can be mediated through digital technologies.

Previous educational research that attends to these realities pays attention to practices as they connect to the enactment of identities, both through the curation of online profiles and presence (Hull & Scott, 2014) and the creation of "new narratives of the self" (Stevenson, 2003, p. 346; Hull & Katz, 2006). In this prior research, my colleagues and I examined how youth communicated with distant peers by sharing and creating digital arts that they exchanged via social media, activities designed to position youth to consider their places in their home society and their relationship to a global community (Lizárraga, Hull & Scott, 2015). Such social networks, and the online and offline activities that surround them, can serve as sites for exploring how emergent Spanish/English translinguals experience difference and diversity in a global world, as well as investigating how literacy and communication practices that develop cosmopolitan habits of mind can be fostered (Appiah, 2006; Hull & Stornaiuolo, 2014).

This dissertation offers *transmedia* literacies as a potential avenue for understanding how digital technologies inform our everyday engagement with knowledge, expertise, and daily participation in society. In explaining transmedia tactics, Jenkins (2016) explains that "In many cases, media tactics move fluidly between online and offline spaces, and messages circulate in both tangible and virtual forms" (p.19). In many regards notions of the virtual and in-person enactments of identity and knowledge are being dispelled by the ways a younger generation is using media to mobilize both in the digital and physical realm. Costanza-Chock (2014) argues:

> Transmedia mobilization thus marks a transition in the role of movement communication from content creation to aggregation, curation, remix and recirculation of rich media texts through networked movement formations (p.114).

If the boundaries between what it means to mobilize and bring knowledge/expertise to bear in the digital and in-person terrain are being blurred in today's transmedia reality, how then can we

ensure that undergraduate *engaged scholarship* attends to this as students grapple with how to enact their expertise?

In summary, this project aims to bring together three potent theoretical and methodological contributions for the design of potentially transformative learning environments at the undergraduate level: 1) new media scholarship attending to the way digital tools can be used to remix, archive and access knowledge in equitable ways (DeKosnik, 2016; Lankshear & Knobel, 2008; Lessig, 2008); 2) the powerful work of digital storytelling in the development of agentive narratives of self (Stevenson, 2003, p. 346; Hull & Katz, 2006) and cosmopolitan literacies (Hull & Stornaiuolo, 2014); and 3) syncretic approaches to teaching and learning (Gutiérrez, 2008) that examine how the undergraduate classroom can be re-mediated (Gutiérrez, Hunter, & Arzubiaga, 2009). In short, this dissertation project privileges both written and multimodal syncretic texts, texts that can advance new divisions of labor and provide opportunities for undergraduates to see the enactment of their expertise anew.

Theoretical Framework

This theoretical framework outlines an orientation toward seeing and examining learning in this study. This theorization is based on ecological (Cole, Hood, & McDermott, 1994) approaches to learning and proposes cultural-historical activity theory (Engeström, 1999) as a primary analytic for examining how learning occurs in the context of the undergraduate classroom. As part of this building of a definition of learning, I will lean on the work of cultural-historical theorists and learning scientists who have provided useful heuristics for designing and examining learning. I will end this section by bringing together the work of learning sciences and new media scholars to examine the intersecting ways that they see learning and transformation in today's digital and global world.

In this respect, my research draws upon sociocultural and sociolinguistic perspectives to interrogate what constitutes necessary and desirable literacy and language practices in our global and digital world. Toward that end, I align my work with that of scholars in the tradition of New Literacy Studies (e.g., Barton & Hamilton, 2012; Gee, 2000; Street, 2003), who theorize literacy as diverse, socially-constructed meaning making practices. Rather than autonomous skills that are universal and neutral, this sociocultural perspective on literacy posits that these practices are always multiple, situated, and ideological ways of using language and other symbol systems to communicate, construct meaning, and enact identities in varied social and cultural worlds. Moreover, researchers have paid increasing attention to literacy practices that are digital and multimodal (Bennett, 2008; Kress & van Leeuwen, 2001), drawing not only upon language but also multiple semiotic systems. It is this set of assumptions around learning and literacy development that the following theoretical framework is based on.

Cultural-Historical Activity Theory as Analytic

The primary assumption of this dissertation is that all learning is first and foremost a socially mediated activity (Vygotsky, 1980). As such, the learning by the undergraduates was documented and analyzed in ways that are specifically attuned not only to reported understandings and notions, but also their practices and interactions. To this end, my project heavily leveraged Cultural Historical Activity Theory (Engeström, 1999) to understand the

multiple components of interaction in learning environments which can be seen as activity systems. Engeström (2001) identifies key features of an activity system as being: 1) the subjects (participants; 2) the rules of engagement; 3) the division of labor; 4) the communities involved; 5) the artifacts that mediate activity; and 6) the agreed-upon object/outcome of the system and its activities. Importantly, the components of the activity system mutually constitute and influence each other, which underscores the dynamic nature of the activity and mediation that occurs in a system like this and the potential transformation that can occur. In such a system there are flows of knowledge (expertise), negotiations, and reflections that are all-influencing and ever-recursive.

Engestrom (2001) further summarized several principles of his activity theory. He underscored that activity systems foster, in principle, multivoicedness because "An activity system is always a community of multiple points of view, traditions and interests" (p. 136). It is this plurality of experiences that is pivotal to the type of sharing of expertise and development of new literacies in a learning environment. With this inherent multivoicedness, Engeström posits that historicity is key, as the shaping and transformation of said activity systems can only be understood through the history of the people and practices that have taken part in that activity system (p. 136). However, the catalysts of change in transformation in these systems are the contradictions that emerge as multiple histories and experiences (and expertise) come into tension with each other. Engeström sees these contradictions as playing a central role as "sources of change and development…[that] are historically accumulating structural tensions within and between activity systems" (p. 137). It is from contradictions and joint negotiation of the object and possibility of activity that allow a reconceptualizing, imagining, and organizing for new possibilities.

In line with this heuristic and potential for transformation of activity, Engeström and Sannino (2010) presented seven steps, outlining a type of expansive learning mode. These are the following: (a) questioning, (b) analysis, (c) modeling the new solution, (d) examining and testing the new model, (e) implementing the new model, (f) reflecting on the process, and (g) consolidating and generalizing the new practice (p. 8). In a robust activity system, there are iterations of these seven steps that ultimately form an "expansive cycle or spiral" (p. 7) of learning, and facilitate the ascension of the activity patterns from the abstract to the concrete.

As outlined further in Chapter 2, this dissertation aimed to design for expansive learning opportunities by having undergraduates jointly generate questions regarding literacy and learning (mediated by course texts), collectively model a solution of this question, and jointly examining and testing said models, generating new models, reflecting on our processes of collaborative inquiry, establishing new models for our learning space. I envision this type of expansive process as occurring in hybrid *third space* of literacy development (Gutiérrez, 2008; Gutiérrez, Baquedano-López, & Tejeda, 1999).

Literacy Development in the Third Space

Third spaces have long been examined as sites for the development of powerful hybrid literacy practices. An exploration of third spaces (cf. Gutierrez, Baquedano-López, & Tejeda, 1999; Gutierrez, 2008) has shown how strategies that leverage multi-sited knowledge and practices and horizontal expertise of learners can lead to potent co-construction of new knowledge. Moreover, an attunement to the histories of learners across said sites/contexts allows

us to see how non-dominant youth use their histories as a resource to reflect upon their current circumstances and plan for a new collective futures (Gutiérrez & Rogoff, 2003; Gutiérrez, 2008).

Because third spaces are inherently polylingual and multivoiced, and are designed to leverage knowledge and practices from everyday and academic contexts, they "provide a safe harbor for [learners] to express themselves to create meaningful content, and as a means to open up possibilities to engage more fully, to develop productive relations and forms of participation around literacy" (Gutiérrez et al., 2011, p. 243). As such, an undergraduate course that fosters the production of *third space*, as the one featured in this study, is saturated with opportunities to express this multivoicedness through a multitude of modalities. Moreover, I posit that it is also important to present opportunities for perpetual playfulness and creativity in the activity system of the digital and in-person classroom.

Literacy as Creative Practice and Malleability of Tools

Central to this theoretical framing of learning and literacy development in the *third space* is creative practice. Specifically, I aimed to center an understanding that all learning and meaning making is a perpetual engagement with creativity. I build upon my previous examination of remix theory and scholarship that has explored literacy development at the intersection of creativity to make the case that "co-operation" (Goodwin, 2013, 2017) is characterized by examples of creative collaborative inquiry in the shaping of meaning-making tools.

Willis, Jones, Canaan, and Hurd (1990) posit the necessity of centering the creative work that we engage in our everyday meaning-making, which they term *symbolic creativity.* Such creativity is defined as work that "[...] is the application of human capacities to and through, on and with symbolic resources and raw materials to produce meanings" (Willis, et al., 1990, p. 10). It is important to note that, through this conceptualization of creativity, Willis and his colleagues advance it not from the traditional sanctioned *arts* perspective, but as those the manifest and operate outside of dominant institutions. From this perspective, it is important, as researchers, to shift our attention to how symbols and forms of meaning-making are used in *ordinary* and *living* culture. In summary, according to Willis et al., we all engage in "necessary" creative work and symbolic work which is usually not considered art by institutions.

By centering the everyday creativity of literacy, it is important to revisit the current role digital tools play in such creative processes. Walsh (2004) proposes that "schools should harness youths' creativity – that often manifests itself through their capital resources – as they integrate and adapt to the new digital affordances acquired through their out-of-school literacy practices" (p. 79). According to Walsh, schools should be more expansive in the types of materials and tools available to learners in order for these new affordances to be leveraged by learners in today's digitized and multimodal world. In this sense, the centering of creativity attends to notions of literacy development that relate to the building of *repertoires of practice,* as posited by Gutiérrez and Rogoff, (2003) and aligns well with previous examinations of new literacy studies that see literacy as deeply contextual and diverse (Barton & Hamilton, 2005; Gee, 1996; Street, 2003).

This focus on the perpetual creative practice of literacy development offers a renewed perspective on the role of meaning making tools, specifically digital instruments. I am aligned with scholars who see ideal and material tools as malleable (Cole & Engeström, 1993; Cole &

Wertsch, 1996; Engeström, 1990). That is to say, the tools that mediate our everyday activity are not static and can be transformed to fulfill a given need or desire. Goodwin (2013) explicates how a tool--that of speech and gesture--can be transformed in co-operation where "Individual actions are constructed by assembling diverse materials, including language structure, prosody, and visible embodied displays" (p. 1). This assemblage of meaning making is dependent on the substrate (the common knowledge) that those engaged in co-operative action co-develop. Goodwin later explains:

> as co-operative action develops, the contingent complexity of future possibilities and diverse phenomena to be taken into account increases [...] Participants are increasingly faced with the tasks of engaging in rich monitoring of both each other, and the world that is the focus of their joint activity, with respect to multiple, contingent possibilities (2017, p. 451).

It is my belief that Goodwin's definition of co-operation aptly describes that type of creative practice involved in the everyday co-construction of meaning-making tools. Further, it offers a potential lens for how to analyze literacy development at the interactional level, something that this dissertation undertakes.

This consideration around the malleability of tools is especially salient in this present discussion of the role of digital tools in the undergraduate classroom. As mentioned in the literature review of this proposal, digital tools have been broadly used in undergraduate classrooms for the purposes of course management and assessment. Given my interest in examining expansive learning, it was my intention to design a learning environment where the affordances of digital technology (alternate archiving, multimodal affordances, networking) are leveraged toward the development of transformative literacy practices in both the digital and in-person terrain. I am particularly concerned with how these newly developed literacy practices (through co-operation) allow undergraduates to enact their expertise in powerful ways.

Examining Participation

Given this dissertation's focus collaboration and tools, I make use of Goodwin's (2007) construct of participation framework in order to gain a robust understanding of the joint activity that was observed in the context of this classroom where digital tools played such a central role. Goodwin offers a focus on the "[...] interactive organization of participation frameworks, including how they are structured and contested in the midst of moment-to-moment interaction, and the consequences this has for how participants shape each other as moral, social and cognitive actors" (2007, p. 53). This framework offers analytical purchase in that gives name to specific turn taking that occurs in the micro-interactions between people. Goodwin outlines the following stances that are commonly enacted in collaborative settings:

1. *Instrumental stances* that orient attention to artifacts or people that are necessary for the task at hand.
2. *Epistemic stances* or those that are oriented towards positions or claims of knowledge.
3. *Affective stances* that are comprised of individual emotions towards others.

4. *Cooperative stances* that demonstrate a willingness to initiate or sustain an activity that is in progress.
5. *Moral stances* are actions that indicate that an individual can be trusted to work in concert with others.

The stances proposed by Goodwin informed much of the coding and analysis presented in this dissertation. Chapters 3 and 4 will illuminate how this participation framework aided me in understanding the intricacies of collaboration at the intersection of the digital and face-to-face.

Social Design Based Experiments: Designing For Equity in the Undergraduate Classroom

The theoretical framework led me to follow a social design based experiment approach for this project. Gutierrez & Vossoughi (2010) offer considerations for how learning in the undergraduate level can be designed to foster mediated praxis. Their advancement of the social design experiment (SDBE) as "cultural historical formations developed with and for nondominant communities designed to promote transformative learning for adults and children" (p.100) provides new avenues for rethinking what the enacting of expertise looks like, where there are "persistent opportunities for reflection and examination of informal theories developed over the course of participants' experiences as students and teachers in apprenticeship" (p. 101). In a sense, this innovative approach centers expansive learning in ways that undergraduate learning has failed to do. In other words, the mediated praxis advanced by this work helps undergraduates envision new pedagogical arrangements for themselves and the youth that they work with in field work. Of importance to this study, is the use of the cognitive ethnography (called field notes in this proposal) as a central tool, "[that] becomes a site for sense making, synthesis, reflection, and mediated praxis and helps to refute long-held dichotomies often taken up in teacher education" (p. 104).

Broadly speaking, social design experiments are humanistic in as much that they "[work] to transform social institutions and their relations [as] a primary target of design because only such changes can achieve the equity goals of the research" (Gutiérrez & Jurow, 2016, p. 367). Mendoza (2014) further presents the case for utilizing social design experiments as avenues for those working with youth to complicate their common sense notions of what teaching and learning are. Mendoza's work is especially salient in dispelling notions that "good intentions" are sufficient for undergraduates to engage in equity-oriented pedagogies: "common sense is so grounded in social practices and dominant ideologies that good intentions alone are not a guarantee that equity work will be done" (p. 159). Empirically, Mendoza argues that it is through the design of "mediated praxis" that those working with youth can come to understand their underlying assumptions that are informed by normative (and oftentimes deficit) notions of what good teaching and learning are. Gutiérrez (2008) describes the syncretic text as an essential output in the social design based experiment:

> [...] a hybrid text, a sociopolitical narrative shared orally and witnessed in an intimate and respectful learning community and, at the same time, written using the traditional conventions of academic texts and the editorial assistance of peers and instructors to develop students' new understandings about themselves and their relations to the immediate and the larger social world (p. 149).

The creation of the syncretic text will be the primary artifact for analysis in this study. The assignments were designed so that multivoicedness, polylingualism, and multimodality are commonplace in our learning environment. In this sense, I am inspired by the ways that Gutiérrez, Hunter, and Arzubiaga (2009) constructed assignments:

> Reading and writing in this learning ecology became occasions to develop new literacy practices mediated by the production of syncretic texts that brought together the everyday and the historical with conventional rhetorical tools and Practices (p. 17).

From this perspective, the potential for expansive learning becomes clear–the merging of everyday academic knowledge toward transformative ends.

Research Questions

The Theoretical Framework outlined here animates this study and helped me generate the following Research Questions:

1. How do undergraduates enact expertise in a variety of digital and in-person learning interactions with each other?
    a. What is the regularity in these enactments of expertise and how do they vary across these digital and in-person interactions?

2. What is the nature of independent and collaborative compositions in Social Design Based Experiment (SDBE) with a focus on socio-critical literacies?
    a. How do undergraduates come to understand expertise from a cultural-historical perspective?

3. How do these enactments of expertise and composition practices shift over time and what mediates such shifts?

CHAPTER 2: STUDY DESIGN

The purpose of this study was to deeply examine the workings of an undergraduate course that advances a collaborative, equitable, and justice-oriented pedagogy, and how this designed course results in the development of literacy practices that travel across digital and in-person contexts. As such, I advanced a social design-based experiment research project whereby a learning environment (in this case the undergraduate classroom) is designed and reiterated by the participants (Cobb, Confrey, diSessa, Lehrer, & Schauble, 2003; Gutiérrez & Jurow, 2016). In the following, I will outline the components of what I have coined a "Literacy and Learning Design Studio" that makes intentional use of both analog and digital tools in designed teaching and learning interactions between undergraduates and other undergraduates. As a participant observer (Bogdan & Biklen, 1997), this study design further critically examines my role as the instructor of the course. I will begin this section by explaining the design and theoretical conjectures (Sandoval, 2014) that this project is based upon. I will continue with a detailed description of the undergraduate course, specifically envisioned as a version of a "change laboratory" (Engeström, 2007) that served as a collective a *third space* (Gutiérrez, 2008) for the development of literacy practices and pedagogies. I will continue this study design section with a description of the undergraduate participants. I will conclude with an outline of data collection and analysis.

Conjecture Map

The *conjecture map* was instrumental for the design element of this dissertation project. Sandoval (2014) proposes that such a map is a robust and systematic "means of specifying theoretically salient features of a learning environment design and mapping out how they are predicted to work together to produce desired outcomes" (p. 19). In the following Figure 2.1 I illustrate the specific elements of a conjecture map (Sandoval, 2014, p. 21): 1) high-level conjecture(s) relating to the type of learning I hope to see in my study and associated contexts; 2) the embodiment that I expect to manifest as a result of activity; 3) the mediating processes that will be present; and 4) the desired outcomes of these mediated processes. The conjecture map also outlines my ideas about how embodied elements of the design generate mediating processes (design conjectures) and ideas about how those mediating processes produce desired outcomes (theoretical conjectures).

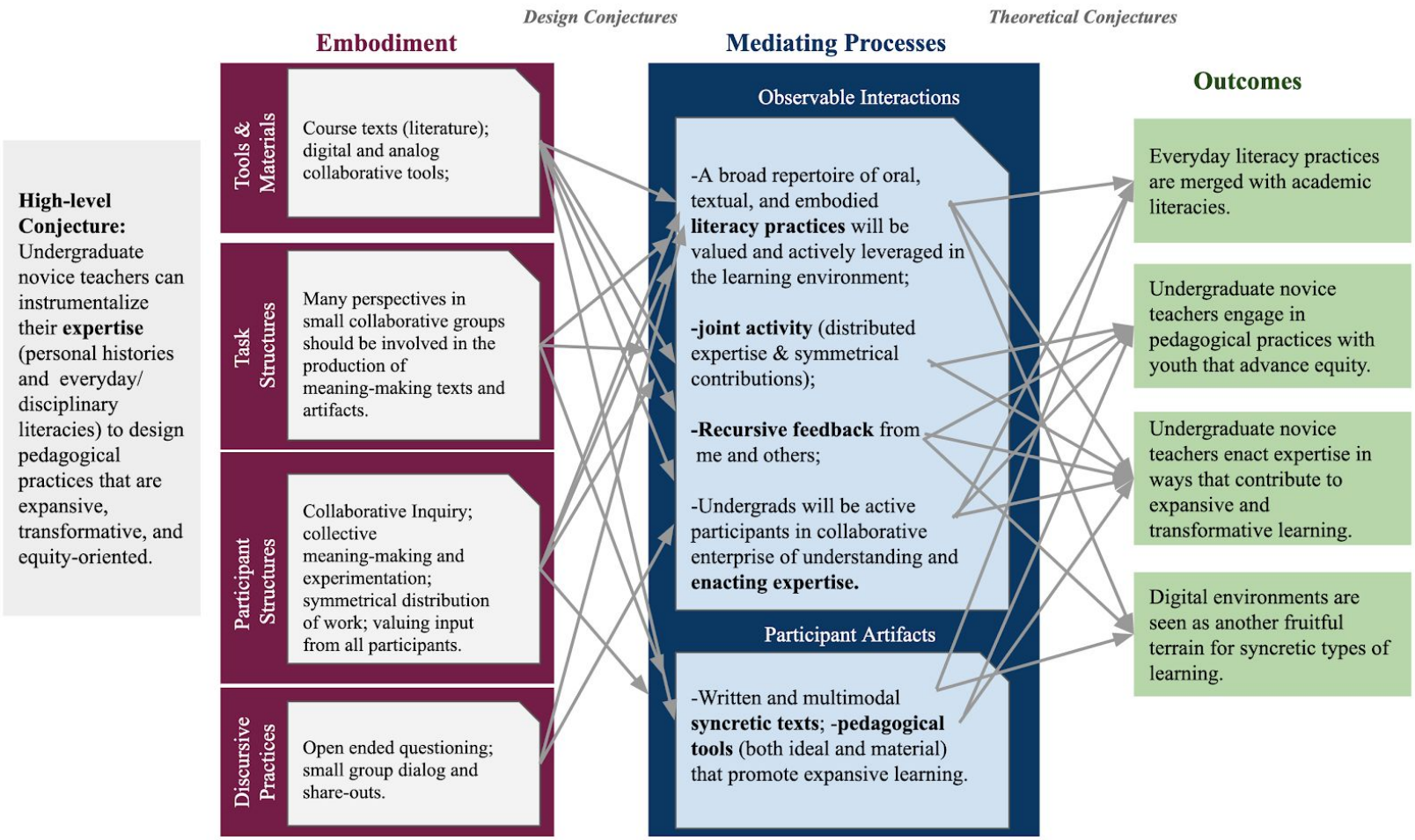


Figure 2.1: Design Study Conjecture Map (adapted from Sandoval, 2014).

Figure 2.1 illustrates the overall design of this study, particularly highlighting important considerations that are essential to a social design-based experiment. My primary, high-level, conjecture as I entered the study was that the undergraduates participating in my study will enact their expertise (vis-a-vis their disciplinary literacies and histories) in ways that lead to expansive and transformative learning experiences with each other and with the youth that they work with. One of the primary embodiments that I expected to see are the use of the literature and instructional material, and various tools, in collaborative types of activities. The object of such collaboration would be the distillation of the meaning behind said texts/material and their practical application to the field work that they are engaging in. This SDBE aimed to design for embodiment activities that foster collaborative inquiry, symmetrical distribution of work, and the valuing of all participant input. Through these designed embodiment opportunities, my conjecture was that I would observe the following mediating processes: 1) the enactment of a broad repertoire of linguistic, textual, and embodied literacy practices; 2) joint activity that is characterized by a distribution of expertise and symmetrical contributions; 3) a type of recursive feedback from all members of the learning community; and 4) engagement by undergraduates n a collective enterprise of defining expertise and how to enact it on their own terms. I believed that these mediating practices would materialize as digital syncretic texts (Gutiérrez, 2008; Gutiérrez & Jurow, 2016). I theorized that from these mediating processes, the undergraduates in my study would merge everyday and academic literacy practices, engage in pedagogical practices that advance equity, enact their expertise in expansive ways, and begin to see digital tools and environments as fruitful avenues for syncretic types of learning.

In the following subsections I describe the components of the study that attend to these conjectures in greater detail. I will begin with a description of the participants, continue with a description of the designed learning environment and conclude with the types of data that I collected in order to analyze my conjectures.

Study Site

The site of this project was an undergraduate education course titled Education 120 at West Coast University[4]. Education 120 fulfills a requirement for service learning at the university (with a required practicum component), and therefore attracts a diverse group of students, racially, and by gender, and across majors. It was a fairly representative of demographics of the university. The demographic breakdown of my course is illustrated in Figure 2.2[5]. The racial make-up (self-reported) was 12.5% multiracial; 10.4% Latino/Latina; 2.1% Middle-Eastern; 8.3% White; and 66.7% Asian. The gender make-up (also self-reported) was 58% female; 35% male; and 6% Transgender & Genderfluid. The majors represented in the class were: Art Practice; Bioengineering; Business; Cognitive Science; Electrical Engineering & Computer Sciences (EECS), Gender & Women's Studies; and Social Welfare.

[4] Pseudonym

[5] All demographic data was collected via a student pre-survey (see Appendix B).

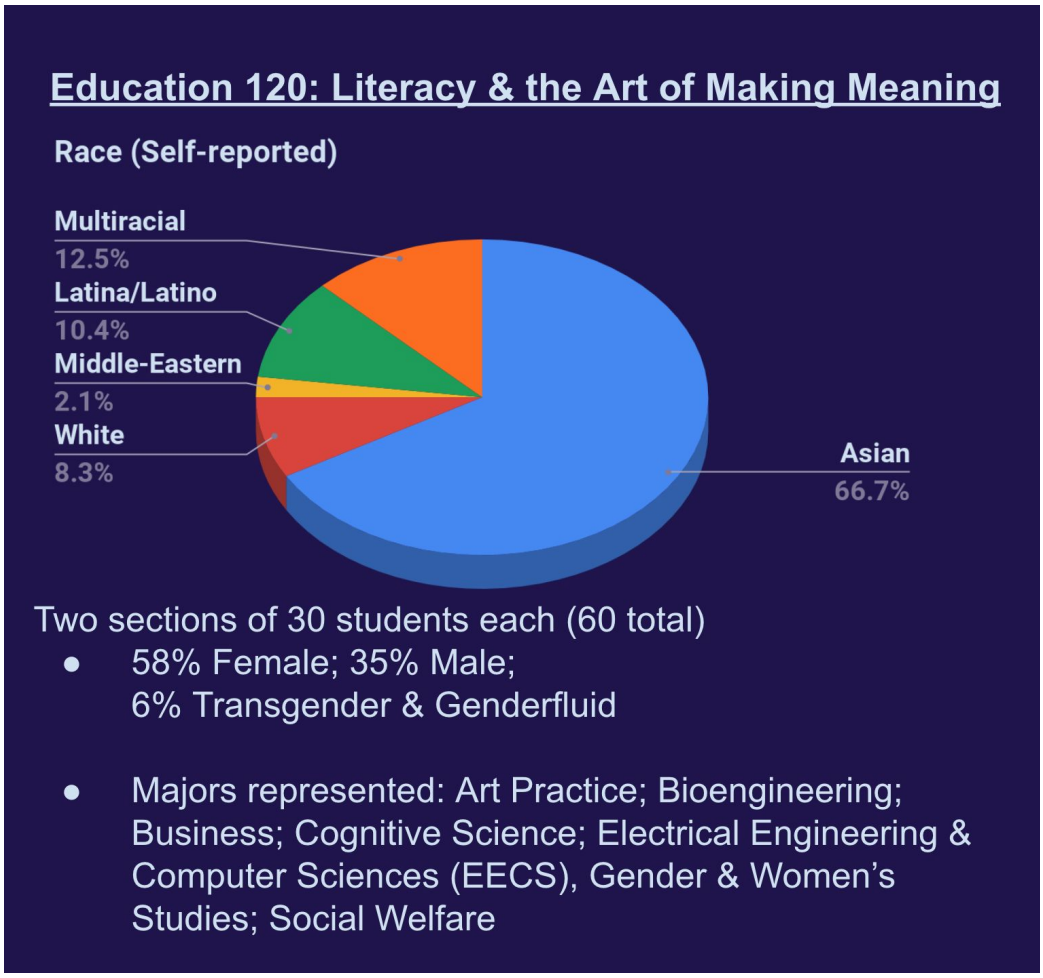


Figure 2.2: Demographic breakdown of students in two sections of Education 120.

Participants

The participants of this study included fourteen (14) students in two sections/classes of an undergraduate course that I taught and was entitled "The Art of Making Meaning: Educational Perspectives on Literacy and Learning in a Global World." As a course that fulfills a university-wide requirement of "American Cultures", it attracted students from a variety of majors across the university. Thus, the participants of this study represented majors such as Cognitive Science, Mechanical Engineering, Gender and Women's Studies, to name a few. The undergraduate class also represented a diversity of self-identified cultural and racial backgrounds as well as gender identity. All students were invited to participate in the research, under now obligation, and fourteen (14) students volunteered. The participants are listed in Table 2.1 in alphabetical order by first name; all names are pseudonyms.

Table 2.1: Participant Matrix

Participant Class/ Section 1	**Gender (self-reported)**	**Race/Ethnicity (self-reported)**	**Major/Year**
Celeste	Female	Latina (Mexican-American)	Social Welfare/Junior
Christine	Female	Mixed (White/Japanese)	Cognitive Science/Senior
George	Male	Mixed (White/Asian)	Electrical Engineering & Computer Science/Senior
Heng	Male	Asian	Cognitive Science/Junior
Jun	Female	Asian (Korean)	Electrical Engineering & Computer Science/Senior
Malin	Female	White (South African)	Cognitive Science/Senior
Margaret	Female	White	Cognitive Science/Junior
Nancy	Female	White	Cognitive Science/Senior

Class/ Section 2	**Gender (self-reported)**	**Race/Ethnicity (self-reported)**	**Major/Year**
Cole	Male	Mixed (White/Asian)	Electrical Engineering & Computer Science/ Senior
James	Male	Asian	Business Administration/ Freshman
Marie	Female	Asian	Cognitive Science/Junior
Nora	Female	Latina	Social Welfare/Senior
Samuel	Male	White	Cognitive Science/Senior
Valeria	Female	Latina	Business Administration/Senior

Eight undergraduates emerged as focal participants for this study. The following are profiles of these participants.

Christine. Christine was a senior majoring in cognitive science. She self-identified as female and as half White, half Japanese. At the time of the study, Christine was working as a

laboratory assistant in a university-run project that was studying the treatment of depression. In addition, she was also co-teaching (with two other undergraduate students) a one-unit undergraduate course on cognitive science approaches.

Cole. Was Electrical Engineering & Computer Science Senior during the study. He self identified as mixed-race, half White and half Asian. During the study, he volunteered as a tutor in the "Pioneers in Engineering" program which ran a robotics program with local youth in the surrounding urban communities of the university.

Heng. Heng was a Cognitive Science junior during this study. He self-identified as Asian. Heng volunteered as a tutor in an afterschool program that predominantly served the Latinx community.

James. At the time of the study, James was a freshman intending to major in Business Administration. He identified as Asian (Chinese) and volunteered at an afterschool program that served predominantly Latinx and Black youth.

Jun. Jun was a senior majoring in Electrical Engineering and Computer Science. She self-identified as Asian (Korean) and volunteered in an afterschool program that served the Latinx community in a neighboring community.

Malin. Malin was a senior in the Cognitive Science program of the university. She self-identified as a White female from South Africa. During the study, she volunteered at an afterschool program that served predominantly Latinx and Black youth.

Samuel. Samuel was a senior and cognitive science major. He self-identified as male and White. He was a student athlete and member of the acclaimed university swimming team. Throughout the duration of the study, Samuel conducted his practicum volunteer work at an early childhood center (pre-school) that was sponsored by the university.

Valeria. Valeria was a senior majoring in business. She self-identified as female and Latina of Brazilian descent. From the beginning of the study, she was a self-professed social media expert. At the time, Valeria generated a variety of digital content that she published under a pseudonym on digital networks like Youtube, Facebook, and Instagram.

The Literacy and Learning Design Studio

In essence, this study examined the learning that undergraduate novice teachers undertook across two domains of practice: 1) the in-person undergraduate classroom; and 2) the virtual undergraduate classroom. The activities that took place in these contexts were designed to aid students in their reflection of their personal histories and emerging relationship with existing and developing literacy practices. The activities and resulting artifacts emerged as syncretic texts (described in depth in the Theoretical Framework and in the following Data Collection sections). Opportunities for reflection and historicizing were key to this study design as these were used as tools for organizing for new learning experiences and the development of powerful literacies. See Appendix A for course syllabus.

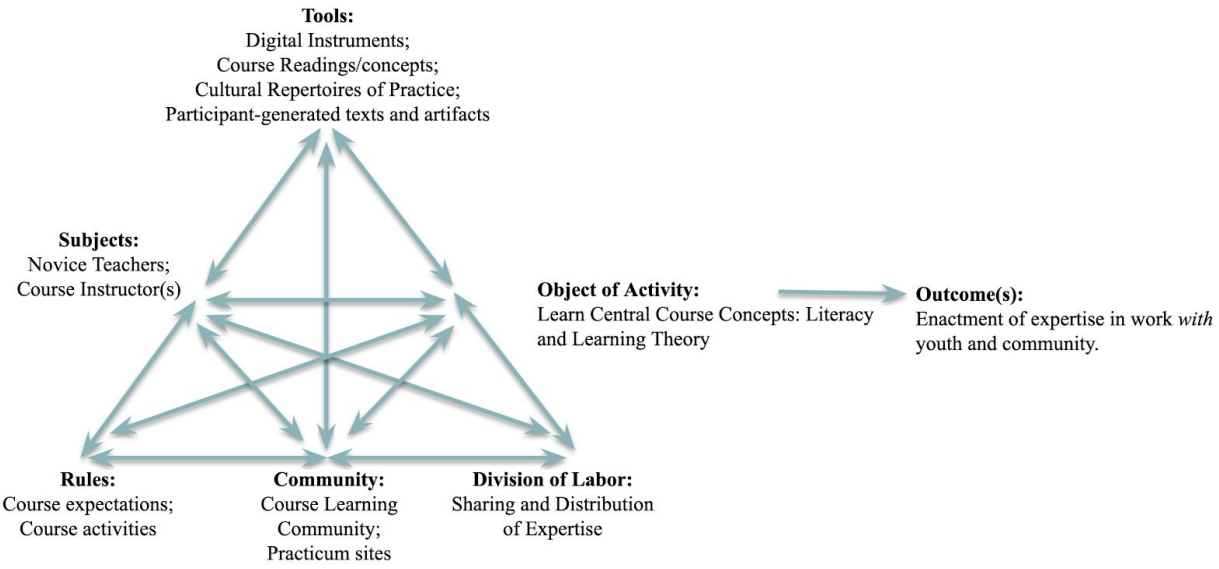


Figure 2.3: Activity triangle illustrating the components of the Education 120 course (adapted from Engeström, 2001).

Figure 2.3 illustrates the overall ecology of the undergraduate experience that I envisioned in my course. There are two primary material mediating artifacts (Engeström, 1999) that I foresaw playing a major role in the reflection process of novice teachers. One of them was the course content that was discussed in the class, via texts written by theorists and practitioners in the socio-cultural and cultural-historical vein of educational and literacy research. The second were undergraduate generated field notes that not only documented their field work activities in great detail, but also contained a reflection component whereby students begin to articulate connections between their experiences at site, their personal histories, and the socio-cultural/socio-critical concepts being discussed in class. Other ideal mediating artifacts also played a role in the practices of the activity systems of our classroom and field work sites: narratives of self and individual expertise (disciplinary literacies).

This study was designed so that these four mediating artifacts were actively seen as tools that could be enacted and leveraged in the multiple domains of practice that undergraduates navigated. It is through joint activity–seen both in person and in online interactions–that I expected to see how these artifacts support and transform pedagogical practice. It is important to note that this was meant to be a recursive practice where the activity that occurs at this site of mediated praxis (the undergraduate course) then informs the production/transformation of the mediating tools. In other words, it was my expectation that the field notes, understanding of the course content, narratives of self, and understanding of expertise (disciplinary literacies) would be reshaped as they are enacted in social activity. In this regard the tools of our course served the purpose of Vygotsky's double stimulus, whereby participants in this study were "[...] put in a structured situation where a problem exists and the subject is provided with active guidance towards the construction of a new means to solve the problem" (Engeström, 2008a, p. 2).

The undergraduate classroom (in the digital and in-person realm) was iteratively designed to be saturated with tools of collaborative inquiry and reflection: embodied practices that then lead to the mediating processes of joint activity and enactment of expertise. In this study, the

analog and digital tools were presented as malleable and not as instruments of assessment or evaluation, which resulted in them being used as mediating artifacts for expansive embodied and discursive practices of collaboration. In other words, when the object of activity in the space of the undergraduate classroom was presented as being active reflection and collaborative inquiry rather than regurgitation of the concepts from the readings, students used the mediational tools to make consequential connections to their everyday lived experiences and practices–a mediated praxis (Gutiérrez & Vossoughi, 2010).

While not the subject of this dissertation, it is important to note the field work experiences that the undergraduates engaged with throughout the semester. These experiences were documented in the participant field notes. There were three that informed the work of my participants in this study: 1) An early childhood education program located on West Coast University's campus; 2) A Pioneers in Engineering robotics competition sponsored by West Coast University; and 3) The Space2Crea8 digital filmmaking after-school program. This latter site served as the primary site of two of the participants featured here. At the Space2Crea8 site, undergraduates and I co-designed a curriculum revolving around the co-production of digital science fiction films that were then shared on an enclosed social media platform. This after-school program was saturated with the same tools as the undergraduate classroom and have activities designed to foster the same type of collaborative inquiry and reflection. This was intentionally done so in order to examine the types of practices that undergraduates may be enacting across these to sites. Space2Crea8 was the only after-school activity to be video and audio recorded for this study.

SuiteC Tools for Digital Collaboration

Central to the design of this study and course were the suite of digital tools that were housed in our Canvas[6] learning management system. The custom-designed tools were designed in collaboration with the university's educational technology services, the professor on record for the course, and other graduate student instructors of Education 120. The tools, in many ways, were designed to mimic the multimodal and curated look and feel of popular social media that are used in the everyday. As can be seen in the screengrabs of an instructional video provided to students (Figure 2.4), one of the primary tools used in the course was the Whiteboard. With the whiteboard students were able to individually and collaboratively (frame 1) create multimodal compositions using text (frame 2) and images (frame 3) that were then shared in an asset library (Figure 2.4, frame 4) that was public to our course community.

[6] Canvas is a learning management system (LMS) owned and maintained by Instructure, Inc.

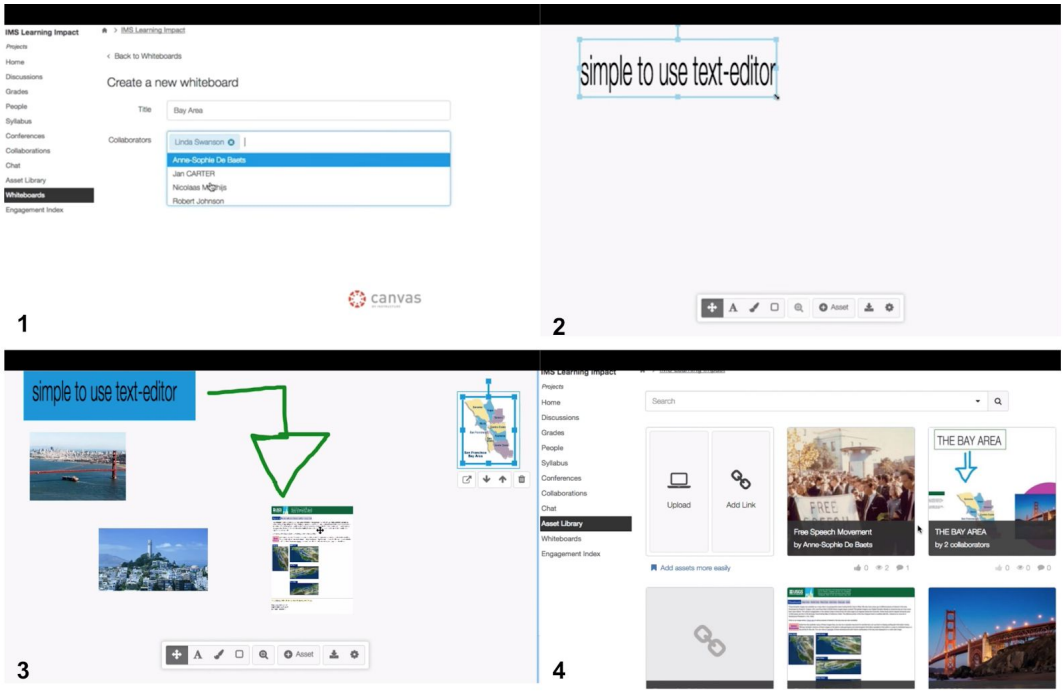


Figure 2.4: Selected frames from an instructional video on the use of the SuiteC tools.

As will be illustrated later in this dissertation, the SuiteC tools, by design, fostered robust collaboration that was playful and rigorous (DiZio, 2017). Moreover, these tools became a site for rich exploration on the ways that undergraduate novice teachers leveraged each others' *cyborg* selves and expertise. More on this soon.

Data Collection

As outlined in the Research Design Outline (Table 2.2), the data that was collected for this study consisted of the following: (1) multimodal digital artifacts generated by undergraduates and youthful participants; (2) field notes written by undergraduate students; (3) field notes written by me; (4) conventional and 360-degree video recordings of undergraduate classroom and youth after school program interactions; (5) pre and post surveys administered to undergraduates; and (6) semi-structured interviews with undergraduates near the beginning and end of the semester. In the following, I describe in detail the units of observation and analyses for each of these data types.

I aimed to capture undergraduate conceptions of everyday literacy practices and the role of *expertise* in supporting transformative learning, and the social organization of learning. Further, I aimed to capture any shifts of these conceptions (and enactments) over time and the mediating factors that account for these changes. In addition, I will documented enactments of expertise in both the digital and in-person interactions of undergraduates; both regularity and variance. To document these processes of undergraduate learning, I paid attention to how learning is transformed, organized, and travels across and between multiple domains of practice (Gutiérrez & Jurow, 2016; Gutiérrez & Vossoughi, 2010; Marcus, 1995; Vossoughi & Gutiérrez,

2014): the undergraduate education classroom (virtual and in-person) and sites of interaction between undergraduate and youth in field work. To gain an understanding of how notions change over time, I analyzed (1) semi-structured interviews with undergraduates; (2) undergraduate field notes--also known *cognitive ethnographies* (Gutiérrez & Vossoughi, 2010); (3) discourse and embodiment in the undergraduate education classroom (virtual and in-person); and 4) my own field notes.

Pre and Post Surveys

Online pre and post surveys were administered during the first week of our class and during the last week of class, respectively. These surveys were designed to gather insight on how students defined literacy and learning concepts, how they saw themselves as educators, and if they had any plans of pursuing careers in education in the future. An additional survey also captured how the participants of my study used everyday social media tools (e.g. Facebook, Twitter, Instagram) in their educational experience at the university. The surveys included questions with likert scale as well as open-ended responses. Appendix B includes the questions for the pre, post, and social media survey.

Semi-structured Interviews

The undergraduate interview was conducted near the beginning and end of the semester. I compared responses in both interviews to get a sense of how undergraduate conceptions of expertise and literacy change over time and what they think is responsible for these shifts. The second interview was conducted after the course was completed. I asked undergraduates to reflect on how they understood expertise, literacy practices, transformative learning, and the social organization of learning. As undergraduates noted any changes in their conceptions over time, I asked them to identify moments, tools, and/or specific practices that informed such changes. During the post interview, I also asked that undergraduates and I co-analyze data (field notes and digital artifacts) that they had produced over the course of the semester. Questions were tailored to address emergent themes and patterns that I noted in my initial analysis of their work, including online digital artifacts, field notes, the mid-term "Literacies: Past, Present, & Future" assignment, and final case study. Appendix C illustrates the interview protocols that were used in this study.

Student Field Notes

The student field notes were specifically analyzed for how the undergraduates documented and reflected on their field work activities with youth at their field work placement over the course of the semester. The field notes provided a detailed account of their interactions, with particular attention to specific salient moments. As I analyzed these field notes, I examined if the concepts, theories and tools that form part of our education course are leveraged in their field work, and how the undergraduates responded to my queries and/or comments in their in their field notes, as suggested in previous empirical work (Gutiérrez & Vossoughi, 2010). Appendix D includes the template and guidelines that was given to the participants of this study.

Digital Artifacts

In this study I also compiled a portfolio of digital artifacts and interactions produced by the undergraduates in our enclosed learning management network, as well as those they co-create with youth in our primary after-school program of Spac2Crea8. These digital artifacts were often multimodal in nature--combining visual, audio, textual and other elements. These artifacts were analyzed with special attention to how modes are orchestrated (Kress & van Leeuwen, 2001) and braided (Mitchell, 2004) to leverage semiotic affordances in order to achieve certain meaning-making. I examined how these artifacts were created with attention to audience and context, and how they attended to language, culture, representation, and expertise.

Classroom Interaction

I audio/video recorded in-person classroom interactions over the course of the semester in the undergraduate education course. The classroom was examined as a discursive space to elucidate how undergraduates co-construct understandings of expertise, transformative learning, and the social organization of learning. I paid special attention to the ways that the course material (readings, etc.), class activities, and their own practices informed their joint activity and collaborative inquiry. As a participant-observer (Bogdan & Biklen, 1997), I was especially aware of my own positionality, as the instructor of the course, and how I contributed to the activity in the class and how undergraduates responded to my comments and queries. Undergraduates were expected to share their field work experiences in these in-person interactions. I identified how undergraduates contributed to new understandings of how learning was organized in their field work sites. By documenting these sessions, I aimed to gain a robust understanding of how collaborative inquiry helped my students surface new ways of thinking about how to organize learning that leverages expertise in more expansive ways. In this respect, these conversations and interactions provided me with an opportunity to see how they are defining their *expertise* and perhaps how their peers help them co-construct new understandings.

Researcher Field Notes.

In my own researcher field notes, I documented key moments throughout the semester in our course and primary after school site (Space2Crea8). In particular, I highlighted how I was reflecting on the undergraduate education classroom activities were contributing to new understandings of the key concepts and understanding of expertise. These researcher field notes helped guide the iterations made throughout the study. For instance, upon documenting that students in my class felt that their online contributions were not being fully leveraged in our in-person class, I iterated the course to make sure that our collaborative inquiry offered opportunities for the participants of my study to see and use their digital artifacts as valuable resources for discussion.

Data Analysis

The multiple data sources were triangulated and analyzed using three main processes. First, with the results of the automated tracking system of our learning management system (LMS), I tabulated the frequency and types of participants' postings to the digital network—including their digital artifacts, comments on contributions, and their communications with each other on the network. A second type of analysis was open-ended and focused on thematic codings (Bogdan & Biklen, 2007; Dyson & Genishi, 2005) of observational field notes and interviews. Through these analyses I aimed to elucidate the nature of individuals' and groups' engagement online; their semiotic, linguistic, and social choices, intentions, needs, and aspirations; and their learning, their expertise, the expertise of their peers, and the expertise of the youth that they worked with. A third cycle of analysis aimed to identify patterns in clusters of data (Huberman, Miles, & Saldaña, 2014). These clusters and patterns are what inform the findings chapters presented in this dissertation.

Digital artifacts were analyzed using previously developed multimodal analysis techniques (Hull & Nelson, 2005), focusing on how those products conveyed meaning through different semiotic systems (such as image, sound, and language) and through combinations of multiple modes of meaning-making. In addition, artifacts and texts produced or curated by participants were analyzed, not only as individual artifacts, but as collective works that performed in relation to each other.

Video data was systematically analyzed using previously designed micro-interaction video analysis (Erickson, 2006). Video and audio were logged in 2-minute and 10-minute segments on variety of metadata (e.g., tool use, main activity, participation structures). Units of analysis for the video included, for example, classroom practices (Level 1) and instances of (Level II). Subcodes (Level III) will be developed inductively during systematic coding of video recordings, interview transcripts, survey responses, field notes, and video logs. Data will be further reduced through analytic memos to help identify salient themes shared across all video data.

Table 2.2: Research Data Matrix

Research Questions	Units of Observation	Data Sources	Data Reduction	Data Analysis & Units of Analysis	What do you think the yield will be?	New Insights
1) How do undergraduates enact expertise in a variety of digital and in-person learning interactions with each other?	Classroom Practice Online Practice	1)Fieldnotes of observed classroom social interaction between participants during literacy practices and activities involving digital texts and other artifacts 2) Video recordings of interaction in both the undergraduate classroom and field work. 3)Digital and analog texts (including "digital talk") and artifacts generated by undergraduates.	Create analytical memos of field notes. Create activity logs of recordings at five-minute and one-minute intervals. Compile portfolio of salient digital artifacts and back-end online participation data. Multi-tracked transcription of multimodal artifacts.	Individual sensemaking concerning the purpose and use of their individual expertise and how they deploy it. Micro-analysis of social interaction/ collaborations Semiotic analysis of multimodal texts. For all data: code for (a) disciplinary and everyday literacies and practices; (b) learning; (c) previous classes; (e) our class	Diverse perspectives on what constitutes knowledge and expertise: what makes a person an expert and how is expertise used for teaching and learning.	The relationship between larger ideological approaches to "knowledge" and their experiences as undergraduate students. The emergence of values concerning everyday and disciplinary knowledge and practices, and which values are privileged and which are backgrounded across various domains of practice. The relationship between undergraduates' histories around knowledge, expertise, and their educational experiences in preparing them to be "experts". The development of how they see themselves applying their expertise in the near future.
1a) What is the regularity in these enactments of expertise and how do they vary across these digital and in-person interactions?	Student Narratives Classroom Practice Online Practice	1) Student Field notes. 2)Video recordings of interaction in both the undergraduate classroom and field work. 3)Digital and analog texts (including "digital talk") and artifacts generated by undergraduates. 4)Fieldnotes of observed classroom social interaction between participants during literacy practices and activities involving digital texts and other artifacts	Create analytical memos of field notes. Create activity logs of recordings at five-minute and one-minute intervals. Compile portfolio of salient digital artifacts and back-end online participation data. Multi-tracked transcription of multimodal artifacts.	Recursive, thematic analysis of interviews Individual sense-making; Student talk; Co-construction of ideas; turns of talk; collective sensemaking; Micro-analysis of social interaction/ collaborations Semiotic analysis of multimodal texts. For all data: code for (a) disciplinary and everyday literacies and practices; (b) learning; (c) culture; (d) previous academic knowledge/coursework;	Diverse perspectives on what constitutes knowledge and expertise: what makes a person an expert and how is expertise used for teaching and learning. How can knowledge be translated into practice?	

Table 2.2: Research Data Matrix (continued)

2) What is the nature of independent and collaborative compositions in Social Design Based Experiment (SDBE) with a focus on socio-critical literacies? 2a) How are these compositions mediated by the digital and analog tools of a hybrid course?	Student Narratives _____ Classroom Practice _____ Online Practice	1) Interviews conducted at the beginning and end of the semester. 2) Video recordings of interaction in both the undergraduate classroom and field work. 3)Digital and analog texts (including "digital talk") and artifacts generated by undergraduates. 4) Student field notes of field work 5) Student "Literacies: Future, Past, & Present" Assignment.	Transcribe interviews Create activity logs of recordings at five-minute and one-minute intervals. Compile portfolio of salient digital artifacts and back-end online participation data. Multi-tracked transcription of multimodal artifacts.	Recursive, thematic analysis of interviews Micro-analysis of social interaction/ collaborations Semiotic analysis of multimodal texts. For all data: code for (a) disciplinary and everyday literacies and practices; (b) learning; (c) culture; (d) previous academic knowledge/coursework; (e) our class; (f) learning practices as a student	Diverse perspectives on the relationship between literacy and their "disciplinary knowledge" Diverse perspectives on equity and how it is enacted in everyday activity.	Insight on how undergraduates construct complex identities and narratives of self as "engaged scholars". The emergence of values concerning everyday and disciplinary knowledge and how they are applied to practice. How undergraduates begin to imagine their roles in broader society.
3) How do enactments of expertise shift over time and what mediates such shifts?	Student narratives	1)Pre and Post-surveys administered at the beginning and end of the semester. 2) Interviews conducted at the beginning and the end of the semester. 3) Final course reflection assignment (text, multimodal)	Compile answers to survey; tabulate responses. Transcribe interviews Multi-tracked transcription of multimodal artifacts.	Recursive, thematic analysis of interviews For all data: code for (a) disciplinary and everyday literacies and practices; (b) learning; (c) culture; (d) previous academic knowledge/coursework; (e) our class; (f) learning practices as a student	Shifts in perspectives relating to "knowledge", literacy practices, and everyday pedagogies.	

CHAPTER 3: BEYOND CONNECTIVITY: ENACTMENT AND DISTRIBUTION OF EXPERTISE AT THE INTERSECTION OF THE DIGITAL AND FACE-TO-FACE

This chapter describes the collaborative work between undergraduates as they engaged with their peers at the intersection of digital and in-person activity systems (Engeström, 2001); specifically, our course's digital collaborative network and in-person laboratory/discussion sessions. In doing so, I address the following research questions: 1) How do undergraduates enact expertise in a variety of digital and in-person learning interactions with each other?; and 1a) What is the regularity in these enactments of expertise, and how do they vary across these digital and in-person interactions? I answer these questions by presenting analyses of two iterations of this design-based (Gutierrez, 2016; Gutiérrez & Jurow, 2016) research project. Through analyses of these iterations, the following theories of collaboration and learning emerge: 1) Sustained attention to the social organization of learning in the design of a hybrid course resulted in collaboration at the intersection of the digital and in-person interactions that emerge as *meshworks* characterized by careful relationship building, and the creation, sharing, and remixing of syncretic (Gutiérrez, 2008) digital artifacts/texts across the digital and physical terrains; and 2) Through this collaborative *meshwork* of enactment of expertise, undergraduates begin to collectively develop models for teaching and learning.

In the following, I begin with a brief description of *meshwork* and how it will be utilized as a heuristic for analyzing the cultural-historical activity observed in this study. I continue with an analysis of a key iteration of this social design-based (Gutiérrez, 2016; Gutiérrez & Jurow, 2016) study: an intentional incorporation of the online component tools into the the in-person activities of our course. This summary focuses on the relational (Edwards, 2017) and sociomaterial (Latour, 1987) aspects of *meshworking* activity by students as they engaged in embodied participation (Goodwin, 2007) in a face-to-face discussion setting. I continue with findings relating to another iteration of the study: the sharing of individual field notes that were co-edited, collaborated upon, and co-annotated in the digital collaborative spaces. This latter analysis focuses on the development of artifacts that were, engendered by this *meshworking* and functioned as secondary stimuli (Vygotsky, 1980) and auxiliary stimuli (Engeström, 1999, 2007) utilized by undergraduates to negotiate dilemmas related to our course and practicum experiences.

Meshwork as Heuristic

Through the analyses presented in the following, I contend that collaborative inquiry and the enactment/distribution of expertise at the intersection of virtual and in-person interactions was facilitated by a *meshwork* of activity that emerged once the floodgates of tool use, consciousness, embodiment, and memory were opened between the activity systems of the online and in-person components of the course. I utilize a theory of *meshworking* to describe both the phenomena of relationship building (Edwards, 2009, 2017) and artifact production (Pea, 1993; Wertsch, 1998) that occurred at this intersection. Initially inspired by a mesh-networking typology (Zhang, Luo, & Hu, 2006), the mesh helps describe participation that was characterized by dynamic, multi-directional, non-hierarchical, relationship building and collaboration, as well as the creation and sharing of digital artifacts, that were self-organized and self-configured by the students in my class.

The mesh stands in contrast to common star and/or tree-like network configurations which tend to identify dominant nodes (Latour, 1996) and privilege information sharing. However, herein, *meshworking* is not used to merely describe configurations/connections between people, and between people and artifacts, but to suggest the blending, remixing, indeed the *meshing* that that can occur as artifacts are created through relational work and to capture how the digital begins to mesh or blend into the in-person, and vice-versa. As will be elucidated shortly, this meshworking at the relational and artifactual level was facilitated by a course design that privileged equitable distributions of labor and unrestricted use of cultural tools (both digital and analog).

In keeping with the use of Engeström's (2001) articulation of Cultural Historical Activity Theory (CHAT) as a heuristic for studying learning in the activity systems that are part of this undergraduate course ecology, the following focuses on the mediating artifacts, individual participation, the community development, and the negotiations of objects (goals) of activity by various members of said ecology. That is, more specifically, I explore how the connections and linkages between individuals and groups of people that are facilitated by analog and digital mediating artifacts formed part of a process of collectively and agentively resolving dilemmas. I build upon recent applications of CHAT to explorations of hybrid learning (DiZio, 2017; Higgs, 2017) that have aptly described two intersecting activity systems—the virtual and the in-person/face-to-face. In such work, scholars have examined the tensions and possibilities that emerge when social organization of learning, as well as objects of activity of the terrains of the in-person/face-to-face and digital (activity systems) come to a head in a learning ecology of a course (e.g. Cuban, Kirkpatrick, & Peck, 2001; Gee, 2017; Higgs, 2017). Informed by new media theories relating to the cyborg (Haraway, 1991), the project described, herein, takes heed of lessons learned by CHAT scholars engaging with the digital to examine what occurs when the activity systems of the virtual and the face-to-face are combined (through design) to become one hybrid activity system. Often, in the uptake of CHAT the person and the tool is seen as dichotomized. In this work, I propose that a turn towards the cyborg–where the human experience is enhanced by digital technologies (Lupton, 2012); a turn that requires a renewed engagement with the subject and tool dichotomy, and a shift toward seeing how learners enact a *meshwork* of digital and in-person embodiment in their collaborations with each other.

The concept of *meshwork* not only complicates traditional notions of network theory, but builds upon the activity triangle heuristic that is widely employed in CHAT by learning scientist. In this latter respect, the digital tool is often relegated as a mediating tool or artifact for human activity–whether it be in the in-person/face-to-face or the virtual activity system. This chapter, however, proposes that a cybernetic *mesh* be overlayed onto the triangle (see Figure 3.1) in order to more adequately understand activity at a time in history where the boundaries between our virtual and physical selves (embodiment and artifacts) are becoming increasingly blurred (Haraway, 1991), and our bodies are enhanced, augmented or in other ways configured by the use of digital media technologies (Lupton, 2012). More specifically, this cybernetic overlay illustrates how the digital as an extension of self (and therefore expertise) can flow to and from the tool, subject, and community components of the activity triangle. Through this heuristic I center the importance of embodiment (both digital and analog) in social participation. In doing so, I align myself with Blommaert and Huang (2009) who contend:

> Participants in social action bring their real bodies into play, but their bodies are

> semiotically enskilled: their movements and positions are central to the production of meaning, and are organized around normative patterns of conduct (p. 275).

The mesh illustrated in Figure 3.1 aims to orient the reader to consider the *meshing* between the digital and in-person as being something that moves beyond connectivity. That is to say, that static embodiments of individuals in our course activity system are not merely connected to each other via a static network, rather that these embodiments fluctuate between the virtual and physical self and so do the links between individuals. The mesh in Figure 3.1 illustrates how a dynamic cluster of embodiment, artifact production, and relationship building is enacted across an activity system, specifically as mediating tools, as subjects and as instances of community building. As will be illustrated shortly through a description of the results of two design iterations, a course that iterated and continuously attended to the social organization of learning and privileged horizontal forms of learning, resulted in free-flow distribution of expertise that was at times embodied in the physical and other times manifested as digital contributions.

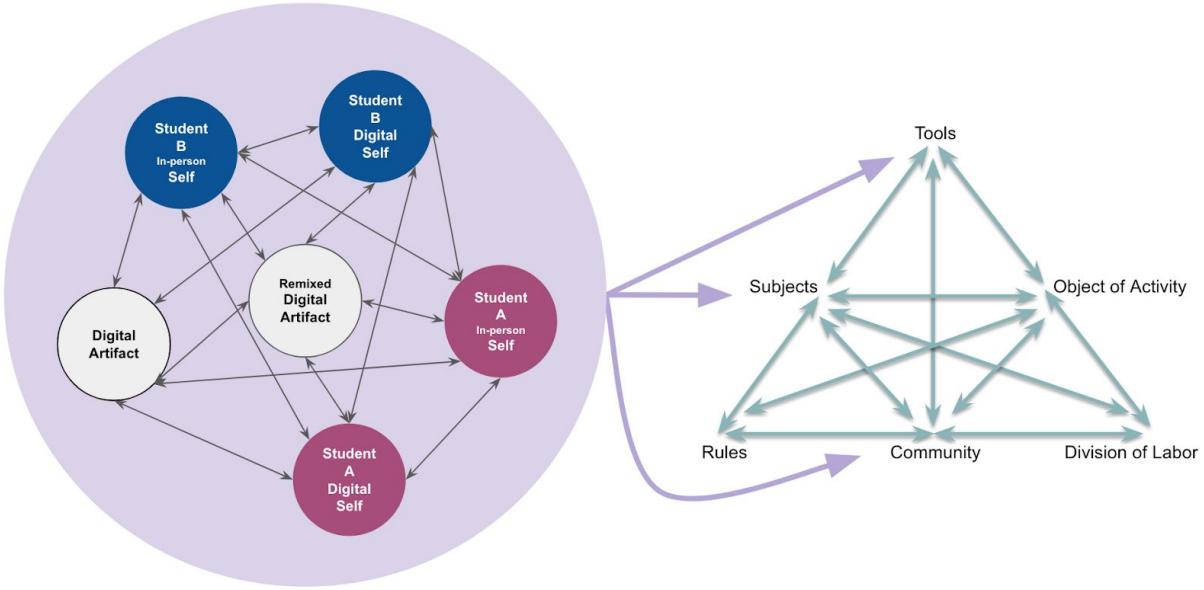


Figure 3.1: Representation of a meshwork and its dynamic placement across the CHAT activity triangle. Activity triangle adapted from Enestrom (2001).

Iteration 1: Meshing the activity systems of the online and in-person classroom

As previously mentioned in the Research Design and Methods chapter, this hybrid/blended course operated majorly on a university-sponsored Learning Management System (LMS). Namely, undergraduates were tasked with engaging in two types of asynchronous weekly online activities: the *Inspire* and *Explore* activities completed during the first half of the week, which generally consisted of a "warm-up" multimodal activity, the assigned readings, and video lectures; and the *Research* and *Reflect* activities, which were

completed at the latter half of the week (after our weekly, in-person laboratory/discussion session) and often consisted of both individual and collaborative activities that were meant to synthesize the week's concepts and connect them to their field work and/or personal experiences[7] . These activities made use of our custom-designed collaborative Suite-C tools (see Methods chapter), discussion forums, and hyperlink features imbedded in the LMS of our course. At the beginning of this course, the online activities occurred separately from the in-person activities; in effect, operating as distinct activity systems (Engeström, 2001) that intersected, on occasion. On our seventh meeting (roughly midpoint of the course), during our mid-term check-in discussion, several students in each of the two classes expressed a desire to integrate more of the online activities into our in-person activities–we had only referenced the online activities once, on the first week, up until this point. This was impetus for a key iteration in the design of the course: the purposeful integration of the online component into the in-person component of the course.

Beginning with our eighth in-person meeting, and through the duration of the fifteen-week course, I designed collaborative and discussion activities that offered opportunities for students to leverage any artifacts that were generated in the online component of the course. As was customary in our class, responses to in-person activity prompts were generated and shared in a collaborative Google Slides deck that was initiated by me, the instructor, on a weekly basis and projected in a large monitor in the classroom and accessible by students on their laptop computers and/or mobile devices. This iteration to our course design was well received, and a pattern emerged where the online contributions of select students were consistently referenced and used by members of the classroom community. One of these students was Christine[8], a participant in this study. In the following I begin with analysis of Christine's influence in the course network, as elucidated by our "Impact Studio" social data analytic tool. I continue by presenting an analysis of an instance where Christine's embodied digital expertise is brought into the physical space during the tenth week of our course.

The "Impact Studio" and Relationship Building

My interest in the relational work involved in "knowing how to know who can help" (Edwards, 2017, p. 2) in our undergraduate course, points me to the robust social data analytic tools imbedded within our Learning Management System. A key feature of our custom-designed digital collaboration tool was the *Impact Studio*[9]. This user dashboard allowed course participants, as well as instructors of the course, to view the impact of their contributions on the network community. Through the *Impact Studio*, one is able to observe interactions that fall under two broad categories, one being "contributions" and the other being "impact". Contributions relate to specific input individual students gave into the online course: "Views/Likes" being the number of instances where a student viewed and liked a contribution by another student, "Interactions" being instances where they contributed comments, pins, or discussion posts to others' work, and "Creations" being original assets that were posted by the student. The impact category relates to instances where others in the course viewed/liked,

[7]This activity arc is distinct from activities available as default in the LMS, and were originally conceived of by my fellow instructor and system designer John M. Scott.

[8] Pseudonyms are used for all study participants.

[9] Design and implementation of the *Impact Studio*. Was made possible by generous funding from the National Science Foundation.

interacted (commented, pinned, discussed), and reused (remixed) any of the assets or contributions created by the same student.

At first glance, an analysis reveals the existence of influential nodes with multiple connections across multiple dimensions (Latour, 1996, p. 37): Christine, Malin, Samuel, and Cole (see Appendix E for tabulation totals). In this respect, these participants can be seen as those "who can help" and whose expertise would be sought after. Indeed, this was the case with Christine, who was one of the students to receive the most engagements with her online contributions.

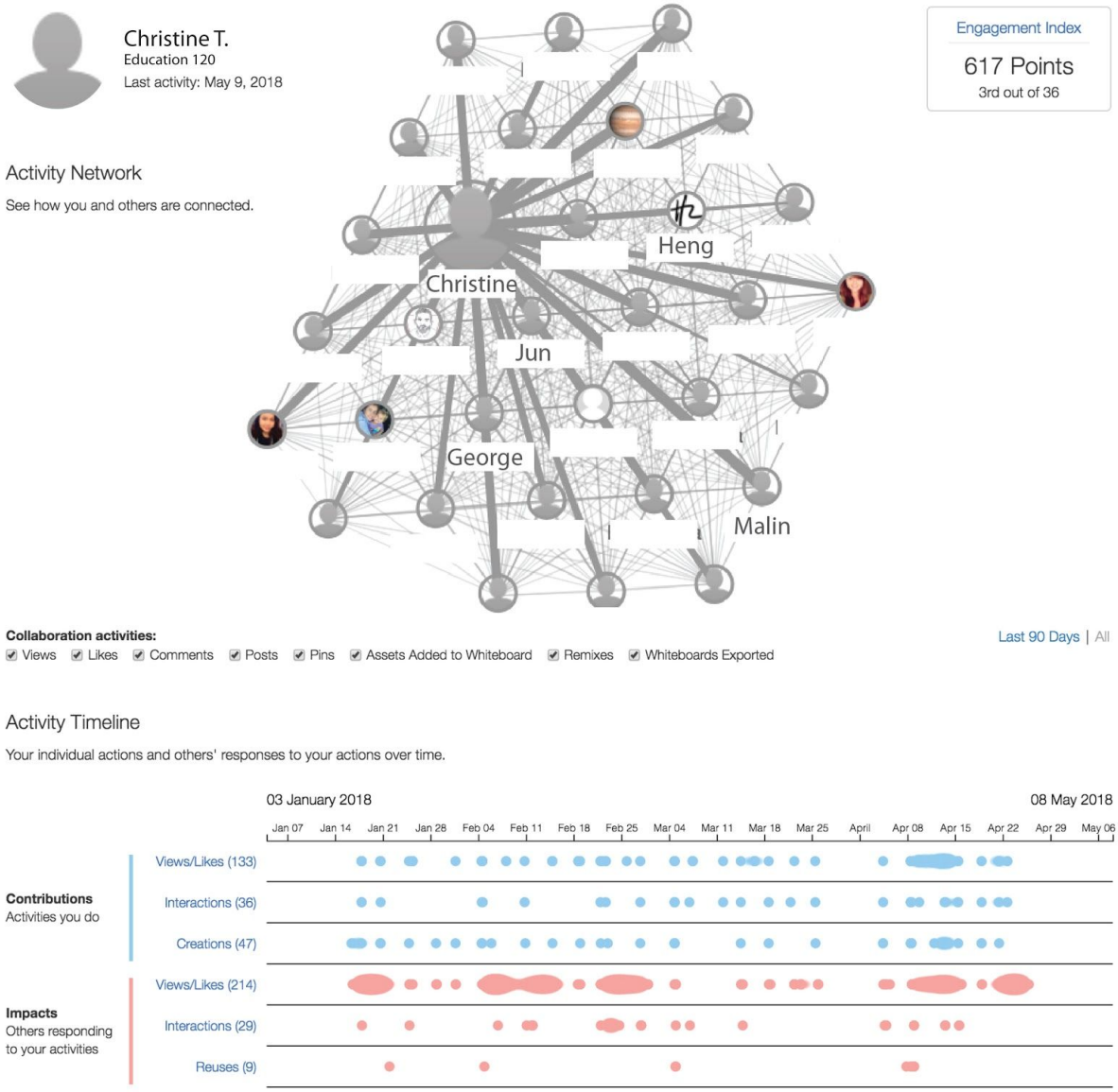


Figure 3.2: Christine's Impact Studio

Christine's *Impact Studio* (Figure 3.2) provides a visualization of her influence in the online course environment. Her influence appears consistent across the fifteen weeks of the course with spikes of Views/Likes throughout. One of these spikes of activity was during a key

course activity that occurred between February fourth and fifteenth called the Field Note Share-out, which I will be discussing later in this chapter. Of interest here is how Christine's influence is illustrated as a strong web of influence, showing that she at some point, throughout the fifteen weeks of the semester, connected with every one of the thirty-one other students in the class. However, as I will illustrate shortly, this configuration does not begin to fully capture the nuanced, mesh-like influence that she and her digital embodiment and compositions had on the course ecology.

Moreover, I contend that Christine's digital presence constitutes a type of embodiment that is enskilled with Christine's expertise (Blommaert & Huang, 2009) in the digital space. I consider this digital embodiment, or composed body (DeKosnik, 2016), as a self that is assembled via multimodal digital compositions that ultimately result in agentive narratives of self (Hull & Katz, 2006).

While I have centered Christine's distributed expertise and role in the *meshwork* of this course, I want to underscore that this phenomena was observed with other participants in the study. Namely, Malin also emerged as someone to look to for expertise in our course. Later in this chapter, I present the enactment of Malin's expertise through an online assignment named the Field Note Share-out.

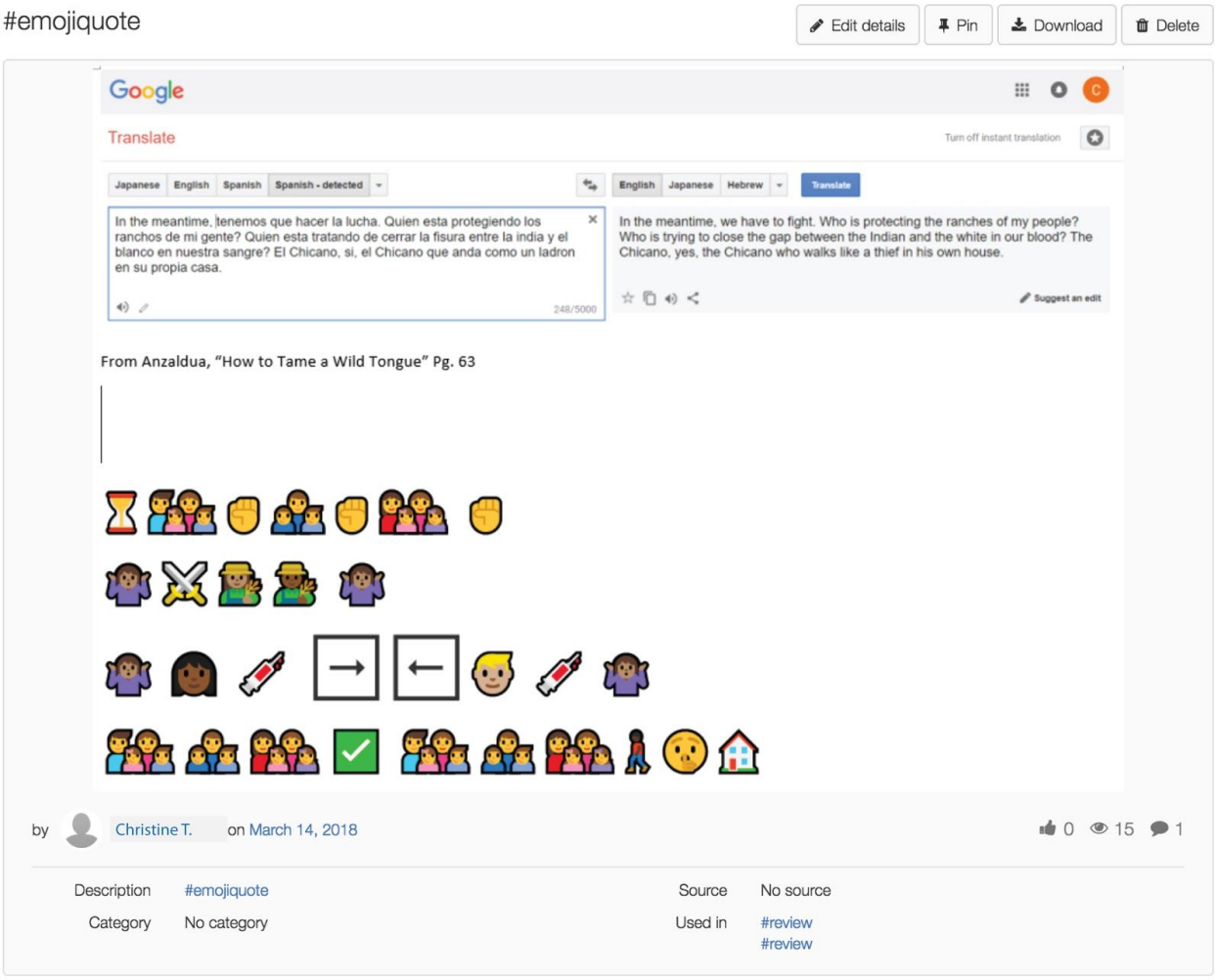
Meshwork Beginnings: Christine's Distributed Cybernetic Expertise

The theme for the tenth week of our course was "Multimodality and Digital Storytelling," and revolved around key texts written by Jewitt (2008), as well as Hull, Kenney, Marple, and Forsman-Schneider (2006). The beginning of the class on March 22nd began with a customary Quote, Argument, Question, and Connect (QAQC) protocol where student groups engaged in a collaborative exercise (recorded on a Google Slide generated by them) of deriving the key arguments from the readings and their connection to their field work and/or personal experiences (see Appendix F for QAQC protocol template). Upon sharing out these group contributions to the rest of the class, we proceeded to our next small-group activity of analyzing a multimodal artifact. The prompt delivered via our collaborative slide deck read: "In groups, analyze an asset in the library or another multimodal artifact of your group's choice" (See Appendix G). Students were provided with a multi-track transcription template adapted from one developed by Hull and Nelson (2005).

Of the four small groups, two utilized assets that were posted in the public asset library of our online course site. Of note, Group 2–composed of study participants Celeste, Margaret, and Nancy–selected an asset posted by Christine, a member of Group 1. Christine's original contribution was created the week prior, on March 14, as part of and *Inspire* activity that prompted students to "Revisit your favorite reading from the course so far. Find a meaningful quote. Write down the quote and then try to translate it using only emojis. Add it to the Library #emojiquote." Figure 3.3 illustrates her original contribution.

Figure 3.3: Christine's original contribution to the online, public asset library.

Christine's asset, which is considered a syncretic text (Gutiérrez, 2008; 2014) given its blending of academic and everyday symbol systems, contained screenshots of her processing a quote from our course's assigned text by Gloria Anzaldúa (1987) through Google translate, and



then proceeding to illustrate the quote using a series of emojis. It is important to note, that at the time the asset was reused by Group 2, on March 22nd, it had garnered ten views from classmates on the social network and one comment, and had been classified by our LMS algorithm as being a "Top Asset." In this respect, we begin to see Christine's digital contribution (i.e., expertise) as holding value in this digital community. This artifact, in particular, garnered the following praise online for her inventiveness and nuance:

Excerpt 3.1: Comment posted by Christine's peer online on March 14 at 8:30 PM.

1 I really love that you picked the quote and organized the emojis line by
2 line based on what the quotation was saying. I think your emojis represent it really well.
3 Especially the family and hand emojis that to me is like representing raza unida [a united
4 race]. Also the syringes to represent the blood and the different shades of people in it too.

Of note here, is the way in which Christine's contribution and expertise is praised for paying special attention to the linguistic, cultural, and racial aspects of the Anzaldúa quote. As I will elucidate shortly, the expertise and value ascribed to this artifact had a different valence when it

was introduced in the in-person space. A cropped version of the image in Figure 3.3 is seen used by Group 2 in the multi-track transcription template in Figure 3.4.

Group 2:

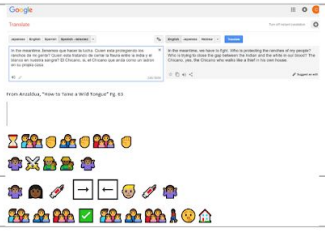
Time Stamp	https://LMS.WestCoastUniversity.edu/courses/1234/external_tools/12345#col_asset=12345
Screenshot/ Image	
Audio/words	
Text/Words	"In the meantime, we have to fight. Who is protecting the ranches of my people? Who is trying to close the gap between the Indian and the white in our blood? The Chicano, yes, the Chicano who walks like a thief in his own house."
Connection to readings (quotes from texts)	"To what extent do individuals who face, even as children, a variety of social and material constraints nonetheless develop agentive senses of self when they are appropriately supported in that effort?"(Hull, p.14) "These texts can be understood as material instantiations of students' interests, their perception of audience, and their use of modal resources mediated by overlapping social contexts." "how knowledge is represented, as well as the mode and media chosen, is a crucial aspect of knowledge construction, making the form of representation integral to meaning and learning more generally." (Jewitt, 2012, p. 241)
Other Analytical Notes	Although emojis are a very common mode of expressing meaning in everyday conversation, they become much more difficult to understand in the context of referencing a quote. Piecing together the meaning of a quote from the emojis alone do not suffice without context. In this way, this demonstrates how images such as emojis can display meaning, but that meaning requires multimodality, as they are only supplementary and make sense within the context of a situation.

Figure 3.4: Screenshot of Google slide showing appropriation of Christine's contribution.

Figure 3.4 illustrates how Group 2 incorporated Christine's asset into their multimodal analysis contribution. The image is recontextualized (Briggs and Bauman, 1992) with quotes from both assigned readings, and analytical notes which highlight the limitations of utilizing emojis to communicate complex ideas or texts. The following transcription excerpt from 360-degree video recorded during the classroom session, captures Group 2's share out (presented by Celeste) of their analysis to the whole class. J represents me, the instructor.

Excerpt 3.2: Full-class share-out of Group 2's contribution.

1	J	Let's see. Let's do this one. (*brings up Group 2's slide on the*
2		*large monitor*)
3		Can't tell whose...
4		This is, uh, this is an actual asset, right?
5	Celeste	Yeah.
6	J	Okay. What did you talk about?
7	Celeste	Uhm. This is basically a quotation that originated in Spanish, and
8		then they translated into English, and then they translated into
9		emojis
10	J	[Mmhmm]
11	Celeste	So, it's so funny. We were, we were just observing that it's so easy

12		to go from reading it in English to seeing how it lines up to the
13		emojis. But, it's so much harder to start from the emojis and piecing
14		together what the quote actually means. So, what we're trying to
15		say is building off this concept that Jewitt, uhm, presents about
16		affordance. What we were basically discussing how emojis are
17		really useful and they really help hone in on emotion and reactions
18		in terms of the situation, but they require so much context. It's like
19		they don't have the affordance to be able to stand on their own. And
20		you can make sense of all of them put together.
21	J	aha
22	Celeste	So it's so easy for us to make sense of them in everyday
23		conversation and we use them just as supplements to what we're
24		saying. They alone cannot represent and give an entire, like,
25		meaning. So they're useful to a certain extent, but we were just
26		making observations of how they don't suffice without context.
27	J	Mmm. Or an established relationship, basically, right?
28		My partner hates that he sends me texts and that I just reply with a
29		thumbs-up. And I do it on purpose now. [laughter from class]

This excerpt captures an exchange where Celeste deploys the expertise of her peer, via a digital artifact, in order to enact her own expertise. Here, I turn to Goodwin's (2007) participation framework to examine how instrumental, epistemic, and cooperative stances emerged as digital and in-person contributions begin to merge. From this perspective, we initially see how in lines 1 through 4 I create an "ecological huddle" (Goodwin, 2007, p. 57) across the physical and digital domain via the use of a projected slide that is further accessible through student devices. More specifically, this "huddle" intentionally marks an opening between the online and in-person component of the course; a calling-of-attention-to the merging of two activity systems for the academic purposes of our class discussion. As the collective class joins the huddle, we begin to take an embodied *instrumental* stance whereby we positioned ourselves to "perceive as clearly as possible, and in ways relevant to the activities in progress" (Goodwin, 2007, p. 61). In this respect, multiple avenues for perception were made available. The screengrab from 360-degree footage, in Figure 3.5, illustrates this stance with red arrows showing how students were positioning themselves to perceive clearly, either through the classroom monitor (arrows pointing upwards) or individual devices such as laptops (arrows pointing downward).

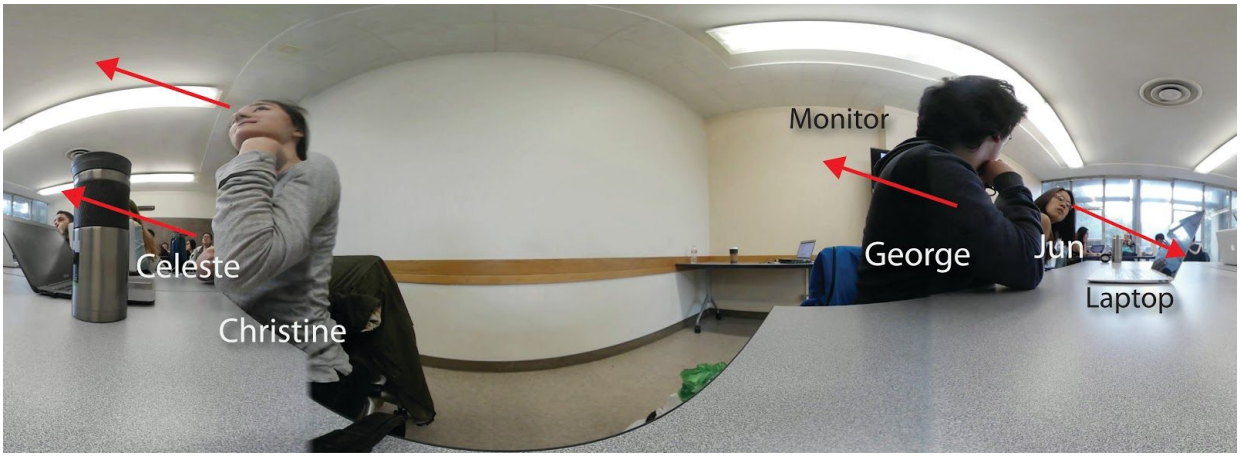


Figure 3.5: Segment from 360-degree video of students embodying instrumental stance.

I contend that the instrumental stance embodied by here is significant as it allowed for the emerging formation of a *meshwork*, where the sharing of Christine's digital expertise (and, in a sense, a digital self) begins to be validated in the in-person classroom space. It is important to note, that at this point of the video recording, it had not been announced that Christine was the author of the original artifact. Christine smiled (left pane in Figure 3.5) as she looked up at the classroom monitor, presumably in response to seeing her creation being taken up for discussion.

Furthermore, in lines 11 through 20, we see Celeste as a representative of her group, begin to embody an epistemic stance whereby she used the course readings to "perform the intense scrutiny required for a competent judgment" (Goodwin, 2007, p. 62). Indeed, Christine's compelling digital contribution had catalyzed a robust and potent academic analysis. However, this analysis stands in stark contrast to the original response that Christine had received online (Excerpt 3.1) by de-recializing the original asset and focusing on "affordances" (Excerpt 3.2, lines 14-16). Other students (not participating in the study and therefore not directly quoted here) chimed in with their own connections relating to the power of images and whether images on their own can fully transmit complex meaning without text. These share-outs were followed up by a contribution from Christine, shown in Excerpt 3.3.

Excerpt 3.3: Christine comments on her original digital contribution.

1	Christine	I want to add that when I made this thing, I found it, like, an
2		interesting coincidence that at the ends of the questions, I could put
3		the questioning person (gestures with hands up and shrugged
4		shoulders) twice. Like once at the beginning and once at the end.
5	J	Mmm.
6	Christine	To sort of say. This is a question. That was my way of trying to, like,
7		signify that. But it also happens to be how sentences in the original
8		Spanish has like question mark at the beginning and at the end.
9	J	Wait, is this one yours?
10	Christine	Yeah.
11	J	Oh! Cool! Wonderful that you were able to have a conversation

12 about it.

In Excerpt 3.3, from a participation framework perspective, we see Christine begin to embody a cooperative stance by re-inserting herself (and her expertise) into this joint activity of inquiry. Indeed, while her original digital contribution was the catalyst for robust critical analysis, her role in this collaboration had remained anonymous, as evidenced in line 3 of Excerpt 3.2 and line 9 of Excerpt 3.3. By chiming in, however, Christine did not stop at merely announcing herself as the author, but contributed to the collaborative inquiry taking place. In this respect, she simultaneously offers further clarification of her intentions, and also proposes a shift towards analyzing this artifact from a sociolinguistic and racialized perspective by highlighting that she was centering the original Spanish in her creation (Excerpt 3.3, lines 36-37). Unfortunately, this proposal is not taken up by the class.

Christine's re-insertion into the collaborative space is significant as she sought to reembody the digital self (the digital artifact serving as avatar of her and her expertise) that had been ushered in by Celeste via the meshwork. I propose that while Christine was initially thrilled by her expertise being brought to bear (see Figure 3.5), she aimed to underscore the original intent that was initially recognized by her peer online (see Excerpt 3.1). The participation structures of our class enabled this fruitful *meshworking*, but also fell short as the digital artifact is appropriated by having its original intention abstracted. This points to the affordances and constraints of having digital contributions of expertise fluidly travel across a meshwork that can easily blur authorship and perhaps distort the original intent.

I use participation frameworks in analyzing this interaction to highlight the kind of positioning and stances in joint activity that emerged as I iterated the course to bring in the digital into the in-person experience. This exchange and reuse of her original digital artifact reveals that Christine is considered a valued contributor to the learning environment of the course, both online and in-person. Of note here, is how her expertise is leveraged especially as the aforementioned boundaries between the online and in-person component of the course were dissolved. In this instance, Christine's online contribution was appropriated as an artifact that showed originality, but, most importantly, was ripe with possibility for analysis using the week's concepts and readings.

Of importance to this chapter is how the same artifact can embody differing types of expertise for Christine's peers to leverage in the course. Indeed, Cole (1996) reminds us that psychological processes and new behaviors–from a cultural-historical approach–occur simultaneously as "humans modif[y] material objects as a means of regulating their interactions with the world and one another" (p.108). In this case Christine's embodied expertise, in the form of a digital mediating artifact was redesigned in order to, Pea (1993) posits "advance that activity by shaping what are possible and what are necessary elements of that activity" (p. 50). I contend that the multiplicity of Christine's contribution was made possible by the mobility of this artifact as it entered multiple sanctioned academic spaces. Furthermore, I propose that the mobility resulted from this artifact being associated with Christine, suggesting that it involved the relational work of gaining "information about who knows how to do what" (Edwards 2009, p. 206). In other words, Christine's garnered reputation as a contributor of expertise both in the virtual and physical–as evidenced by her impact on the digital social network (see Figure 3.2) and in the interaction analyzed in this subsection–then resulted in an expanded distribution of expertise.

Iteration 2: Field Note Share-outs and Bringing the Face-to-face into the Virtual

This iterative course design was concerned with addressing the following learning outcomes for students: 1) demonstrate an understanding of literacy and learning theory; 2) develop ethnographic research skills for studying learning and literacy practices; and 3) develop best practices for mentorship that are then applied to field work experiences with children and youth. In the following, I describe the development and iteration of a key assignment, the weekly Field Note, that was meant to address all three of these learning outcomes.

The Field Note was designed as an individual assignment for assessing the development of ethnographic research skills, understandings of the course readings, and notions of best practices by undergraduates. This assignment was composed of distinct sections: the first half being a detailed and objective account of a specific learning or literacy event that occurred during a given week and the latter section a reflection where undergraduates began analyzing interactions with the use of theories of learning and literacy development. This assessment tool initially proved adequate, giving me insight on how individual students were understanding and applying concepts from the class to their volunteer experience, and providing me an opportunity to offer pointed feedback on how to address any emerging questions and dilemmas relating to teaching and learning. However, it soon became apparent that the design of the assignment positioned me as the sole expert providing advice relating to best practices, and was not relying on the wealth of expertise offered by our classroom community. Given my interest in applying robust theories of learning and development, I designed for a more expansive social organization of learning (Sannino & Engeström, 2017). In this case, in order to challenge vertical forms of learning, I worked to create an activity that promoted side-by-side learning where students could share, develop, and hone their expertise with one another. It is at this moment that a key iteration to the assignment was made in order for my students to begin leveraging the expertise of their peers. In this respect, the efficacy of the Field Note became a question of pedagogy as well as assessment.

An attention to the social organization of learning, specifically one that attends to horizontal learning, led me to believe that my students would benefit profoundly from sharing each others' field work experiences. As such, I instituted a Field Note Share-Out protocol that occured on a rotating basis on our online learning management system's collaborative social network module. For this assignment, undergraduates were asked to select excerpts from their field notes to share with their peers, along with a contextualizing framework and any emergent questions and concerns around practice. The results of this new assignment were significant. Namely, discussions (which occurred in online forums) relating to best practices revolved around specific children that undergraduates knew, jointly. In this respect, the application of concepts concerning learning and literacy development had a saliency that resonated with the class, as a collective. Further, the public forum where these field notes where shared allowed for opportunities for peers to share advice that were linked to their disciplinary knowledge. For example, in one such share-out, a student shared a dilemma relating to math tutoring which garnered advice from undergraduates in my class who were majoring in math-related fields. This assignment adaptation marked a pivotal moment in the class for learning and assessment; one where expertise was distributed and where I was moved to reevaluate the development of best practices not as an individual accomplishment, but a collective one. Post-interviews with select

students revealed that the Field Note Share-out was perceived to be one of the most useful pedagogical tools in the class.

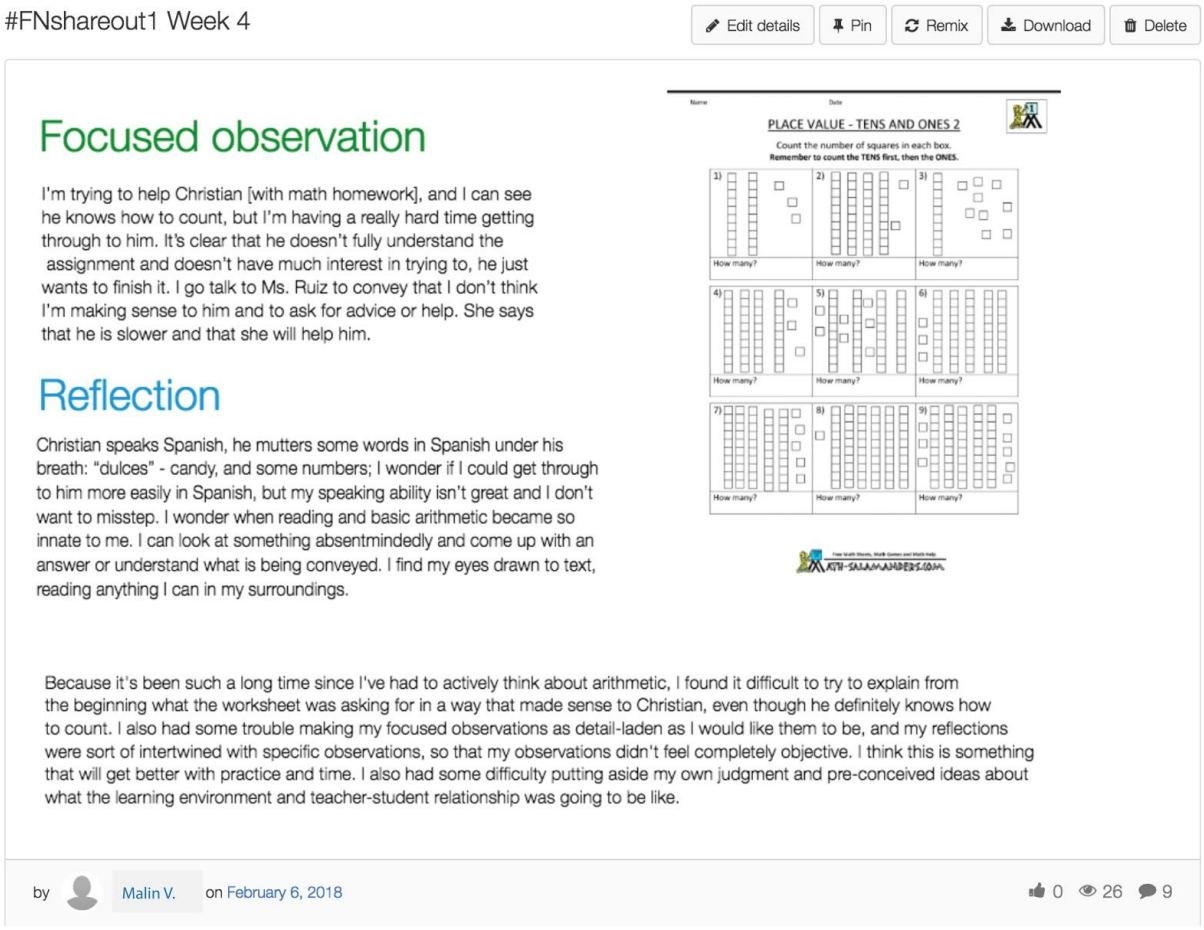


Figure 3.6: Malin's First Field Note Share-out.

Figure 3.6 illustrates Malin's Field Note share-out contribution which instantly became a "top asset" in the public asset library for the course. Shortly after being posted, it had garnered twenty-six views and nine comments from her peers. In the contribution, Malin describes a dilemma that she was encountering at her practicum site, whereby she was having trouble engaging her student, Christian, around his math homework. The sharing of an excerpt from her focused observation and reflection section is accompanied by a short statement meant to orient the discussion in the online space. In this short statement, she expresses the difficulty she encountered with writing this genre of academic text. Heng, Malin's colleague and also a participant in this study, replies with his own connection to her Malin's dilemma engaging her student in Excerpt 3.4

Excerpt 3.4: Heng's response to Malin's Field Note Share-out and her subsequent response.

Heng Z. on February 11 at 9:54 PM

I had a very similar experience to what you described. One thing I think would have helped is if I could help my student in a less distracting environment. As it was, he was surrounded by his chatting friends, and it was hard for him to admit he needed help. I wanted to make sure he understood all the underlying concepts but didn't want to make him look bad by patronizing him. Definitely the "I just want to finish it" attitude is a prevalent thing. Maybe experienced tutors make learning more appealing by framing it as something beyond just completing the assignment

Malin V. on February 11 at 10:34 PM

Connecting the concept to real life, not just abstract homework - problem posing education! I like it!

In his response to Malin, Heng begins by expressing how he related to her experiences, presenting his own case of a dilemma he encountered with his own students. He ends his comment with a possible course of action for resolving such a dilemma, suggesting that an experienced tutor would "make learning more appealing by framing it as something beyond just completing the assignment" (lines 6-7). Malin responds by agreeing with Heng's suggestion and making a concrete connection to our course's text by Paulo Freire (1970) by highlighting "problem posing education! I like it!" (lines 8-9).

Malin's response is consequential in that it marks an enactment of expertise that extends beyond her sharing her practice with the class. Here we see that Heng engaged with her contribution in two ways: aligning their motives (Edwards, 2005) by drawing a connection to his own practice and then using this alignment to propose a solution. Malin responds in kind by legitimizing his suggestion with her expertise around her fluency with the course texts. In this regard, we see here an emergence of a collective model for how dilemmas relating to teaching and mentoring in their practicum sites can be resolved.

In Excerpt 3.5, I illustrate a different kind of engagement with Malin's Field Note Share-out by her peer Jun. Of note, Jun and Malin often worked together in small group laboratory activities during the in-person sessions of the course.

Excerpt 3.5: Jun's response to Malin's Field Note Share-out and her subsequent response.

Jun Y. on February 11 at 9:46 PM

I think that your concerns about knowing just how to teach are valid and shared by everyone. As for advice and insights, in my tutoring experience, I think that it may be helpful to pretend that a student like Christian is like a younger version of yourself when you were dealing with those same issues. I remember when I was younger, I would somehow just know the answer to simple arithmetic, but not be able to explain my thought process in getting there. Then shape the way you conceptualize the problems based on your younger self. If that is too abstract, I think that [Other Student]'s suggestion would be pretty helpful. In addition, you might consider doing some research on children's math websites!

Malin V. on February 11 at 10:33 PM

Yes, I definitely had that experience as a kid as well! I think our ability to do things

10 comes before our ability to think about how we do those things, which sometimes
11 makes it hard to access that procedural understanding and find out where things are
12 getting confused.

Here Jun responds to Malin's post with advice based on her own tutoring experience (lines 2-4). In this respect, Jun positions herself as an expert, offering expertise relating to best practices in tutoring arithmetic to "younger version[s] of yourself" (line 3). Further, Jun shares expertise by harkening back to another student's posted advice (line 7) of viewing Khan Academy instructional videos prior to her tutoring session. She supplements this "Other Student's" advice by suggesting that Malin also "consider doing some research on children's math websites!" (lines 7-8). Malin responds in agreement by resonating with Jun's reflection of knowing the answers to simple arithmetic problems without being able to explain her thought process as a youth. Of interest here is how Malin, similar to her response to Heng in Excerpt 3.4, deploys concepts relating to course texts, in this case referring subtly to our course reading by Lev Vygotsky (1980).

The analysis of Malin's contribution and responses by her peers reveals that, similarly to Christine, her contributions of expertise are taken up differentially as they are merged with the intentions of others in the classroom, or as they collectively move towards resolving dilemmas. In this respect, I see the above contribution and interactions as the emergence of a collective syncretic text (Gutiérrez, 2008) that blends personal histories, everyday knowledge, and academic knowledge to organize and plan for the solution of future dilemmas,in this case dilemmas relating to best practices in their respective practicum work. Moreover, I contend that Malin's share-out and resulting discussion is emblematic of a collective agency, whereby the students in our course collectively work to solve dilemmas. Building upon Vygotsky's notions of learning that occurs at the microgenetic level, Sannino (2015) states that *transformative agency* is dependent "on double stimulation [that] transpires in a problematic, polymotivated situation in which people evaluate and interpret the circumstances, make decisions according to the interpretations and act upon these decisions" (p. 2). I note this collective agency here to underscore how the activity that is mediated through *meshwork* can serve multiple motives and help resolve multiple tensions and contradictions. In a practicum course, such as our own, students are met with expectations of demonstrating understandings of course content and developing best mentoring/teaching practices, all while fulfilling course requirements.

Discussion and Implications

This chapter aimed to examine relational and sociomaterial work that manifests at the intersection of the digital and in-person terrains. To this end, I brought together robust social data analytical frames and learning theory that examine collaboration and enactment of expertise, in order to propose that *meshwork* adequately describes the powerful learning potential of cybernetic beings working together towards resolving dilemmas.

In this chapter, I advanced *meshworking* as an analytic for describing the learning and distribution of expertise that I observed in the blended/hybrid learning environment of an undergraduate practicum course. I use meshworking to chart both the intricate relational practices (Edwards, 2017; Engeström, 2007) and socio-material development (Latour, 1987) that happened within, across, and between systems of learning activity, further seeing both types of

activities as enactments and distribution of expertise. In this respect, I aimed to build upon Engeström's (2001) articulation Cultural Historical Activity Theory to highlight elements of the undergraduate course ecology, such as mediating artifacts, community development, and negotiations of objects (goals) of activity by various members of said ecology. Specifically, I illustrate how digital instruments, that are typically placed as a mediational tool, begin to travel along other dimensions of the Activity Triangle especially as the divisions between the digital and in-person self begin do dissolve.

I offer the findings of this chapter, and the *meshwork* analytic as a way to extend the powerful work being done in the fields of social data analytics and the learning sciences. The empirical work by Scott and Nichols (2017) that examines the socio-material features of digital tools, through a lens of assemblage, offers clear insight on how collective and collaborative meaning making that undergraduates engage in online is an engagement with "technical, designed, and sociocognitive dimensions" (p. 83). Indeed, as Scott and Nichols claim, examining online learning from this robust and layered approach reveals relations of power imposed by the technical and institutional aspect of Learning Management Systems (LMS), but also reveals tactics employed by learners to subvert these structures. This perspective proves fruitful in examining how the participants in this dissertation study repurposed the digital and analog tools of our course to enact and leverage expertise.

Beyond connectivity: Expertise Enactment and the Runaway Object

The analyses included in this chapter illuminate how intentional design that thoughtfully incorporates digital tools and the digital self results in an expansive enactment and distribution of expertise. The conception of a *meshwork* resembles Engeström's (2007) notion of *knotworking,* which "refers to a rapidly pulsating, distributed and partially improvised orchestration of collaborative performance between otherwise loosely connected actors and activity systems." (p.194). What distinguishes *meshworks,* however, is the latter's centering of networked digital tools in these collaborations. In this regard, I propose a heuristic to examine expansive learning and cultural historical activity in an increasingly cybernetic world.

Evidenced by the differentiated way that expertise is taken up and leveraged by peers, one is able to see the negotiation for new objects (goals) of activity: from mere sharing of advice on best practices to engaging in collaborative inquiry around course texts and concepts. In this regard, we begin to see the production of runaway objects of activity that will travel to other activity systems, namely the practicum sites that undergraduates engage in. Herein lies the expansion of the *meshworking* toward what Engeström (2006) calls the creation of mycorrhizae-like formations that "escalate up and expand up to a global level of influence" (p. 10). In my analysis I see this movement as undergrads articulate the enactment of their expertise beyond this course and in their participation in broader society. This will be further examined in a future chapter where post interviews reveal how students in my class begin "generating new types of expansive agency that would be oriented toward mastering and/or cultivating the runaway object between multiple activity systems" (Yamazumi, 2009, p. 223).

Meshwork and Concerns over "Cheating"

Indeed, *meshworks* illustrates some important considerations for the design of collaborative environments that combine online/digital and in-person collaboration. However, such environments also surface concerns around plagiarism and cheating. In previous pilot studies I conducted for this dissertation project, these concerns emerged when teaching colleagues and myself noticed on occasion that student assets were being lifted by others with little to no modification. I contend, however, that my course design attenuated such practices by promulgating an ethos of collaboration. This was due, in large part, to the *meshing* of the online component of the course with the in-person one, resulting in a realization that these artifacts would not live in isolation on the digital network for the purposes of individual evaluation by the instructor (as with the Field Note Share-out). Rather, I propose that knowing that these contributions would be up for the use of the collective resulted in a kind of self-disciplining practice. In the following chapter, I further illustrate how this iteratively designed course and the resulting *meshwork* fostered the development of a sanctioned "rogue" archive of multimodal (Hull & Nelson, 2005), hypermodal (Lemke, 2002) syncretic artifacts (Gutiérrez, 2008) that were then leveraged for the composition of a variety of academic texts for the course.

Meshorking, Mediated Praxis, and Teacher Education

While not an explicit focus of this chapter, the findings presented herein have implications for how *meshworking* can influence teacher learning, specifically in teacher education classrooms that strive to leverage digital collaboration tools. The discussion that emerged from the multimodal analysis of Christine's emoji digital artifact shows that critical collaborative inquiry can push novice teachers to go beyond surface-level application of theory and to complicate course concepts, especially in efforts to center race, class, and power in meaning-making and learning. The results of the second iteration of my study, the Field Note Share-out, illustrate how a digital platform can foster collective reflection practices that distribute expertise in ways that help novice teachers rise to the concrete (Gutiérrez & Vossoughi, 2010) in their exploration of how theory can inform their practice.

CHAPTER 4: DIGITAL AND DYNAMIC REFLECTIONS OF PRACTICE: COLLABORATION, ARCHIVE, AND COMPOSITION

The following builds on chapter three's exploration of *meshwork* to describe the archiving and composition practices of undergraduates in our hybrid (virtual/in-person) course. The analysis and findings reported here address the following research questions: 2) What is the nature of independent and collaborative compositions in Social Design Based Experiment (SDBE) with a focus on socio-critical literacies?; and 2a) How are these compositions mediated by the digital and analog tools of a hybrid course? I answer these questions by presenting analyses of student-generated archives of our learning management system's (LMS) customized "asset library", the collaborative slides generated during our in-person discussion/laboratory meetings, as well as more formal individual written assignments of the field note and case study. Through these analyses, the following theories of collaboration and learning emerged: 1) When everyday practices of digital production and curation are privileged in a course, students engage in archival processes by means of which students curated their own and their classmates' language, images, responses, likes, and pins (cf. DeKoskink, 2016; Gutierrez, 2008) that then became salient compositional resources; 2) These multimodal, translingual, and "transmodal" (Lizárraga, Hull & Scott, 2015) archives then informed the writing of a variety academic texts; and 3) Syncretic texts that merged everyday and academic knowledge served as resources for the appropriation of socio-critical literacy perspectives.

This chapter begins with a brief explanation of what is meant by *archiving* and *composition* in the disciplines of education–namely digital writing and rhetoric–and new media studies, but more specifically within the context of this study. I continue with the presentation of an analysis of the multimodal archives of the course. The second subsection examines the independent and collaborative texts that were informed by these archives. I conclude with a discussion of the implications of designing a course that fosters expansive archiving in the composition practices of learners.

Composition and Archive in a Digital Age

Text Production and Composition

The practice of remixing has become a salient feature of meaning-making in today's digital age. According to Knobel and Lankshear (2008) remix is "the practice of taking cultural artifacts and combining and manipulating them into a new kind of creative blend" (p. 22). Building upon ideas of perpetual hybridization of discursive practice where "Every conversation is full of transmissions and interpretations of other people's words" (Bakhtin, 2010, p. 77), one can make the claim that remixing, indeed, is a necessary literacy practice in today's world. Therefore, the expansive learning potential is clear, according to Knobel and Lankshear (2008):

> In the sense that each new mix becomes a meaning-making resource (affordance) for subsequent remixes, there is no 'end' to remixing. Each remix in principle expands the possibilities for further remix (p. 26).

Remix serves as an apt initial framing for the analysis presented herein. As will become clear shortly, an intentional research design that incorporates everyday use of digital meaning-making practices necessitated a course design that privileged remix.

Composition as Collaboration

Given that this dissertation is concerned with the experiences of undergraduate students, I look to scholarship examining the composition practices of this population. In this vein, the National Writing Project (DeVoss, Eidman-Aadhal, & Hicks, 2010) has urged the research and practice community to reconsider how writing in the digital age is perpetually a collective endeavor rather than a solitary practice. Devoss (2018) proposes that through collaborative composition, today's college writers engage in strategies of connecting to expansive networks of knowledge, constant revision and an adept understanding of the rhetorical nature of coursework. Moreover, DeVoss (2018) proposes that digital composition "fosters–and often demands–collaboration" (p. 12). Recent research by colleagues Scott, Hull, & DiZio (2018) further proposes that college courses can be designed for students to make use of a broad assemblage of multimodal tools (the very SuiteC tools featured in this dissertation) in collaborative compositions that tap into the various social, cognitive, and institutional planes of a course. In addition, Dizio (2017) highlights, in her work with undergraduates, how these same multimodal tools mediate composition practices that are characterized by a "rigorous playfulness" that is student-interest-driven. It is this pedagogical potential of digital composition that this study aimed to leverage. Leveraging of multimodal digital tools in the composition practices of the classroom are indeed a recognition that everyday multimodal composing that we do on social media (e.g. Twitter, Facebook, Instagram) should be seen as "noteworthy moments of digital writing that we should be paying greater attention to when considering how writing is changing in an increasingly digitally mediated world" (Vie, 2018, p.116).

Archiving. Archiving has long been part and parcel of composition practices, as repositories of written drafts, notes, and resources. These archival practices have expanded in light of the proliferation of digital technologies that provide vast opportunities for the creation and access to these digital repositories. Indeed, today's realities relating the production (and re-production) of texts also informs a new reality in how cultural knowledge is archived. DeKosnik (2016) posits:

> Media users have seized hold of all of mass culture as an archive, an enormous repository of narratives, characters, worlds, images, graphics, and sounds from which they can extract the raw matter they need for their own creations, their alternatives to or customizations of the sources (p.4).

In the following analyses, these archival practices are brought to the fore as essential not only in the production of academic texts, but to dynamic individual and collective reflections on theory and practice.

Rhetoric: The Art of Persuasion in the Digital.

I would be remiss in not considering the importance of rhetoric in the composition practices of undergraduate students. College writing has long privileged rhetoric as a means for composing persuasive arguments (Bartholomae, 2011; Daniell, 1999; Lazere, 2015). It is undeniable, however, that technological advances and the proliferation of digitized social networking tools have affected writing and rhetorical practice, causing us to consider how everyday use of platforms like Twitter and Facebook involve sophisticated forms of persuasive arguments that are multimodal and resourceful, and that are acutely aware of audience (Eyman, 2015; Handa; 2013). That is to say, engaging in rhetoric in today's digital world is indeed a networked and social practice (Vie, 2018).

The course associated with this study was designed with this reality in mind; designing for opportunities where participants would leverage well developed–but often ignored as inconsequential–literacies of multimodal rhetorical composition in everyday digital social networks. In short, I aimed to leverage the types of persuasive arguments that undergraduates engage in on sites like Facebook and Instagram.

Syncretic Texts, Reflection and Mediated Praxis

This study aimed to expand on previous scholarly work on digital composition by tapping into the collaborative and *rigorous playfulness* potential of these tools in the design of a course that privileges socio-critical literacies and their enactment in practice. More specifically, this project sees writing and composition (writ-large) as an essential psychological tool (Vygotsky, 1980) for the appropriation of perspectives from the ED120 course that would then be leveraged in students' practicum work with youth.

Indeed, "writing" has been considered instrumental in the reflection and appropriation practices of novice teachers, as documented in the work of Gutiérrez and colleagues (2010) who have demonstrated the ways in which Cognitive Ethnographies (similar to the Field Notes written by students in this study) become "a site for sense making, synthesis, reflection, and mediated praxis" (p. 104). Of special importance to this study are the opportunities that composition and writing can afford in regards to *syncretic*[10] practice–the reorganization of everyday and scientific knowledge–for the purposes of "ruptur[ing] the binary between in and out-of-school learning [and] to support the development of transformative forms of literacy" (Gutiérrez, 2008, p. 14). I build upon the well-documented potential of syncretic texts (Gutiérrez, 2008, Lizárraga & Gutiérrez, 2018), specifically digitized and networked syncretic texts (Lizárraga & Cortez, 2019), in the analysis presented in this chapter. Specifically, I will present findings and examples of individual and collaborative compositions that leverage everyday and academic knowledge in ways that mediate shifts in understanding of literacy and learning theory and their application to practice; shifts that are part of mediated praxis.

[10] It is important to note that Gutiérrez (2008) advances a notion of syncreticism that is distinct than one offered by Vygotsky (1978). Vygotsky presented syncreticism as the initial aspect of a child's formation of concepts, where concepts are initially bundled in "heaps" via subjective bonds and not by anything pertaining to the individual concepts themselves (Blunden, 2011). The syncretic practice presented in this project relates to intentional re-organization and blending of knowledge and conventions to advance new meaning making.

In the following sections I outline the archiving practices of the participants of this study, including the nature of the artifacts and compositions that emerged in and as a result of those archives. The two archival spaces that will be described are: (1) the Asset Library housed in the course's Suite-C Learning Management System (see Chapter 2: Study Design) and; (2) The collaborative google slides generated during our in-person meetings.

The Asset Library: Formal Archiving and Varying Syncretic Composition

The Asset Library, as discussed in Chapters 2 and 3, is a custom-designed archive of multimodal compositions that are created by students in the course. From the inception of the Suite-C tools, the Asset Library was conceived as an integral tool given our desire to create the following:

1. a repository of digital content that was public and readily available to view and use by the whole learning community; and
2. a front-facing interface that mimicked the look and feel of everyday social media and multimodal composition tools (e.g. Instagram).

Figure 4.1 illustrates the layout of the Asset Library. While this figure shows the assets generated by one student, James, users would typically find a variety of assets created by all students in the class, as shown in Figure 4.1. As with most popular social media, like Instagram, the most recently-produced content populates the top portions of the library. Furthermore, as discussed in Chapter 3, top performing assets (those visited and "liked" the most) are marked with a "Top Asset" badge.

In the context of the course, the Asset Library functioned as a *formal* archive that was built into the weekly activities of the course. Weekly online assignments[11] centered the use of Suite C tools and followed a cycle of learning:

1. *Inspire* warm-up activities (beginning of the week);
2. *Explore* activities (beginning of the week) that involved reading course texts as well as the watching of lecture videos;
3. *Collaborate* activities (end of the week) where students created joint digital artifacts;
4. *Reflect* activities (end of week) that asked students to revisit the weekly concepts; and
5. *Research* activities (end of week) that revolved around connections to student field work and were linked to the writing of Field Notes and the final Case Study.

In this respect, the Asset Library was heavily leveraged by the students in the course and was perceived as an avenue for assessing participation in the online component of the course. Throughout the duration of this study, 490 digital artifacts were created and shared by 14 participants. While this tool is seen as a *formal* archive that formed part of the expectations of the class, the participants of this study also exercised agency in the types of artifacts that were generated, shared, and reused.

[11] These weekly assignments were designed in close collaboration with John M. Scott, who was also an instructor and designer of the online aspects of this course.

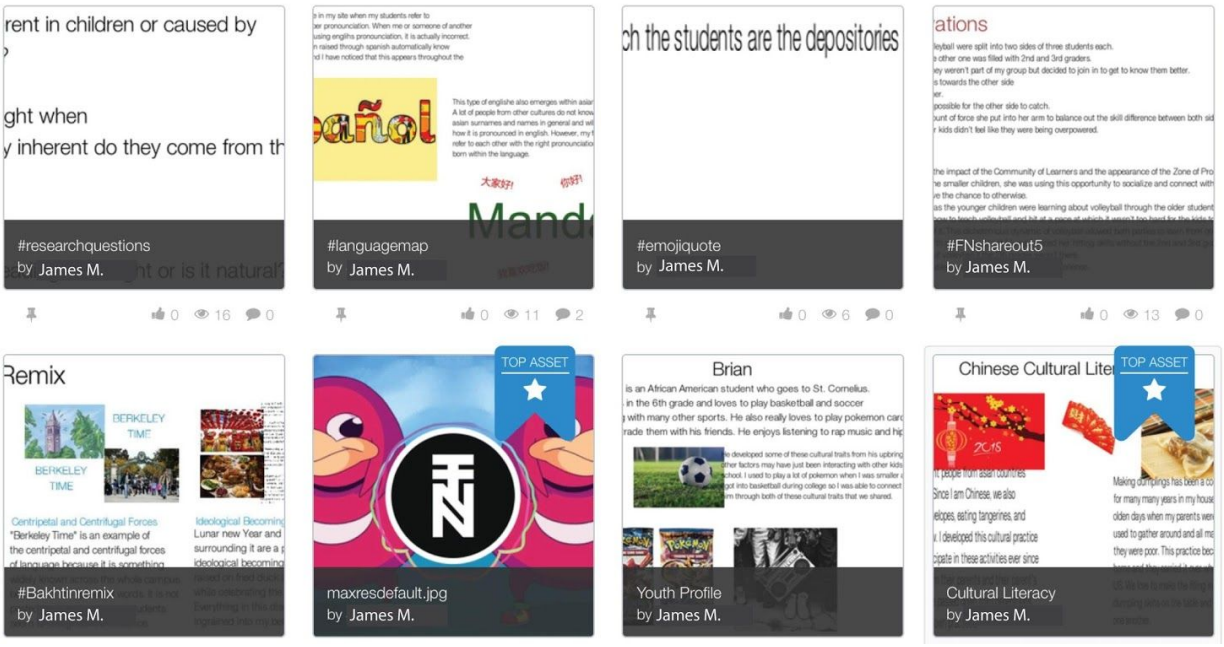


Figure 4.1: Screenshot of selected assets created by James, as seen in asset library.

Overview: Varying Syncretic Texts

Of importance to this study are the ways in which the textual and multimodal compositions of my participants leveraged both everyday and academic knowledge in their developing understandings of literacy and learning theory. As such, I employed a multimodal analytic frame (Flewitt, Hampel, Hauck, & Lancaster, 2014; Hull & Nelson, 2005) in order to gain an understanding of how the modes (text, images, sound, etc.) that students deployed and remixed represented their formal and informal repertoires of knowledge. Overall, the multimodal artifacts generated and shared varied in their syncreticism. While my analysis revealed that my participants made great use of the multimodal/remix features of the SuiteC tools, there was some variance in syncretic composition observed across the types of activities and throughout the progression of our course. In general, *Inspire* activities tended to exhibit more referents to informal/everyday knowledge, *Reflect* activities tended to reflect more syncretic qualities, and *Collaborate* and *Research* artifacts tended to lean more toward more academic in content. However, even as there was a general pattern of varying syncreticism, the nature of the syncretic texts evolved as students progressed in the course. Table 4.1 shows a frequency count of the number of assets exhibiting informal/everyday, academic, and syncretic features/conventions across 490 digital assets that were created during thirteen weeks of our course.

Table 4.1: Frequency Counts of Informal, Academic, and Syncretic Instances in Asset Library.

Code Name	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13
Informal/ Everyday Knowledge & Conventions	*Inspire* Activities												
	12	13	12	6	6	4	5	0	0	0	0	0	0
	Reflect Activities												
	0	1	n/a	0	2	1	0	0	0	n/a	0	n/a	n/a
	Collaborate and *Research* Activities												
	0	0	1	0	2	0	0	1	0	0	0	0	0
Academic Knowledge & Conventions	*Inspire* Activities												
	1	0	1	6	2	0	1	9	0	13	1	11	2
	Reflect Activities›												
	13	3	n/a	4	6	1	1	2	1	n/a	14	n/a	n/a
	Collaborate and *Research* Activities												
	13	12	19	13	9	13	9	3	3	5	9	4	14
Syncretic Knowledge & Conventions	*Inspire* Activities												
	1	1	1	2	8	10	8	5	14	1	13	3	12
	Reflect Activities												
	1	10	n/a	10	7	12	13	12	13	n/a	0	n/a	n/a
	Collaborate and *Research* Activities												
	1	2	8	1	3	1	5	10	11	9	5	10	0

From Table 4.1 one can glean that *Reflect* activities exhibited syncretic qualities through the nine (out of thirteen) weeks that the activities were offered. The frequency counts further illustrate that *Collaborate* and *Research* activities tended to lean toward academic conventions. The most salient shift visible in this table is with the *Inspire* activities which began exhibited informal qualities during the first weeks of the class and gradually became more syncretic. In the following sections, I aim to further explicate this shift, and potential mediating factors, through analysis of one specific participant of my study.

For the purpose of presenting the arch of learning that occurred through the composition of these digital artifacts, the following section charts the contributions by one of my participants, James, to the Asset Library. At the time of the study, James was a first-year student interested in pursuing Business Administration as a major who identified as Chinese-American. Artifacts were selected from the various stages of the course that I felt best illustrated a shift in understandings of literacy and learning theory, as well as being a representation of the artifacts created more broadly by the participants of this study.

Inspire Activities: Privileging the Everyday

This subsection examines James's *Inspire* contributions to the Asset Library. I present two artifacts created at the beginning and midpoint of our course. In doing so, I hope to illustrate a pattern: one that initially privileges everyday knowledge and developed over time to become more syncretic. I begin here with an asset created by James on January 24, 2018, during the second week of our course. The prompt for this assignment read as follows:

> Think about graffiti as a literacy practice that connects identity and place, but also transforms space. Create a "tag" [your stylized name on a piece of paper or a symbol] that represents you, your passions, and who you aspire to be in this world. Find a meaningful place around where you live, work or study--a place that you have made your own, a place you want to disrupt, or simply a place that you aspire to one day be yours. Hang your graffiti paper up somewhere in this space and take a picture of it. Upload your photo to the Asset Library and describe what the photo represents.

James's contribution (Figure 4.2) shows his name, drawn in graphite, composed of piano keys. The piece of paper, with his name, is then seen placed on the keys of a piano. The description of the asset briefly explains that the piano (an the music room where it resides) is James's "solace" where he doesn't have to worry about academics and can find his "everyday joy and peace."

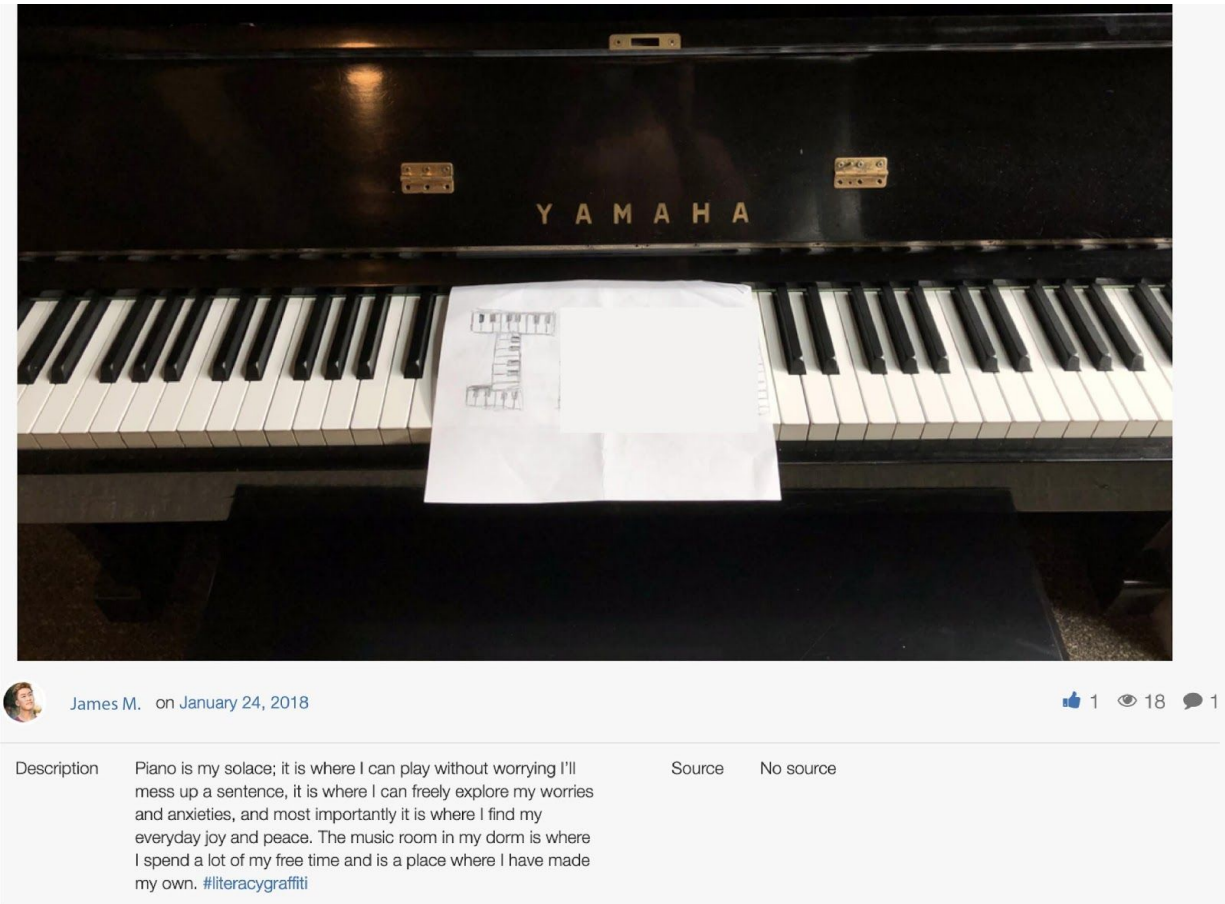


Figure 4.2: James's Week 2 Inspire Contribution (partially redacted to protect privacy).

From a multimodal perspective, this artifact primarily leverages affordances of the mode of image. The image of the piano, and name drawn in piano keys, functions to succinctly communicate that this is an artifact and practice (the playing of the piano) that is important to James. In his post-interview, James stated: "It kinda let me think about what, like, is important to me. And how to fit it just within my name. It was a fun activity" (Post-interview, May 25, 2018). The description further contextualizes the artifact for the viewer. From a syncretic perspective, this piece primarily centers the conventions of the everyday and informal in both the image and the caption. That is to say, academic expressions are not as visible in this composition, and the statement "mess up a sentence" signals a kind of informality in James's contribution. Moreover, from a rhetorical perspective, the composition did not advance a persuasive argument but did connect broadly to the expectations presented by the prompt.

Around the midpoint of the semester, James's *Inspire* artifacts begin to shift in their composition, showing a sophisticated awareness of the affordance of modes and beginning to compose sophisticated syncretic texts. On February 27, 2018, during a week that the course discussed theories of remix, James posted a singular image of two animated figures with a logo in the center. I would soon discover (through a comment posted to this asset, discussed shortly) that this was the cover image to a YouTube video of a "trap" remix of a song attributed to the

"Ugandan Knuckles" meme. I further came to understand that the character of Knuckles was originally attributed to the video game Sonic the Hedgehog. However, Knuckles had been *remixed* in early 2018 as a meme that appeared across multiple media platforms (i.e. virtual reality games and social media). This post of a cover image to a youtube video garnered attention on the course's social network and quickly became a top performing asset.

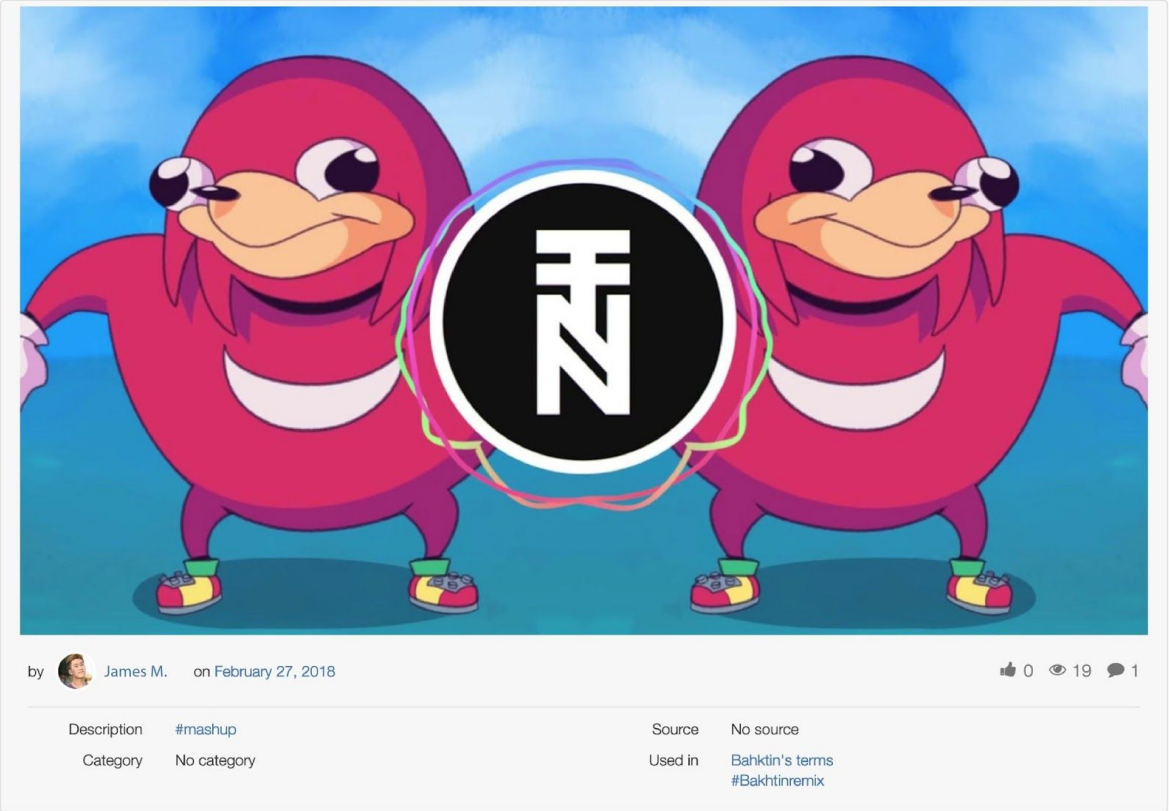


Figure 4.3: James's Week 7 Inspire contribution.

On the surface, James's contribution appeared simplistic, but upon further analysis it reveals a sophisticated awareness of the semiotic power of this image and, in turn, a profound understanding of the literacy concepts being explored in our course. Indeed, this artifact was rhetorically potent, and, with a single image, he triggered a conversation about the power of meme subculture and how the practice of remix is a thriving social practice in today's digital age. Excerpt 4.1 illustrates this.

Excerpt 4.1: Comment posted by Cole on on February 27 at 11:26 PM

I find it fascinating how meme subculture is so pervasive that it intersects with every other aspect of such a wide internet. In fact, the nature of memes is to take other ideas and subcultures and to parody it and cause it to evolve into its own idea and its own subculture. For example, fans of the cartoon SpongeBob

SquarePants have held a subculture on the internet, but the influence of meme culture has branched this off and evolved into a connected but distinct subculture of SpongeBob memes, where even someone like myself who has never watched the show growing up can still participate and derive enjoyment and social stimulation. Likewise, it's fascinating to see how the subcultures of Youtube trap music and Do You Know Da Wae memes have interacted to produce this artifact. I'm guessing the source of this image is the video that keeps showing up in my Recommended Videos on Youtube (https://www.youtube.com/watch?v=hLTgQ5SC-PU).

In his comment to James, Cole provides further context and analysis of the image. I suggest that the composition of the syncretic artifact at this point becomes a collaborative effort. Cole advances the argument initiated by James, orienting slightly more toward the academic, both in writing style and content. In this regard, the composition of this artifact did not end at the moment that James posted the asset on the library; it continued once it was published and its syncreticism (the blending of the everyday and academic) continued as a community.

In comparing James's earlier *Inspire* activities and this latter one, I note that there is a heightened sophistication in the way that he presented an instantiation of everyday knowledge. The former was indeed connected to the informal (Figure 4.2), namely a personal experience. The latter was similarly connected to the informal but also offered an opportunity for leveraging a more public everyday knowledge. In doing so, I suggest that James demonstrates a developing understanding of literacy theory, specifically the notion of remix as advanced by the texts in the course, namely Knobel & Lankshear (2008) .

Collaborate and Research Activities: Privileging the Academic

James's *Collaborate* and *Research* contributions, much like those of the rest of the participants in my class, were more straightforward in terms of their integration of the academic content. The following examples show how the genre of academic writing is combined with images and other modes in order to create syncretic texts. The examples presented here were composed by James (the first with a peer in the class) around midpoint and at the end of the semester.

I begin with an analysis of a *Collaborate* asset created with a student (not a participant in this study). The prompt for this activity read:

> With a partner, look at #literacytools from this week. Create either a Whiteboard or a Google Slide that thinks about your history with 2 or more educational tools, and how the tool influenced the kinds of learning and literacy you have developed. Describe the tools in relation to the ZOPD and Community of Learners. How does the tool mediate the teaching-learning experience? Publish your Whiteboard to the Asset Library. Use the hashtag #ZOPDtools in the description.

The asset (Figure 4.4) consisted of images of software icons related to tools that James and his collaborator saw as integral to learning. On the left (James's contribution), the icon for Powerpoint is accompanied by text describing it as an "integral aspect of learning in schools and

[his] academic career." Specifically, James explains his history with the tool, first as a passive consumer and then a producer of content/slides. His collaborator, Student 1, contributes an image of icons representing the google suite of productivity tools. Similarly, Student 1 describes how these tools have been an important part of their schooling and learning experiences, specifically as they facilitated connectivity and collaboration with their instructors and peers. Both made references to Vygotsky's (1980) theory of the Zone of Proximal Development in their compositions, which they had learned about in the course..

Their engagement around the production of the artifact may seem to be a robust collaboration; however, a closer examination shows that this constitutes two separate compositions that were brought together. That is to say, James composed half of the asset while his collaborator created the other half, at no time creating it synchronously. While both contributions were related, conceptually, as a whole the asset felt fragmented. For all intents and purposes, the asset illustrated in figure 4.4 fulfilled the requirements of the assignment. Furthermore, it garnered some attention on the online course network with twenty views. However, as a collaboration it had its shortcomings. This "illusionary" collaboration was a pattern that emerged across all the *Collaborate* activities.

Across the 70 *Collaborate* artifacts produced (by the 14 participants of this study) in the online component of the course, all but one showed this fragmented quality. That is to say that the posted artifact fulfilled requirements of the assignment and was in some respects multimodal, but appeared fragmented in terms of the collaboration. In some cases it was even apparent through the use of different fonts (serif versus sans-serif) in their writing of text.

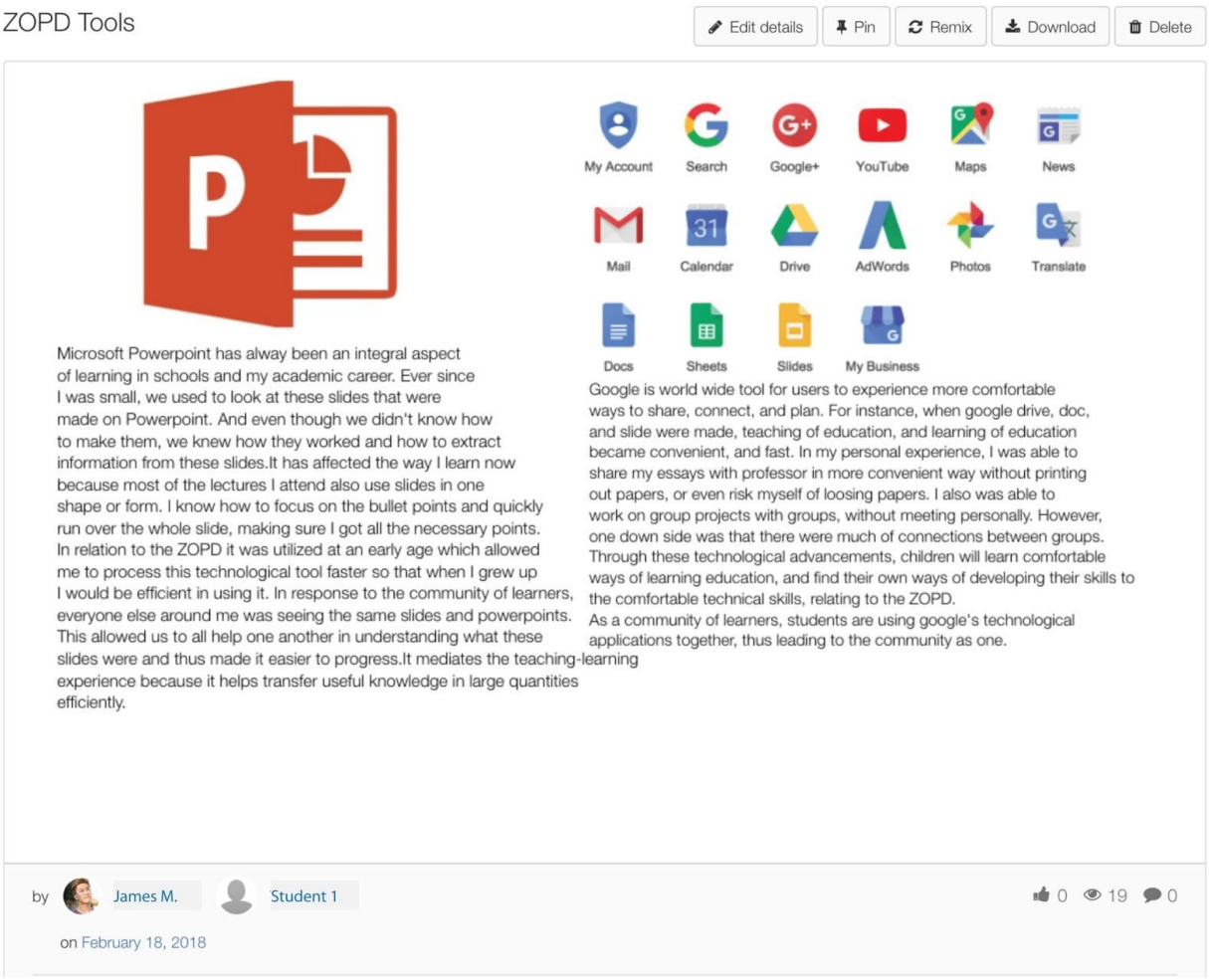


Figure 4.4: James's Week 6 Collaborate activity.

My interviews with the novice undergraduate teachers revealed that there was a pattern in the ways my students collaborated in the creation of these compositions and in the online space. Often, the students in my class would divvy up responsibilities on these activities, creating their own contributions and then adding them to a collective whiteboard. Rarely did these collaborative activities involve synchronous participation using the online tools of the LMS. James in particular expressed this in his interview:

> Some of them were like pretty fun and like I got to connect with like the people I got to collaborate with. And some of them were like, "okay you do this, I do this" and like yeah. That's it. Uhm. but also if the assignment and prompt are more interesting, people would be more inclined and curious to see other people's projects, and in turn spur more discussion, commentary, and stuff" (Post-interview, May, 2018)

What this interview response and observed online composition practices of the *Collaboration* and *Research* artifacts indicate is that the prompts themselves (especially those that sought to leverage academic content) influenced how the undergraduates collaborated in the

creation of online artifacts. Specifically, while James saw value in connecting with his peers via collaboration, he felt that the nature of the questions posed for inquiry did not foster authentic interest in the collaborative composition practice. In effect, it became a perfunctory activity that fulfilled a course requirement.

Summary of Findings: The Asset Library

My analysis of the archival and composition practices in the online component of the course revealed that students view the *Asset Library* as a formalized archive that was a sanctioned tool for collaboration and the sharing of multimodal texts that were then remixed for course compositions. Broadly speaking, this tool allowed for students to engage in syncretic practices that blended everyday knowledge and experience with more academic knowledge. This blending (or syncreticism) varied across the *Inspire, Collaborate,* and *Research* activities.

An analysis of 182 *Inspire* activities revealed that 71 of them were syncretic in quality (see Table 4.1). I propose that these artifacts were more often syncretic in nature later in the semester for several reasons. First, the *Inspire* prompts asked people to situate the concept at hand in everyday experience and to make sense of this understanding vis-a-vis the school-based concept. Of significance, the syncretic practices didn't take hold across all participants until the 5th through 7th week of the course, as students moved through cycles of collaborative inquiry around key course texts in both the online and face-to-face interactions. Of note, beginning on the 6th week, our class began exploring texts relating to digital literacies and remix theories. Moreover, the 7th week was when an iteration of the design study happened, as described in Chapter 3, motivated by my students' desire to explicitly bring in online activities into our in-person class meetings.

As mentioned, the assets composed by the students in the course were not all syncretic with *Inspire* assets falling predominantly on the side of leveraging informal/everyday at the beginning of the study and shifting toward the syncretic later in the semester as students developed deeper understandings of literacy theory and how modes (image, text, sound, etc.) and be adeptly deployed, rhetorically. On the other hand, *Collaborate* and *Research* activities tended to fall outside of syncretic, following more formal/academic conventions. What is illuminated through interviews with participants is that students are eager to connect and collaborate, but that the nature of the questions and prompts posted for inquiry sometimes oriented the activities towards perfunctory practices where they did not authentically collaborative. This latter observation is in stark contrast to the collaborative composition practices that I observed in the in-person sessions of the course. The following vignettes illustrate the nature of the variance of these syncretic, academic, and perfunctory collaborations.

The QAQC: Sanctioned rogue archiving and collaborative academic writing

As mentioned previously in this dissertation, a normative instrument used in our in-person laboratory sessions was the collaborative Google slide deck. Every week, I generated a template of slides that included our scheduled activities for the week's two-hour session, instructional content relating to the week's concepts and readings, and instructions for collaborative and independent activities. Editing access was given to all students via a url that was posted on our title slide. The usual cycle of activities during our weekly meetings included:

(1) a small-group Question, Argument, Question, and Connection (QAQC) activity; (2) Full group discussion and direct instruction from me the instructor; and (3) a laboratory activity where small groups designed and implemented sample lessons or activities with their class peers, on a rotating basis.

For the purposes of this chapter's focus on composition practices, I will be examining the oft-opening activity of the QAQC. The QAQC was a key pedagogical tool used the in-person course environment.The QAQC is a collaboratively developed protocol that I have collaboratively developed with fellow doctoral candidate, and seasoned teacher, Arturo Cortez.[12] Generally, the protocol consists of the following prompts:

- Quotation: Quote (a) sentence(s) from the text that you think is/are central to the author's implicit or explicit argument(s);
- Argument: In five or six sentences, state the author's argument. Be sure to include both what the author is arguing for and arguing against;
- Question: Raise two questions you think are not fully, or satisfactorily, answered by the text. The question should not simply be a question of fact. It should relate to your practice; and
- Connection: As a group draw connections to what you have learned in your experiences as undergraduates and/or your field work.

The QAQC was a key pedagogical tool used in the in-person course environment. This environment aimed to provide robust collaborative opportunities (Brown, Collins, & Duguid, 1989). Ostensibly, the QAQC functioned as a collaborative composition of a drafted academic text by a small group of undergraduates. In the following, I present an interaction analysis of the creation of these QAQC collaborative slides.

Collaborative Composition: Synthesis and Reflection

The following interaction was captured via 360-degree and conventional (two camera set-up) video on the sixth week of the course, during the QAQC activity portion of our weekly class. On this particular day, students at Table Two were put in charge of composing a slide that discussed the week's reading by Gutiérrez and Rogoff (2003). The group consisted of James (previously discussed in this chapter), Samuel (self-identified as White; Cognitive Science major) and Cole (self-identified Mixed Race; Electrical Engineering & Computer Science major). Students are seated around a rectangular table with laptops in front of each of them (see Figure 4.5) The excerpted interaction, below, begins at the moment that activity is initiated by me, the instructor.

Excerpt 4.2: Beginning of QAQC activity.

1	Cole	((*looking at own laptop screen; scrolling using trackpad*)) Wait
2		we...the (inaudible) Gutiérrez one, right?
3	James	((*looks at Samuel's laptop screen, and points and screen*))

[12]

4		Are you on...those, oh.
5	Samuel	(inaudible) Oh, bummer.
6	James	(8.2) They basically say to no like treat culture as like a separating
7		factor, I guess. And also like it's, it's not the context of the person,
8		like. Use it to kind of for learning, instead of like separating and
9		stuff.
10	Samuel	Mhmm.
11	Cole	It's like seeing culture as like a different characteristic of a person,
12		rather than a detriment or an advantage. ((*James nods*))
13		(62.7) ((*all look at respective computers, James types on*
14		*collaborative slide*))
15	Samuel	Characterize commonalities.

I refer back to Goodwin's (2007) participation framework to help analyze this interaction. What I observe here, at the beginning of this activity, is the three group members establishing a common ground and, in a sense, coming to an agreement of what the general argument of the paper is. In this regard, I view this as the group establishing an "ecological huddle" (Goodwin, 2007, p. 57), and further establishing *instrumental* stances whereby they positioned themselves to "perceive as clearly as possible, and in ways relevant to the activities in progress" (Goodwin, 2007, p. 61). It is at this point that I believe that the collaborative composition process began, by creating a common ground before putting one word down in writing.

Of importance here, is how the argument and synthesis begins to go through a revision process, albeit orally. James, particularly, begins with a synthesis in his own words using informal vernacular (lines 6 through 9). Samuel hums in agreement and Cole proceeds to provide his own synthesis that builds on James's previous contribution while beginning to word it using more academic vernacular. Samuel then quotes directly from the text in line 15. The interaction continues:

16		(36.0) ((*all look at respective computers*))
17	Cole	Uhm. Under the helping students learn (.7) thing, there's a
18		sentence ((*reads from laptop screen*)): *Learning styles constructs*
19		*have been used to distinguish the learning styles of "minority" group*
20		*members and to explain "minority" student failure. For example,*
21		*individuals from one group may be characterized as learning*
22		*holistically whereas individuals from another group may be*
23		*characterized as learning analytically or individuals may be divided*
24		*into cooperative versus individualist learners on the basis of*
25		*membership in a particular cultural group.*
26		And they're saying this is a problem because it's assuming, uhm
27		like, oh if you're from this cultural group or from this culture you like
28		learn differently. So that if you're struggling at school it's because of
29		the way you learn and because the cultural background that you
30		have rather than like addressing the bigger picture. It's like the
31		blame is on the student or a certain kind of learner ((*gestures air*
32		*quotes*)).

33 ((*goes back to view computer*))

Of note, at this point of the interaction, Cole proposes a direct quote from the text (lines 18 through 25) and provides a synthesis in his own words (lines 26-32). From an interactional perspective, I view this as Cole enacting an *epistemic* stance, whereby he used the course reading to "perform the intense scrutiny required for a competent judgment" (Goodwin, 2007, p. 62). However, Cole's proposal for a quote (part of the QAQC protocol) is not readily taken up. The group proceeds with the activity:

34	Cole	There's a piece that says like ((*reads from text*)) (1.6). So the
35		headline: *Treating cultural differences Treating Cultural Differences*
36		*As Individual Traits Encourages Overgeneralization.* Like, uhm (.9)
37		grouping people by their culture and assuming everyone from that
38		culture will behave the same way...
39	Samuel	Yeah
40	Cole	and learn the same way.
41	Samuel	Uhm, I'm reading the part about research, uhm, ((*James looks over*
42		*to Samuel's screen*)) and he's (sic) comparing rural Mexican
43		communities to European generations. And he's kinda talking about
44		the fact that cultural differences, you can analyze the differences
45		and not, like, separate them obviously, like we were talking about.
46		Uhm. Talking about how European-Americans are often, like,
47		excluded from adult activities. Or, like, in Mexican rural
48		communities children are often included at a young age in adult
49		activities. ((*Cole nods*)) Like, uh, higher level of attentiveness and
50		respect. (1.2). So he's like saying they should argue, I mean,
51		examine, like, cultural variation. (5.1) Instead of attributing visual
52		style, or a verbal style. (4.0) Yeah, so more of like
53	Cole	[okay]
54	Samuel	((*reads from text on screen*)) *This avoids the implication that the*
55		*characteristic is "built in" to the individual (or a group) in a stable*
56		*manner that extends across time and situations, and it recognizes*
57		*the circumstances relevant to an individual's likelihood of acting*
58		*in certain ways.*

Both Cole and Samuel continue to propose quotes (both enacting epistemic stances) from the texts to build their argument that would then form part of their QAQC composition. Cole regularly refers to subheadings in the text, presumably to orient the rest of the group to the specific page on the reading, while Samuel incorporates quotes seamlessly into his own commentary. Significantly, both are attempting to provide further evidence–from the text–that supports the co-constructed synthesis that was initiated by James in lines 6 through 9 and had begun to be documented on the slide. At this point, however, a quote to include on the collaborative slide had not been agreed-upon.

The conversation continues, with intervals of silence and no text being entered into the collaborative slide, for 3 minutes and fourteen seconds. During this time Cole proposes another

quote and, yet again, it is not taken up by the group as a candidate to use in the collaborative slide. At minute 9:40 of the video, however, Samuel hearkens to the Asset library archive:

Excerpt 4.3: QAQC Activity, continued.

1	Samuel	How was your guys' Wednesday whiteboard?
2	Cole	Yesterday?
3	Samuel	Yeah.
4	Cole	It was fine. I did… Like I saw a bunch of other people's had to do
5		with race. I was like, I'll do one of, like, internet culture.
6	Samuel	Oh cool. I did mine on Independence day and, uhm, the financial
7		crisis.
8	Cole	aha. ((*giggles*)) Yeah, I did mine on tagging people on memes on
9		facebook posts.
10	Samuel	No, you didn't. ((*laughs*))
11	Cole	It's a cultural practice.

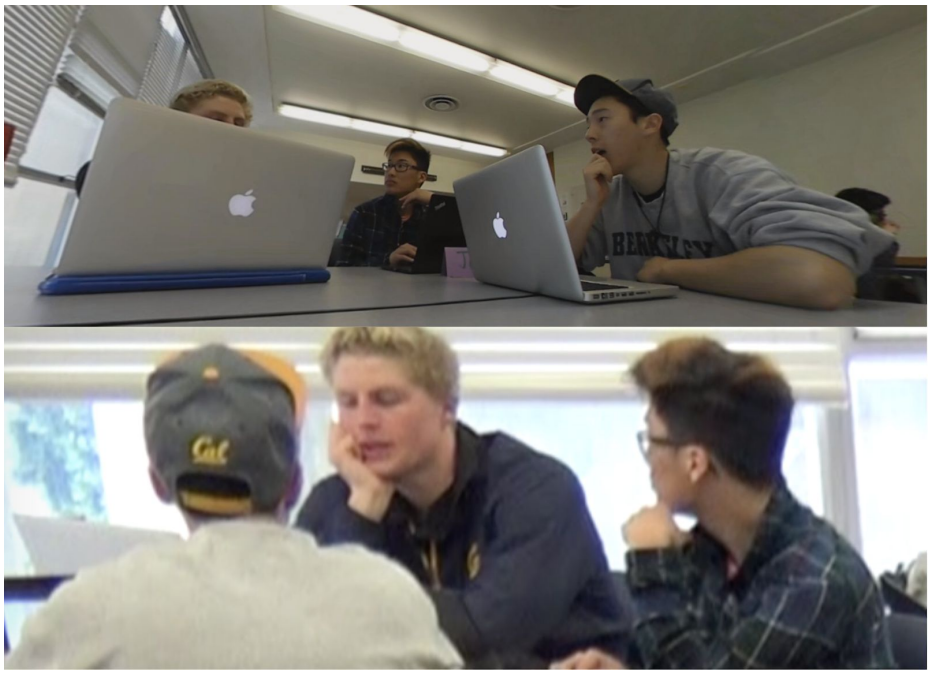


Figure 4.5: Screen-grab of 360 (top) and conventional (bottom) video depicting QAQC collaboration. Here, Samuel asks about "Wednesday's whiteboard" (Excerpt 4.3).

This hearkening to the online platform of the course by Samuel proves important for rupturing a lull in the collaborative process. Cole follows suit, namely by pointing out that in his online contribution (see Appendix H) he put forth a personal cultural practice that, perhaps, departed from a racial (identity/trait) based exploration. From a participatory perspective, Cole continues to enact an epistemic stance by leveraging a former composition. All the while Samuel and Cole are engaging in this conversation, James is quietly editing the collaborative slide and

adding to the *Connection* portion of the QAQC. Here is the moment that this is brought to the attention of the rest of the group:

12	Samuel	Did you just copy and past that?
13	James	((*points at classroom monitor*)) Yeah, José said…
14	Samuel	Looks good. ((*reads under his breath from his computer screen,*
15		*inaudible*))
16	Cole	((*Reads silently from his computer screen*))(10.8) ((*faces James*
17		*and smiles*)) Well that's really relevant. ((*laughs*))
18	Samuel	That's really good. Wow.

Of note here is that there is a distribution of labor at play here that manifested in a differentiated manner amongst the group members. That is to say, while it discursively appeared that Cole and Samuel were driving the collaborative inquiry and composition, James was actively contributing to a final product, all while keenly attuned to the synthesis and argument that the group had agreed upon. This latter point is illustrated by Samuel and Cole's approval in lines 14 through 18. About a minute later, after I announced that six minutes remained to complete the task, Cole chimes in.

19	Cole	Alright, on [the last like] page...
20	José	[Six minutes.]
20	Cole	..there's like four notes that summarize the entire article.
21	Samuel	Hmmm.

While this conversation was ongoing, James had surreptitiously completed the QAQC collaborative slide (See Figure 4.6 for completed collaborative QAQC). An analysis of tracked editing on google slides, that was corresponded with timestamps on the video recordings, shows the following:

11:24am	(4 minutes after the activity commenced) James picked and copy-and-pasted a quote from the reading to the collaborative slide
11:24-11:31am	James concisely summarized the conversation and provided questions.
11:39am	James copy-and-pastes his field note excerpt into the QAQC collaborative slide.

I can glean, from tracking the changes on Google slides, that James played a specific role in the activity at hand. Beyond being the silent scribe for the composition of the QAQC, however, I also see that he was keenly aware of the ideas that were emerging from the collaborative inquiry and adeptly composing a synthesis. Further, he contributes a reflection from his own practice as a way to draw a connection to the discussion at hand.

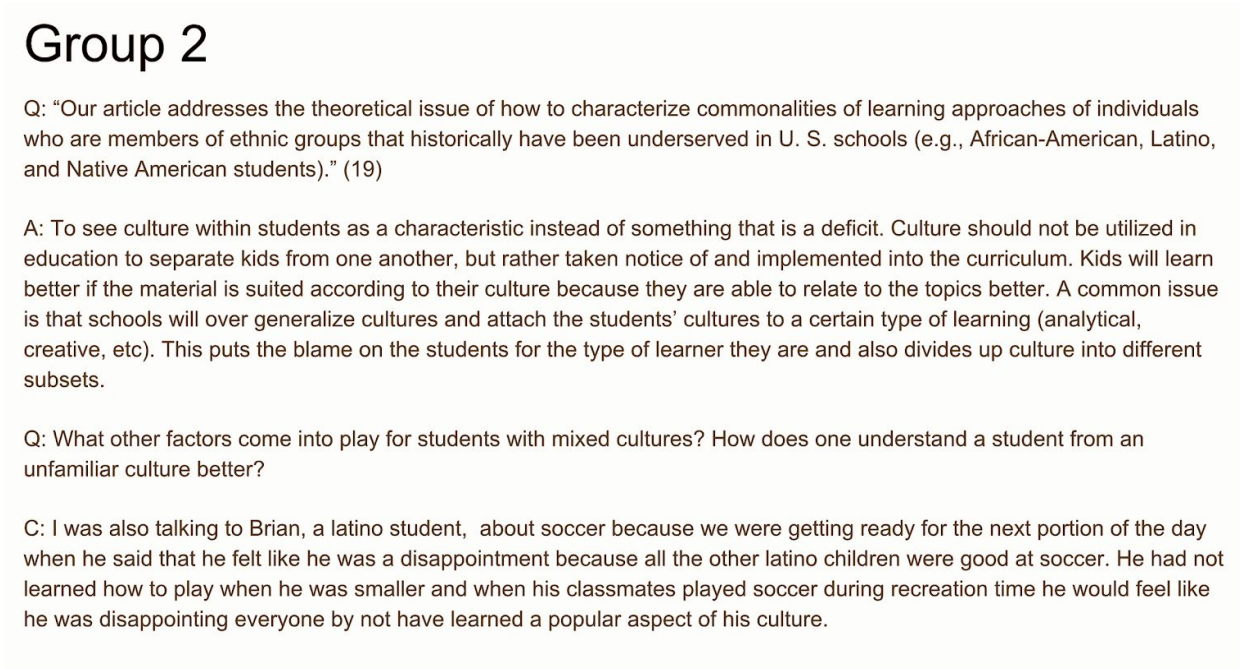


Figure 4.6: Completed QAQC collaborative composition on Google slide.

His collaborators seem unphased by James' intervention in the creation of the Google slide. The rest of the interaction did not consist of further discussion around the composition of the slide. Rather, the students sat at the table and read over the slide silently. James then asks who is going to share out their creation to the rest of the class, to which Samuel responds by placing his right index finger on his nose and says "You got this" towards James. James smiles and nods. In my view, this signals a *cooperative* stance where "actor[s] [are] appropriately cooperating in the joint accomplishment of the activity in progress" (Goodwin, 2007, p. 62). They are cooperating in the creation of the collaborative composition of a text, even if not all of them had their hands on the keyboard. The cooperative nature of the activity is made clear at the moment that the group shared out to the rest of the class:

Excerpt 4.4: Group 2's share-out to the rest of class.

1	José	Group two, you di::d (.9) Barbara Rogoff, yeah, and Kris Gutiérrez.
2		What did you talk about?
3	Samuel	Uhm. I guess we talked about how to characterize commonalities
4		between students and not see them in a deficit in a wa:y. Because
5		often we thain that children have different styles and often use it as
6		an excuse instead of looking at the bigger picture and the bigger
7		problem, and the end. The problem of characterizing is important.
8		That was just a little bit...(inaudible). ((*looks toward James*))
9	James	(1.2) Uhm. For the field note I took a portion of mine that just like an
10		example where culture came into it, I guess. 'Cause I talked to
11		Brian who is a Latino student I work with and the school I teach at is

12		like 96% Latino, I think. And we were playing soccer recreationally
13		and he told me he felt like he was a disappointment because he
14		thought all the, like, other Latino children are good at soccer
15		because they played back home when they were smaller and stuff.
16		But he had to play this popular aspect of his culture in a way. And
17		that's why he felt like a disappointment, yeah.
18	José	*Que fuerte*. That's powerful.

Here, I see the enactment of the *cooperative* stance come to fruition as the group presents their synthesis and connection to James's field work experience. Of interest here is how in his presentation of the group's synthesis, Samuel refers more specifically to Cole's contribution to the discussion regarding "looking at the bigger picture" (see Excerpt 4.4, line 6 and 7; and Excerpt 4.2, lines 29 and 30). This is done seamlessly and without contestation, indicating a true collaborative endeavor.

It is my claim that the digital collaborative tools mediated a composition practice that was distributed and engaging. Note how the *writing* emerged and was revised cooperatively, even while only James had his hands on the keyboard. My analysis via recorded video allowed me to see the intricacies of collaborative composition, in a classroom setting, that perhaps would have not been visible through tracking changes and revisions on the google platform. In this regard, I viewed how the syncretic nature (the reorganizing and blending of the informal/everyday with the formal/academic) occurred as an embodied practice. That is to say, in their small group discussions, with the use of the digital instruments in front of them, students actively connected to networked archives of memory and previous compositions (i.e. the Asset Library as seen in Excerpt 4.3, lines 1-11) to reorganize knowledge for the purposes of providing a robust and strong argument in their QAQC.

While I have illustrated a micro interaction of a QAQC composition, this pattern of participation seemed to emerge across all classes and participant groups. Often, the labor was distributed where students would take on the role of scribing and synthesizing, while the whole group generally engaged in discussion over what quote to include in the collaborative composition. A variety of digital archives was accessed during the composition of the slide. Vitoria (also a participant in the study) was keen on using google to look up key terms in order to bring clear definitions to the group. Christine (discussed in Chapter 3) regularly brought a three-ring binder with highlighted and annotated print-outs of the week's readings to be leveraged during this activity. What results from these robust, multi-tooled, collaborations is a rogue archive, albeit sanctioned, that is then leveraged for future compositions.

I draw a distinction between this archive and that of the *Asset Library* in that this was not a formal repository that was then expected to be leveraged for future use. The QAQC was initially conceived as a pedagogical tool that would aid in the collaborative inquiry of the in-person sessions; the engagement with course academic content and reflection of practice. Indeed, this did occur, and the development of an archive was a fortunate byproduct.

Leveraging QAQCs for Further Composition

Interviews reveal that all 14 participants referred to the collaborative slides and the QAQC in the composition of their final papers. These same interviews reveal that students rarely

referenced the online Asset Library in these later compositions. An analysis of James's (who has been the subject of robust analyses in this chapter) final Case Study indeed reveals that he fully leveraged the QAQC's he co-generated with his peers in his paper, drawing quotes directly, specifically in the writing of his theoretical framework. This was facilitated by a course design that was saturated with tools. This, however, does not suggest that the Asset Library was not as important as the QAQC in the writing of final papers. Rather, I contend that while the QAQC became an important mediating artifact, the library of assets provided some of the raw materials for inquiry (as evidenced in Chapter 3) and modeled the kinds of intellectual activities that our course was privileging.

Other Compositions: Leveraging Multiple Archives

James, like other participants, also engaged in composition practices that leveraged both the archive of the Asset Library and the collaborative slides. For James, one such composition was the mid-term assignment "Literacies: Past, Present, and Future." This assignment asked students to create a composition that told a story of their literacy development in their life. In doing so, they were asked to make connections to course concepts and readings. As part of this assignment, James created a video narrative that told the story of becoming literate in playing the piano. The narrative consisted of home video clips of his music lessons as well as recital performances.

In his narrative, James compiled video clips of his learning how to play the piano from beginner to the present from his childhood to the present (Figure 4.7, frame 1 and 4). Throughout the video he punctuated aspects of the video to connect to concepts and readings of the course (Figure 4.7, frame 2 and 3). James made concrete connections to Vygotsky's (1980) zone of proximal development in order to explain his development process in learning how to play the piano with his mother and teachers as more knowledgeable others. He also made connections to Bakhtin later on in his composition linking it to the development of his connections to community via his literacy.

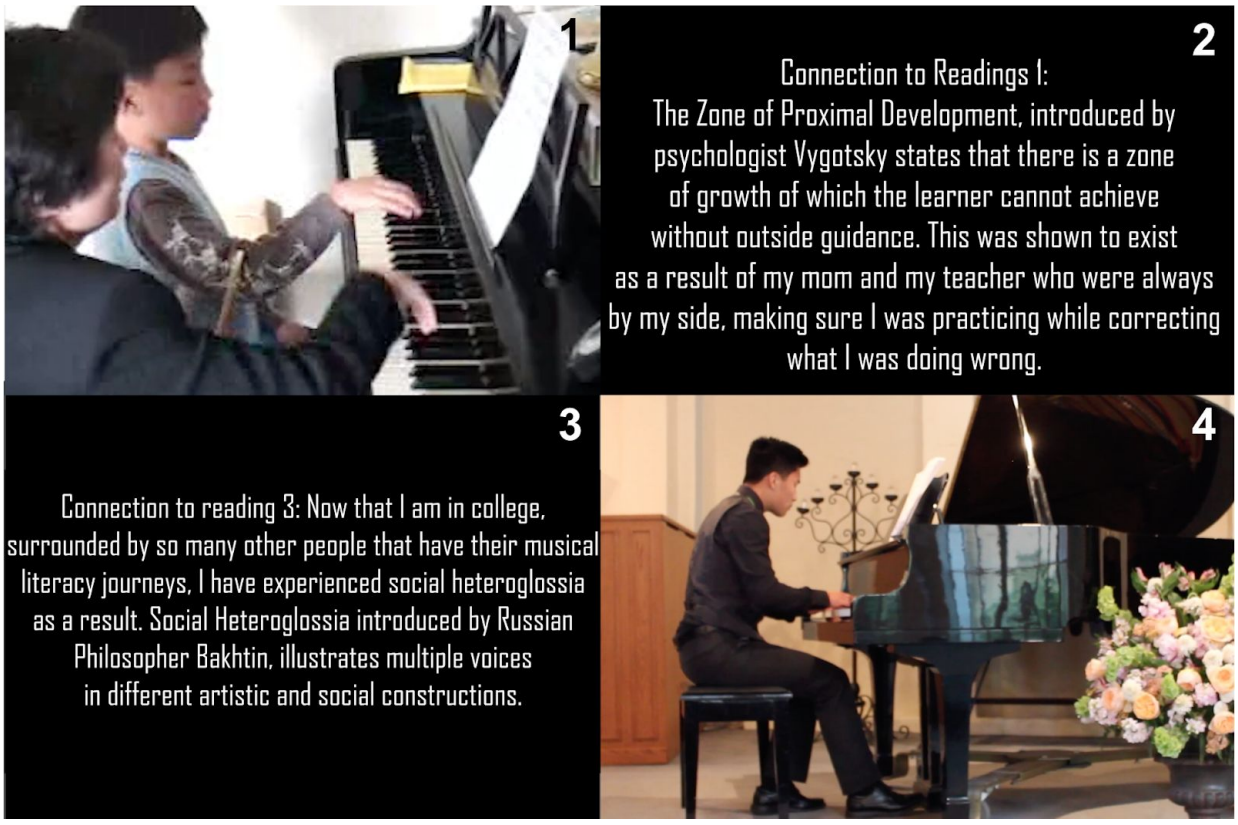


Figure 4.7: Selected frames from James's multimodal mid-term assignment.

In this multimodal composition, James makes clear references to his previous compositions both in the asset library and in the course collaborative slides. Namely, he harkens back to his first asset (Figure 4.2) that he posted regarding his affinity towards the piano. Interestingly enough, the connections to the readings bear strong semblance to the QAQCs composed by other groups in our class. My claim here is that by accessing multiple archives, James was able to create a powerful syncretic text that combined the personal narrative genre with that of the academic, but also was multimodal and pedagogical. In many respects, the syncretic artifact created by James resembles the syncretic *testimonio* described by Gutiérrez (2008) in its blending of conventions and the centering of the personal narrative. Further, by creating a video, he is keenly aware of how to convey his composition to a wider audience. In effect, James "[makes use] of social theory and an emergent sociocritical literacy to locate and relocate their experiences in a personal, political, and cultural–historical context. Thus, the text and its production are at once personal, socially mediated, and, hence, heteroglossic—situated both locally and historically" (Gutiérrez, 2008, p. 150).

My aim in presenting this example is to highlight how this course design facilitated the composition of a multimodal text that on the surface appears idiosyncratic, but actually reveals a sophisticated reflection with the use of theory and resources that were leveraged from multiple archives. In this respect, as a syncretic text it is multi-voiced (Bakhtin, 1934) in that it channels the expertise distributed in the vast network of our hybrid (face-to-face and virtual) course

ecology. Thus, this challenges us to consider how seemingly individual composition practices are in fact always collective and distributed.

Discussion and Implications

This chapter aimed to examine the compositional practices of students participating in a hybrid (online/in-person) course that focused on socio-critical literacy perspectives. To this end, I brought to bear robust multimodal analytical frames and theories of mediated praxis in order to examine how participants individually and collaboratively composed texts that leveraged everyday and academic symbol systems and knowledges. In doing so, I aimed to build upon scholarship that has closely examined how learners compose text (Freedman, Hull, Higgs, & Booten, 2016; Scott, Hull, DiZio, 2018) and archive (DeKosnik, 2016) in today's digital world.

The course described herein was designed for two types of archiving to run in tandem: the formal *Asset Library* and the collaborative slides that were composed during the in-person class meetings. These two archiving practices fostered different kinds of composition. They also fostered distinct types of individual and collective reflection on theory and practice and, therefore, the nature of syncretic texts were different across these archiving and composition practices. The online activities, which were multimodal and remixable, allowed for varying types of syncreticism (blending of everyday and academic knowledge) to occur. While students were eager to collaborate, they often felt that the activities were perfunctory and inauthentic. This was a sentiment that was broadly expressed by the participants of my study. It is important to note that students generally enjoyed the use of a multimodal platform that emulated the look and feel of everyday digital social media. However, it was difficult for them to see the activities as anything but a requirement of the course, in a sense, questioning the authenticity of the collaborations of that space. Indeed, despite my best efforts to tap into student interest in the design of my activities and the use of these multimodal tools, the questions and lines of inquiry were still driven by me, the instructor. This speaks to an important consideration in the design of courses that actively leverage digitized social media tools: How does one do so in authentic ways where participants exercise agency in the types of questions and goals that are posed?

Much research has been done with youth regarding the affordances of multimodal composition in expressing identity (Hull, Kenney, Marple, & Forsman-Schneider, 2006; Hull & Nelson, 2005), as well as the use of social media in connecting across vast cultural and geographic boundaries (Hull & Stornaiuolo, 2014; Hull, Stornaiuolo, & Sahni, 2010; Lizárraga, Hull, & Scott, 2015). While much of this work has been done with young people, there has been a dearth of research on how social media that can be leveraged in the undergraduate classroom, specifically as it relates to composition and rhetoric. In her survey of 750, and face-to-face interviews of thirty-five, college instructors, Vie (2018) points to how professors navigate critical tensions relating to rhetoric in social media, as social media writing is still "mocked as inconsequential, frivolous, and non-academic [...]" (p. 119). Indeed, there is still a distrust in terms of how these everyday digital practices are seen as valuable for composition purposes in the college. What this dissertation, along with the work of Scott, Hull, & DiZio (2018) and DiZio (2017), illustrate, is that the principles underlying digital social networks–namely, networked archives, multimodal rhetorical practices–can be leveraged in valuable ways in the undergraduate classroom.

And while my study sought to leverage the aesthetics and networking affordances of mainstream social media, I did not actively leverage existing social media platforms. This was for the very same reasons around privacy that were articulated by Vie (2018). However a survey of my 14 participants, showed that my students use social networks, namely Facebook Messenger, to connect with each other at the University. This survey revealed that all my participants used Facebook messenger as a communication tool to form study groups and coordinate with other students in the class, in ways that were not necessarily sanctioned or encouraged by the institution. In this respect, Facebook Messenger was a way of sharing contact information that was less intimate than sharing their phone number.

This chapter aimed to illustrate the potent composition and collaboration practices that can emerge when a meshwork of cyborg activity (discussed in Chapter 3) is fostered. I propose that when students are connected to each other in ways that leverage their in-person and digital embodiments and enactments of expertise, they are able to imagine with each other and distributing their cognition (Pea, 2004; White & Pea, 2011); in effect, trusting in each other to cooperate and compose texts. I further propose that the meshwork of cyborg activity also marshalled a mediated praxis that shifted the ways in which the novice teachers in my class organized for learning with each other and with the youth they engaged with in their practicum activities.

CHAPTER 5: APPROPRIATION AND ENACTMENT OF SOCIO-CRITICAL AND SOCIO-POLITICAL LITERACIES

This chapter briefly describes the learning that occurred by undergraduate novice teachers as they appropriated core concepts from our practicum course and then enacted them in their work with young people. Appropriation is hereby described as participatory in the sense that learners enact and make concepts "their own" rather than passively acquiring static knowledge (Rogoff, 1993, 2008). The analyses and findings reported in this chapter aimed to answer the following research question: (3) How do enactments of expertise shift over time and what mediates such shifts? I answer this question by presenting analyses of student-written field notes (also known as cognitive ethnographies), field notes written by me, and video recordings of interactions in one afterschool program. Through these analyses, the following evidence of learning emerged: (1) Through cycles of experimentation, feedback, and reflection, participants appropriated socio-critical and socio-political literacies that were then enacted in their teaching/learning practice with each other and with the young people in their field work sites; 2) through active reflection and experimentation in their field work with youth, there was a shift from vertical forms of instruction to more horizontal forms of side-by-side learning; and (3) participants used digital media and technologies as mediating tools for these horizontal forms of learning, in their work with youth; in this respect, enacting a mesh-work of digital/in-person embodiments (as described in Chapter 3) in the process.

The following chapter is organized in three sections. I begin by briefly describing what is meant by socio-critical and socio-political literacies and their importance in the training of novice teachers. I then proceed with a broad overview of shifts in practice that were documented by the fourteen participants in my study. In presenting these findings, I will focus on analyses of video-recorded interactions I observed of one participant, Christine, in her after-school practicum site of Space2Crea8 and her field notes. I will conclude this chapter with a discussion of implications and future considerations.

Examining Appropriation of Perspectives Literacy and Practice

Socio-cultural and Socio-political Literacies

In the past two decades, there has been a considerable shift in the field of literacy studies that has addressed what constitutes literacy in today's increasingly digitized and interconnected world. This work has explored how literacy today involves meaning making that is multimodal (Hull & Nelson, 2005), polylingual (Gutiérrez, Bien, Selland, & Pierce, 2011) and often characterized by practices of remix (Lessig, 2008) via digital modes of meaning making and connectivity. Scholars have further underscored how being *literate* in today's world also involves an ethic of responsibility towards others, one that is hospitable (Silverstone, 2013) and cosmopolitan (Hull & Stornaiuolo, 2010).

The aim of the course associated with this dissertation study was to both introduce and foster the development of critical literacies for undergraduate novice teachers. In this respect, my study looked to examining how novice teachers develop a sociocritical literacy that, as Gutiérrez (2008) states, is "a historicizing literacy that privileges and is contingent upon students' sociohistorical lives, both proximally and distally" (p.149). Indeed, as illustrated in Chapters

Three and Four, a discussion and enactment of expansive definitions of literacy requires a parallel interrogation of histories of engagement with literacy and learning that span across temporal and physical contexts. Moreover, as a designer of courses that are committed to equity and justice, it is important to think of the ways that literacy development go hand in hand with the sociopolitical work we engage in as we imagine and organized for new possible futures (cf. Cole, 1996; Vossoughi & Gutierrez, 2016; Vossoughi, 2011)–to indeed learn how to, as Freire and Macedo (2005) posited, "read the word and read the world." As further articulated in the Introduction and Methods chapters of this dissertation, a commitment toward developing to the sociocultural and sociopolitical is imbedded in all aspects of the design of this study. That is to say that the course content, activities, social-organization of learning, and saturation of meaning-making tools was in service of aiding students in developing these critical literacies.

I follow the work of scholars who have similarly strived to design learning environments that have attended to the development of these literacies, particularly with novice teachers at the undergraduate level. In their work with novice teachers, Gutiérrez & Vossoughi (2010) highlight how courses that are especially organized to privilege cultural-historical concepts and offer opportunities for undergraduate students to engage in situated practices of teaching/learning can lead to potent examples of practitioners reflecting on their practice and gaining expansive understanding of teaching and learning. Specifically, they propose a "[mediated] praxis model of teacher preparation in which teacher learning is linked to pedagogical practices, student learning, and the contextual supports available and created" (p.100).

I look to the models developed in this scholarship in order to gain an understanding of how participants in my study engaged in this mediated praxis, namely through a process of engaging in 1) Collaborative inquiry around course concepts/texts; 2) Documentation and reflection on teaching practice via field notes; and 3) Situated practice in both the context of our course and in the practicum field. In this regard, the field note (also commonly called the *cognitive ethnography*) was an invaluable data set for this study. Gutiérrez and Vossoughi (2010) explain:

> Notably, the cognitive ethnography, a central tool in our work with novice teachers, becomes a site for sense making, synthesis, reflection, and mediated praxis and helps to refute long-held dichotomies often taken up in teacher education: theory/practice, university/ community, and researcher/practitioner (p. 104).

In addition to gaining insight into the thought processes of my participants through the cognitive ethnography, or hereby referred to as the Field Note (FN), I also made note of how undergraduate novice teachers enacted ideas through a mediated discourse analysis (Jones & Norris 2005) and through an analysis of their cooperative activity (Goodwin, 2017) in the afterschool program Space2Crea8 (more on this program shortly).

Shifts in Practice

From my analysis of a collection of 84 field notes written by the fourteen participants, I saw a broad shift in their reported understandings of literacy and learning theory; in effect, appropriating these concepts in their work with youth. The most significant of these shifts was in

how the undergraduate novice teachers defined literacy, specifically as they engaged in practicum field work. In my coding, I documented instances where participants defined notions of literacy as they connected them to their detailed experiences. Specifically, I paid special attention to how students saw literacy from autonomous perspective (see Collins, 1995; Goody & Watt, 1963) toward a more expansive, situated definition of literacy (See Gee, 2000; Barton & Hamilton, 2012; Heath, 1983; Street, 2003). In addition, I noticed how students reported a shift from organizing learning in their practicum work with youth from vertical to horizontal forms of learning. Table 5.1 outlines examples of codes used to map these expressions (excerpted from a greater code thesaurus), along with frequency counts across all 84 field note written by my 14 undergraduate novice teachers.

Table 5.1: Frequency counts of select codes relating to literacy and learning theory present in participant field notes.

Code Name	Definition	Instances Across Field Notes					
		FN 1	FN 2	FN3	FN4	FN5	FN6
Autonomous Literacy	Enactment, as documented in the field notes, which index autonomous views of literacy–views that see literacy as static and skill-based.	13	11	8	9	8	6
Situated Literacy	Enactment, as documented in the field notes, which view literacy as situated and dependent on socio-cultural contexts.	2	6	14	13	16	13
Socio-critical/ Socio-political Literacy	Enactment, as documented in the field notes, which view literacy as avenues for social transformation.	1	4	8	7	6	6
Vertical Forms of Learning	Documentation/reflection of novice teacher organizing for learning that is teacher/adult-led and centers expertise of teacher/adult.	16	11	8	9	9	7
Horizontal Forms of Learning	Documentation/reflection of novice teacher organizing for learning	6	7	9	10	13	11

	that offers a distribution of expertise and leadership of activity.

Table 5.1 illustrates a broad shift where the participants of my study initially centered literacy as the acquisition of skills (autonomous perspective) towards one that began to see literacy as something that emerges from social interaction and is situated culturally and historically. This progression occurred throughout six field notes. It is important to note that my analysis revealed that the field notes often showed a combination of codes which highlights my participants' experimentation with approaches within the same interactions. What my analysis reveals is that there are more instances of defining literacy as situated and of horizontal learning documented in later field notes. These shifts do appear to occur at significant points, at Field Note 3 and again at Field Note 5, corresponding to weeks seven and eleven of our course.

Given this dissertation's focus on the use of digital tools, I paid further attention to how the novice teachers in my study documented their developing understanding of literacy and learning as they dealt with digital tools. In Table 5.2, I highlight the instances of two codes that attend to this focus on the social organization of learning as it relates to digital tools: a) vertical uses of digital technology and; b) Horizontal uses of digital technology.

Table 5.2: Frequency count of codes relating to use of digital technologies.

Code Name	**Definition**	**Instances Across Field Notes**					
		FN 1	**FN 2**	**FN3**	**FN4**	**FN5**	**FN6**
Vertical Uses of Digital Technology	Instances where the digital technologies were used organize for learning that was generally adult-led.	9	9	6	7	8	6
Horizontal Uses of Digital Technology	Instances where learning, using digital technologies, was co-led with youth in the after-school programs.	1	5	8	10	9	9

Of note in Table 5.2 is how students generally shift from organizing learning with their youth from more vertical forms to more horizontal forms of using technology. The former refers to instances where the undergraduate novice teachers of my study used digital technologies to organize for learning that was generally adult-led. The latter refers to instances where learning was co-led with youth in after-school programs. It is important to note, as with the previous Table 5.1, that these codes often emerged simultaneously in the same field note with more instances of horizontal uses of digital technologies emerging in later field notes. In order to gain

an understanding of this specific shift in organizing for learning using digital technologies, in the following section, I return to Christine's (discussed in Chapter 3) field notes and video recordings of her interactions with youth.

Mediated Praxis: Shifts in Practice and Enactment of Concepts

I present here a brief analysis of Christine's work with youth. In doing so, I highlight the ways in which Christine carefully builds relationships with students, through the use of digital technologies, that builds upon her and their emerging expertise. As will soon become clear, Christine engages in a sophisticated reflection practices and experimentation in her efforts to become a better teacher.

Christine was part of a team of four undergraduate novice teachers and myself who designed a version of the Space2Crea8 program that was envisioned to be a science fiction short film production workshop. In our designed version, undergraduates worked with teams of three or four youth to create short digital films that were of the sci-fi genre. Of note, most of the youthful participants were Latinx, of Mexican and central American heritage. In following our vision of a film production format, these same youth self-assigned roles of writer, director, director of photography, actor and editor. In several cases, they took on multiple roles throughout the program. The ten-week program was designed by the undergraduates and myself to follow a film production arc with specific steps: (1) the assigning of production, acting, and editing roles; (2) generating of film ideas; (3) script-writing and story-boarding; (4) filming; and (5) post-production and editing. This arc was presented to the youth as a suggestion, but the teams were at liberty to work in whatever order they deemed appropriate. The film production space was saturated with a variety of tools including a green screen, iPads for filming, a costume bin, director clapperboards, paper storyboards, and laptop computers with film editing software.

In this afterschool space, Christine took her responsibility as co-designer seriously, often grappling with how to best organize for learning and with her role in that space. Throughout the 10 weeks of the program I saw ecological huddles (Goffman, 1961; Goodwin, 2007) forming, as Christine tested different pedagogical practices (See Figure 5.1), sometimes observing students at a distance (frame 1) while they worked on student-led activities, offering help only when asked; and then engaging in more side-by-side work (frame 2), also full on participation as cast member under the direction of one of her students (frame 3).

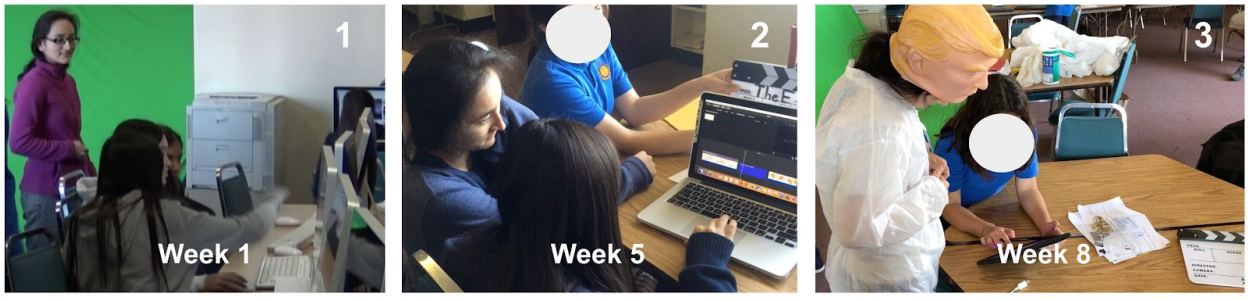


Figure 5.1: Screen-grabs from video documenting Christine's interactions with youth.

Figure 5.1 shows Christine engaging in different activities with her youth as the weeks progressed. She worked, primarily, with a group of young women who were creating a sci-fi digital story about President Donald Trump who is in cahoots with an invading alien robot army and is ultimately defeated by being sucked into a black hole. At the beginning of the program (week 1), Christine expressed that she never saw herself as a teacher and considered herself shy. She felt unsure about her role in the after-school space and it manifested in her hovering over students as they engaged in the initial planning phase of their digital stories. Excerpt 5.1 illustrates Christine's initial reflection on her role in the afterschool space:

Excerpt 5.1: Christine's reflection in Field Note 1 (February 5, 2018).

Why was it a challenge for her to come up with Ideas? It clearly wasn't that she didn't have ideas, because I was able to get her to commit to a role and she offered the creative suggestion of having Trump be a chair. Was the task not clear? I didn't clarify with her whether she understood what we were doing. Or maybe text editors were not a familiar tool for Janet (which might explain her difficulty adding a bullet point)? And why did she make this document in the first place? Could this be another sign that the Google slides were difficult for her to use? In hindsight, I should ask the students before letting them work whether the directions were clear and whether they had questions on how they could use the tools provided to make their movie.

In this excerpt from her first field note reflection, I see Christine contend with her role in an activity that is meant to be student-led: the generating of ideas for a film (lines 1-2). She initially sees her role as the communicator and upholder of a task-at-hand (lines 3-4). Christine further takes responsibility for not ensuring that her students understood how to use the tool meant for the task, Google slides (lines 8-10). Of note, the initial task and recommended digital tool was presented by me on this the first meeting of our after-school program. In this sense, I view her reflection of her practice centering my expectations. In doing so, Christine unwittingly maintains a vertical orientation toward learning; one that is predicated on tasks that are dictated by an adult. My claim here is that during her initial interactions, Christine has good intentions, but perhaps lacks the pedagogical knowledge to enact practices that decenter adult orchestration. As her participation in this after-school program progressed, however, I see her pedagogical practices shift, especially as she begins to see digital tools as powerful mediators of learning activity.

Of specific relevance to this study, I noted that Christine often reflected on the role of digital technologies in the social organization of learning in the after-school program. She became increasingly aware of the ways that the digital instruments mediated the distribution of expertise and participation in the space. Christine grappled with how to organize learning using these digital tools that both advanced the project but helped them maintain the imaginary narrative. The following excerpt is from Christine's fourth field note, roughly around mid point of the project.

Excerpt 5.2: Reflection from Christine's Field Note 4 (March 26, 2018).

1 Of course, this complicated role-negotiation, task-switching, multi-tasking, and
2 inter-personal management is occurring in parallel with the students' growing
3 familiarity with sophisticated technological tools (iMovie, MacBooks, iPads,
4 cables, etc.). I would be interested in exploring further how the students' roles
5 predetermine what modes the students can engage in and how their changing
6 knowledge of the technology expands the types of modes the students can use
7 to participate in the film.

This reflection excerpt reflects how Christine has began to see her role to be more than just the task manager, but one that involves multiple responsibilities (lines 1-2). In addition, she demonstrates an attention to the learning and literacy development of her students, specifically around the use of digital technologies (lines 2-4). More significantly, Christine is beginning to see the role that the social organization of learning plays in her work with youth (lines 4-7). This excerpt illustrates how Christine was developing a complex sense of the role of tools and participation structures in the learning of new literacies, but also in the fulfillment of a common object of activity; the common object being the participation in a film designed by youth (line 7).

Later in the program, as her pedagogical skills become more developed, Christine continues to deeply examine the social organization of learning in her interactions with youth. In the following excerpt, from her final field note reflection, she shifts to examining the participation structures and power relations that she saw emerging as youth took a more central role in the activities.

Excerpt 5.3: Reflection from Christine's Field Note 6 (April 23, 2018).

1 My sanctioning the girls' playfulness may have also been a factor in keeping the cast
2 more productive compared to last week. [Young cast member] might have been upset
3 about [the young director] controlling them in a rude tone for the last several weeks, but
4 her most specific comment about [the young director]'s attitude was the one about
5 seriousness. For her, [the young director] was sucking the fun out of the film-making
6 process by yelling at them to stop laughing. She was telling them explicitly not to have
7 fun because they are filming (and laughing would be breaking the fourth wall). It seems
8 like a tricky situation for any director or teacher when your students aren't paying
9 attention or focusing – how do you leverage the transgressive behaviors of students into
10 something compatible with the main goal of the activity? I would not realistically expect
11 [the young director] to come up with the alternative explanation that I did on her own, but
12 maybe with time, she will become more lenient and play with the cast instead of exerting
13 control over them.

In this reflection, near the end of the filming, I see Christine make a significant shift from being a task-master to one where she is trying to delicately moderate tensions within a student-led activity. Namely, she noted how the young director in her team had in effect embodied a dictatorial teacher role (lines 6-8) that "was sucking the fun out of film-making" (line 5). Christine highlights enduring tensions around ensuring that a team stays on task in order to complete an activity (lines 7-9), while trying to privilege the transgressive, joyful, and playful practices that young people can bring. While this reflection does not offer a solid solution for

resolving this tension in her practice, Christine does offer an opening for examining how her participation as an adult in this space can be rearticulated in order to uphold the youth-centered nature of the activity. That is to say, that in sanctioning what may be considered a transgressive activity (line 1) Christine modeled for the young director what guiding participation–indeed teaching–may look like in a context that privileges play and fun.

Christine's pedagogical practice became increasingly nuanced in this after-school space, in a sense enacting practices of a teacher educator herself by modeling practices for the young director on her team. In some instances, she served as a buffer between the young director and the young cast members, as seen in Excerpt 5.4 from her focused observation on April 23rd.

Excerpt 5.4: Focused observation from Christine's Field Note 6 (April 23, 2018).

1 I tried to anticipate when the cast would get lost or frustrated with her unexpected
2 changes to the script, so I made sure to follow up after each scene and ask [the young
3 director] to articulate what exactly happens next so that the rest of the cast could
4 understand and prepare mentally as well. For instance, when [the young director]
5 suggested that the girls should run away after Trump comes back and that Trump would
6 just get sucked into a black hole after they run away, I challenged the logic of this scene.
7 "They're running away again? But the last time we saw them, [young cast member] said
8 they're going to make a plan. What about if they say, 'Let's go inside to the black
9 hole'? That way the black hole also doesn't just appear out of nowhere." [The young
10 director] didn't have a major problem with this change and we filmed the next scene in
11 one take. She even told me "Great job, Christine. That was perfect!" when I improvised a
12 line, "Go get them, JJ," in this scene.

The interaction documented in this excerpt signals a keen attention to the social organization of learning by Christine. I propose that she is well aware of her power as an adult in that space and channels it in ways that anticipates and mitigates potential strife and tension (lines 1-2). Further, she strives to continue privileging the contributions of the youth by centering their contributions and offering suggestions that do so (line 7-8). This example illustrates how Christine decenters herself as the sole orchestrator of activity and has found ways, by the end of the program, to ensure that her participation aided youth in taking control of the creative and production aspects of this digital story. This, I believe, was a key shift in her pedagogical practice.

Discussion

This chapter aimed to illustrate a shift in how the undergraduate novice teachers appropriated and enacted key theories around literacy and learning. I noted shifts which I claim were widely mediated at key moments of the course by the collaborative and compositional practices that were described in Chapter 3 and Chapter 4. Notably, the novice teachers began developing more expansive notions of literacy and horizontal forms of learning. Moreover, and to the focus of this dissertation project, they developed understandings of the important role digital tools play in the social organization of learning.

In addition to seeing the important role that digital tools play in the social organization of learning, this chapter highlights how one of my novice teachers, Christine was especially concerned with how these tools fostered a type of playfulness that aided youth in the creation of a digital artifact that imagines a new social future, a social future that is free of the tyranny of Donald trump. Through an analysis of her weekly field notes and my observations of her in the afterschool program, it is my belief that the aforementioned negotiations of roles and careful enactment of expertise by Christine (Excerpt 5.2, lines 1-2) was grounded in a desire for her youth create an imagined world of their design (Excerpt 5.2, lines 5-7; Excerpt 5.4)–one that was fantastical but that dealt with an everyday dilemma relating to an antagonist who is doing very real harm to their communities. In my view, Christine's shift in pedagogical practices were not only informed by socio-cultural theories of learning and literacy, but also by the socio-political. In her mid-term assignment, she stated: "[...] using Freire and Anzaldúa as guides for navigating future literacies, I hope to work toward developing more 'powerful literacies' in the future in my personal life and in my fieldwork" (Christine's *Literacies: Past, Present, & Future* Assignment, March 21, 2018).

Christine's shift in participation in the afterschool space indicates to me that she had, herself, designed a *meshwork* (see Chapter 3) where youth connected to a digital embodiment of themselves on the screen, edited into a new world with green screen technology, in a sense using a digital embodiment to perform a self in order to reframe what contestation is and to liberate themselves from oppression. Like the collaborative inquiry around Christine's emoji artifact discussed in Chapter 3, the opportunities that she had a hand in designing provided an opportunity for students to leverage a digital creation for sociopolitical critique thus, opening up possibilities to imagine and practice new social futures.

CHAPTER 6: CONCLUSION

This dissertation examined the collaboration practices of undergraduate novice teachers in the new communication ecology of the higher education classroom. Specifically, this Social Design-based research project informed the creation of a course that fostered opportunities for enactments of expertise and mediated praxis in ways that leveraged an everyday reality of digital interconnectivity, a practice that is not common in undergraduate courses (Vie, 2018). In focusing on the role of digital tools in mediated praxis, I also documented the learning that occurred by novice teachers as they appropriated core concepts from our practicum course and then enacted them in their work with young people. The findings show that intentional design can result in powerful examples of novice teachers enacting expertise across digital and face-to-face terrains, in fluid and multi-voiced ways.

Chapter 3 illustrated how a learning environment that is saturated with a variety of digital tools for connectivity and embodiment fostered a distribution of expertise amongst novice teachers. Christine, in particular, marshalled her developing understanding of socio-critical and socio-political literacies through the creation of sophisticated multimodal digital artifacts as well as her contributions to face-to-face discussions in our course. This chapter further shows how Christine's expertise was taken up by other members of our learning community, across digital and face-to-face sites, through what I have come to theorize as a *meshwork* of activity. I claim that the fluidity with which expertise was distributed via this meshwork was facilitated by an intentional design which privileged an openness between the digital and face-to-face activity systems (Engeström, 1999) of the course. In Chapter 4, I focused on the compositions of the participants of my study, with special attention to how they reorganized everyday and academic knowledge, toward the creation of syncretic texts and multimodal artifacts. As explained in this chapter, I saw these individual and collaborative creations leveraging affordances present in today's digitized social media reality. That is to say, my students' compositions reflected a sophistication in rhetoric and aesthetics that reflects how young people communicate and build arguments using online tools (Vie, 2018). Finally, Chapter 5 provides insight on how the undergraduate novice teachers in my study appropriated literacy and learning theory and enacted this expertise in their work with youth.

We have much to learn from the ways that undergraduate classroom make meaning, collaborate, and compose when the floodgates of tool use are opened in a designed learning environment. While I have highlighted some significant affordances, there were questions, constraints, and tensions that became visible and warrant further attention. These fall under theoretical and methodological considerations.

Theoretical and Methodological Considerations

Re-mediating the Digital University

The research presented in this dissertation builds upon a body of scholarship that has sought to re-mediate the university–in a sense decentering it as the sole site of valuable knowledge and disrupts vertical forms of learning. In this regard, I have paid special attention to how digital tools are intentionally integrated into the learning environment of the undergraduate classroom. Specifically, I have built upon scholarship that has made use of robust collaborative

tools for the purposes of composition and meaning making. What I have attempted to address is the philosophical and theoretical underpinning traditional institutional models for using digital technologies and how one can design for more opportunities that are equity oriented and deprivilege vertical, hierarchical forms of learning. That is to say, even with the best of intentions, institutions like the university may use emergent technologies that reify banking concepts of education (Freire, 1970). In figure 5.1 I illustrate three models for digitally mediated discussion and collaboration: 1) Common Institutional Models; 2) Social Media Models; and 3) the Designed Hybrid Course Model of my course.

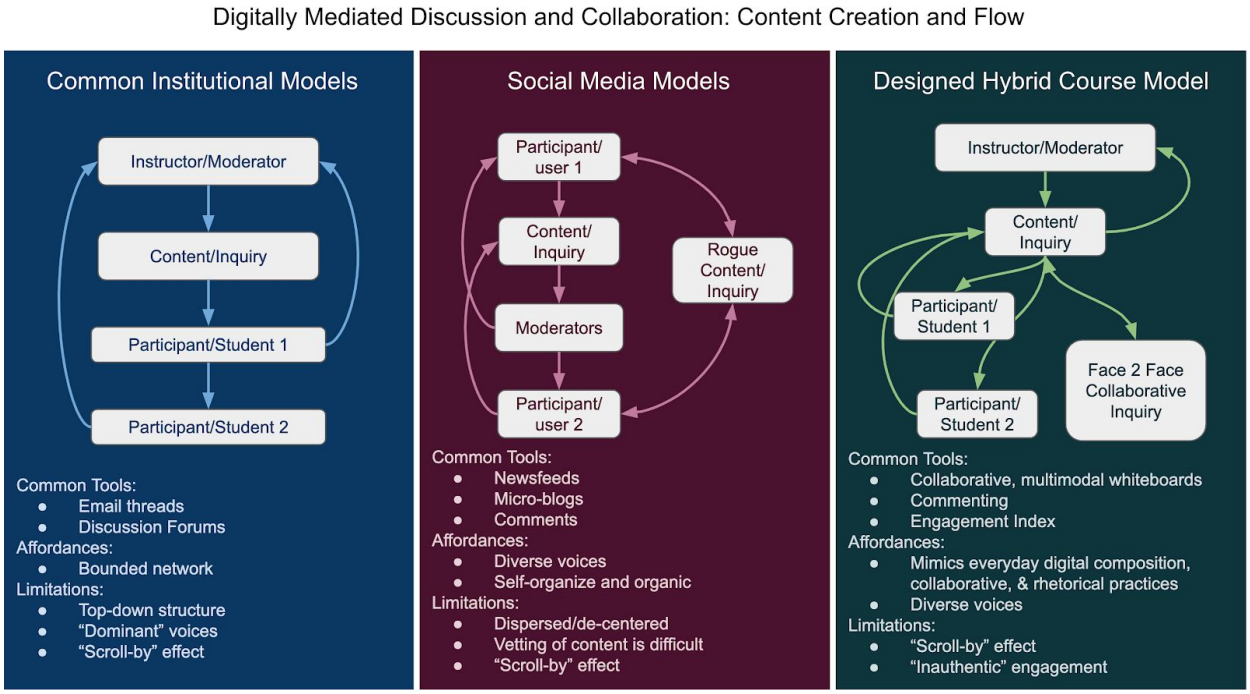


Figure 6.1: Three approaches to digitally mediated discussion and collaboration.

In my reading of the literature pertaining to technology integration in the undergraduate classroom, three concerns emerge around the vertical forms of learning that are often upheld: 1) Technologies are used to "manage learning" and to collect data that supports static learning outcomes (Dahlstrom, Walker, & Dziuban, 2013); (2) Students are often bogged down by the authority of the institution and the instructors who represent it, stifling creativity (Lea & Jones, 2011); and 3) The effectiveness of collaboration tools is solely measured through their ability to share resources and maintain communication with instructors (Kai-Wai Chu & Kennedy, 2011). Figure 5.1 illustrates this top-down design, in the first column titled Common Institutional Models, that is fostered by a design that positions instructors as the arbiters of content and distribution.

In contrast to institutional models, a mainstream Social Media Model (illustrated in the middle panel of Figure 5.1) offers multiple avenues for content creation and moderation. Furthermore, this model also offers opportunities for other less-sanctioned *rogue archives* of content and collaboration to emerge (DeKosnik, 2016). One of the most appealing aspects of this model is the distribution of expertise, the robust collaboration, and the playfulness that it

engenders. I note in the above figure, with the multidirectional arrows, how social media practices can give insight on how more horizontal forms of learning can be organized.

My study sought to organize for learning that sought to leverage everyday social media practices, while still recognizing the affordances that the university offers in terms of resources, expertise, and opportunities for developing theory and praxis (see final panel on Figure 5.1). In this regard, this study designed opportunities for multimodal compositions, collaboration, and archiving that mimicked those seen in everyday social media tools. However, while Chapters 3 and 4 illustrate some powerful examples of collaboration and creative composition, some limitations emerged around the authenticity of the collaborations and tool use. James (featured in Chapter 4) expressed in his final interview, for instance:

> "I think the activities could have been more like thought-provoking. I don't know, some of them just seemed like busy work, a little bit on the surface, you know. And some of them made me think, and I like had fun with them. But some of them it was just made them fit the assignment, you know. I'd rather have less and have the quality go up" (Interview, May, 2018).

What this indicates to me is that *digital natives* (see footnote in Chapter 1) like James have grown quite accustomed to digital tools being used in their undergraduate experiences; however, they remain suspect of their true utility beyond their use in fulfilling some kind of course requirement. While my findings do show ingenuity and agency in the repurposing of said digital tools, I remain mindful of the ways that, despite best intentions, the institutional constraints continue to rear their head even by design. For instance, one of the clear design limitations of my study is that many of the questions and themes of inquiry continued to be driven by me, the instructor of the course. That is not to say that there were not instances of distributed expertise and labor in our online and in-person learning community, but future research will warrant further examination of how to design for a social organization of learning where the use of digital tools for collaboration and composition feel more authentic and fruitful for undergraduate students.

Authorship, Originality, and Academic Honesty

A tension that goes hand-in-hand with concerns over institutional demands is that of assessing and evaluating authorship and learning by individual students. In this project, I have shown examples of what I believe constitute both individual and collective development and appropriation of course concepts, distribution of expertise, and enactment of expertise. Admittedly, the design of the study often obfuscated individual contributions in authorship. An enduring question then persists: How does one reconcile an equity oriented pedagogy that privileges the development of the collective zone of proximal development (Gutiérrez, 2008) with the demands of institutions that privilege individual student success and achievement?

The blurring of the individual student author further brings up concerns around cheating and plagiarism. As noted in Chapter 3, previous pilot studies emerged concerns around plagiarism when teaching colleagues and I noticed on occasion that student assets were being lifted and used by others with little to no modification. While I believe that my design attenuated such practices by promulgating an ethos of collaboration, the tension endures, specifically when

it concerns equitable distribution of labor during group activities and projects. Thus, despite an attempt to design a learning environment that distributed labor and fostered relational equity (DiGiacomo & Gutiérrez, 2016), my course indeed opened opportunities for students to engage in academic dishonesty, especially when faced with institutional pressures. A review of studies examining academic dishonesty, specifically in online courses, revealed that undergraduates are driven to *cheat* because of pressure to get good grades, procrastination, lack of time, inability to grasp course concepts, lack of interest in the subject matter, and/or workload from other classes (Jones, 2011). Students in my class were not free of these pressures, but I suggest that the design of the course allowed for students to feel supported in their learning and success.

Concluding Thoughts

This project was born of a desire to reframe the purpose of digital technologies in the higher education classroom. As such, I employed a design-based approach that sought to closely examine the naturalistic setting (Brown, 1992) of a classroom that used custom-designed tools for collaboration and "walked the talk" of New Literacy Studies (Gee, 2000; Street, 2003). That is to say, that in recognizing that our increasingly digitized and interconnected world fosters a new ecology of multimodal (Hull & Nelson, 2005; Jewitt, 2008) transmodal (Lizárraga, Hull, & Scott, 2015) connectivity, collaboration, and mobility, it was important to create a course that leveraged these affordances. This is especially salient as students who are sitting in our physical and virtual classrooms are predominantly *digital natives*. However, as I conducted this work, I did so fully cognizant of not being deterministic about the technologies (Smith & Marx, 1994) that were being introduced and taking heed of the transformability of digital tools (Gutiérrez, Higgs, Lizárraga, & Rivero, 2019) as the object or goal of activity was co-developed. In other words, as with tools (digital and otherwise) in our everyday lives, it is important to allow for instruments to be malleable if we are to design for learning that is expansive.

This dissertation study builds upon my previous work in design-based research that makes intentional use of cutting-edge tools and are inspired by everyday social media technologies. In this study, as with current and future work, I explore the affordances and constraints of the digital tools that permeate our everyday lives; tools that foster creativity and connectivity, but can still reify existing systems of inequity and oppression (Vakil & Ayers, 2019). In this regard, I orient myself toward notions of hope and possibility rather than what is conceived as *doable* within existing constraints and structures of institutions. In this sense, the work presented here has not been about integrating technologies into the existing institution of the university, but more an exploration of how leveraging everyday repertoires of practice at the intersection of the digital and face-to-face can help transform or *re-mediate* the university (Gutiérrez et al., 2009). This is an important enterprise for any scholar yearning to generate scholarship that advances justice and equity.

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Appendix A: Course Syllabus

ED120AC The Art of Making Meaning:

Educational Perspectives on Literacy and Learning in a Global World

West Coast University

Spring, 2018

Course Description

ED120AC is a hybrid online course. Students will work through readings and activities each week online, and they will also participate together in an in-person session on campus. As we explain below, there's also a fieldwork component in which ED120 students serve as mentors and tutors for kids in local after-school or school day programs. The focus of ED120 is to understand how we use language and other modalities to communicate in a digital age—that is, how we use a variety of symbol systems to make meaning. Communication has of course been revolutionized of late, as social media have taken the world by storm. Especially apparent at the current moment is the need to be critical, reflective, and ethical in one's use of new media tools. These are topics we will address, not only through readings, but through participation with each other online, and through our work with children and youth.

The use of symbol systems such as language, writing, song, and gesture in communicating with others maintains a long history of scholarship, particularly in the field of education. With the coming of the digital age—one in which for many people paper and pencils and bodies have been replaced with screens and cameras and avatars—many practices of symbolization have moved into online, digital spheres of creation, curation, and circulation. To put this shift in perspective, every minute on the Internet in 2013, 72 hours of video were uploaded to YouTube, 216,000 photos were shared on Instagram, 278,000 Tweets were sent, and 571 new websites were created. According to a 2013 Pew Internet Survey, around 21 million (or 87% of) American teens (12-17 years old) use the Internet, while 33% of online teens share their own creative content. It is not surprising, therefore, that educators around the globe have taken a keen interest in better understanding how young people are learning online and with digital tools, and how these kinds of learning experiences can be mapped onto existing paper and pencil classroom practices and curricula. In this course, we are interested in understanding how youth develop their literate capacities, both in print and digital form, in classrooms and beyond them. We are also interested in understanding these literacy practices across time and space by exploring

literacy in local and global contexts and examining schooling and education in culturally diverse classrooms in the US and around the world.

Drawing from both historical and contemporary sociocultural theories on literacy and language as well as recent empirical research from education and new media scholars, we will explore an array of digital and non-digital forms of meaning-making and symbolic creativity, such as meme-generating, video making, micro-blogging, multi-player gaming, and app designing, as well as more traditional and non-digital or pre-digital forms of cultural participation and civic engagement. Our inquiry will span both the technical and aesthetic dimensions of these practices, as well as the social contexts and global cultural and commercial flows that give those practices their meaning.

We will be guided by the following questions:

- *What is literacy in a digital and global age, and what is the value of becoming and being perceived as literate?*
- *How do definitions of what counts as literacy vary—from place to place, context to context, time to time, language to language, mode to mode, and culture to culture?*
- *How do the social, cultural, and political values ascribed to these definitions of literacy impact or privilege certain modes and forms of meaning-making?*
- *How is literacy taught, learned, and acquired—in school and outside it, in a first language or a second or third, in global and local contexts, and online and face-to-face?*
- *How can classrooms be reimagined as spaces for youth to take collective action in the world as active and engaged citizens, informed by critical inquiry, self-reflection, and identity expression?*

In this course, we will develop critical understandings of course content through the creation of texts and digital artifacts, focusing on how different media and modes of meaning-making can be used in the production and sharing of knowledge. We will also apply theoretical ideas from readings to recent news articles, teacher and practitioner blogs, educational websites, and other mediations of current happenings in the world, as well as through our fieldwork (see below for details), where we will apply key ideas and pedagogical strategies from course readings in our own educational work. In reflecting on how educational theories relate to practice, we also will learn the fundamentals of educational and ethnographic research. Students will draw upon their data collected through fieldwork, course readings, and other available course content in authoring a final Case Study paper that explores a relevant literacy theme or issue.

Throughout the course, we ask how culture intersects with learning to read and write, and we will be alert as well to how symbolic systems like written language and image convey cultural meanings and how these meanings and the cultures they represent shift, blend, and hybridize in a global and digital world. As an American Cultures course, we will examine race and culture in the US across different geographic and ethnic dimensions. However, we will also explore readings and conceptual frameworks on race, culture, and language in the context of a globalized world. In so doing, we will consider how traditional and bounded categories of race, culture, and

language are shifting and blending amidst the broad scale circulation of cultural goods, peoples, and connective technologies.

Learning Objectives

- Students will gain a foundation for understanding socio-cultural ideas about literacy and language through an engagement with theoretical texts, video lectures, and discussion/learning activities with peers.
- Students will gain practical strategies for teaching and working with diverse groups of young students through an engagement with practitioner blogs, video interviews with teachers, and reflective practice on their own teaching.
- Students will learn key terminology and ideas about how different forms of media, social and cultural context, and aesthetic forms shape meaning in literacy practices in and out of school, locally and globally, through engagement with key texts, video lectures, and through analysis of digital artifacts.
- Students will gain the methodological tools for conducting ethnographic and educational research through engagement with key texts, video lectures, and through their own fieldwork experiences, which culminate in drafting a case study report of their research.
- Students will gain an understanding of relationships between meaning-making and literacy practice and race, ethnicity, language, class, and culture, focusing on the North American context but also introducing global contexts as well through an engagement with key theoretical and empirical texts and video interviews with researchers working in these areas.
- Students will gain an understanding of the impact student race, language, culture, and ethnicity has on education and schooling through engagement with key texts, video lectures and reflective practice on their own teaching experiences.
- Students will gain fluency in writing and knowledge of two academic genres by composing a personal essay and a social science research report.
- Students will learn to use new digital tools in creating multimedia texts that demonstrate critical understandings of course content, as well as learn how these tools shape the meaning of texts through their own experiences.
- Students will learn to work collaboratively online through the use of digital tools.
- Students will gain an understanding of the relationships between literacy practices and meaning-making and democratic participation and civic engagement through analysis of key texts, video lectures, and examples found online.

Grading Breakdown

Online Discussion Participation and Activities (20% of your final grade):

This grade will be based on your work each week moving through the online activities and your participation and attendance in discussions. The online Engagement Index will not be used directly for grading, but will be consulted by the GSIs and your professor for rapid feedback about your participation in the online portion of the course. Students are encouraged to contribute interesting artifacts and learning materials to the class, comment and discuss with peers, and impact the learning community both online and in the section meetings. Please note

our attendance policy in the next section. You will receive a participation grade (10 Possible Points) at midterm and at the end of the semester (10 Possible Points).

Online Field Note Share-Outs. As part of the participation requirements, students will sign up twice during the semester to share an excerpt from their field notes (see below) for a collective analysis and discussion online. Beginning the fourth week of class, 7-8 students will share their work as a whiteboard in the asset library.

Field Notes (25% of your final grade):

Throughout the semester, students will submit 6 field notes that use qualitative research methods learned during the course in observing, documenting, and analyzing fieldwork experiences. Detailed instructions on writing field notes will be provided before you are asked to write your first note (during Week 3). Make sure you follow these guidelines, including those related to formatting the field notes. In general, field notes should include lots of vivid, detailed description. You will also relate your experiences in the field to class readings and discussions in an insightful way. Please note that your GSI will comment on your first 2-3 field notes in detail, making sure that you understand how to write excellent ones. Thereafter, your GSI will read and grade each field note, but will not comment in detail.

Literacies: Past, Present, Future (25% of your final grade):

Students will author a chronicle of their history with literacy practices that they have developed in the past, those they are presently developing at UC Berkeley and other contexts, and those they envision developing in their work with youth. This written or multimodal assignment will document their own experiences in becoming literate. Drawing from theories and key concepts from course readings to frame their narratives, students will relate their own narratives to broader issues pertaining to education, literacy, society, and culture. The Literacies: Past, Present, Future assignment will allow students to engage multiple forms of creative expression, including image, sound, video, and text, and will be assessed using a rubric by GSIs.

Case Study (30% of your final grade):

Students will write a Case Study (8-10 pages, not including references and appendices) based on a qualitative analysis of field notes (see above) written throughout the semester. The Case study will employ course concepts to explore a research question focused around an educational issue and will be assessed by GSIs using the Case Study rubric. Detailed instructions on writing the Case Study will be provided.

Course Logistics

Attendance:

Please expect to attend in-person discussion sections, and be alert to the fact that excessive absences will affect your final grade. You may have **one** unexcused absence during the semester without your grade being affected. If you have more than one unexcused absence, points will be taken from your participation grade. If you present legitimate documentation, such as a doctor's

excuse or a letter from your coach, your absence will be considered excused and not affect your participation grade.

Weekly Online Activities:

Weekly Inspire, Explore, and Share-Out (on weeks you are signed up) activities are due BEFORE your weekly sections every Wednesday by 11:59 pm.

Collaborate, Research, and Reflect activities are due by 11:59 pm every Sunday.

Due dates for field notes, the Literacies: Past, Present, Future assignment, and the Case Study are provided in the Weekly Topics, Readings, and Due Dates section below and also on the website under Assignments. All assignments must be turned in by the indicated due dates; written assignments (i.e, field notes, Literacies: Past, Present, Future assignment, and case study) will be penalized with a reduction of a third of a letter grade PER DAY if they are turned in within 3 days of the due date. If the assignments are submitted beyond 3 days late, they will not be accepted). Weekly online activities will not be accepted beyond the due date indicated.

Please note: GSIs will take attendance each week during online discussion sections. If you need to miss class, or if you need special accommodations for completing assignments, or if you want us to have emergency medical information, please let your GSI know. We are here to work with you and help you learn and perform at your best. We encourage you to reach out to us proactively (we don't bite!)

Field Work

Purpose:

Field work is an integral component of the course because it gives students an opportunity to apply what they are learning in our class to their experiences working in an educational context. Students will develop tutoring and mentoring skills in a supported environment (with guidance from the course instructor, GSIs, and school site coordinator), while simultaneously forming strong bonds with youth. To that end, we have developed a set of requirements and guidelines that will help students in our course and the youth that they are working with have the best experience possible.

Fieldwork Requirements:

For this course students will complete 30 hours (not including travel) of fieldwork during the semester at a school or other educational site, where students will work with school-aged students in varying capacities (such as tutors, teachers' aides, and mentors). We expect ED 140 students to attend their field work site on 10-12 occasions for approximately 2-3 hours on each visit. However, students are welcome to go to their site more times if desired. This enables students to develop deeper bonds with their mentees and to collect more data, making for a stronger final research report.

Students will be provided information on ED120 fieldwork sites that we have arranged in several after-school and school-day programs during the first and second weeks of the semester. Students may also submit an application to carry out their fieldwork site at a school of their choosing.

Keeping Track of Hours:

To ensure successful completion of the required number of hours,students will maintain a timesheet that will be initialed by the site supervisor after each visit and be submitted to the GSI at the end of the semester. In some cases you may be asked to check in electronically and will obtain a printed timesheet from your site at the end of the semester. Please be sure to verify time-keeping procedures with your site supervisor on your first day. GSIs will verify your timesheet with the site supervisor at the end of the semester.

Navigating the Online Course and Working with Digital Tools

Fifty percent of this course is online. Online discussion sections, video lectures and activities take the place of the in-person lecture. This course requires no previous experience working in online environments or with digital tools. Course introduction materials will provide students with a general tutorial for navigating the Canvas environment and course content, as well as for launching collaborative tools. An archive of tutorials will also be provided for helping students use freely available digital tools for completing multimedia assignments, such as using movie-making, photo editing, and sound editing software.

Managing Your Work in this Course:

This course requires ongoing participation in completing course assignments. For instance, it is not advisable for students to try to complete a week's worth of work in a single sitting. Instead, students should plan a consistent schedule for working on course materials at least three times per week, and should be responsive to other group members' messages at least every other day. This will help ensure equal participation and successful collaboration.

Satisfying University Course Requirements:

This course satisfies an elective course and one unit of the three required fieldwork units for the Education Minor. It also satisfies the American Cultures requirement.

Weekly Topics, Readings, and Due Dates

Week 1: Course orientation and introductions (Tuesday, 1/16):

Week 1 (1/16-1/21): What is Literacy?

Gee, J.P. (1998). What is Literacy? In V. Zamel & S. Spack (Eds.), *Negotiating Academic Literacies: Teaching and Learning Across Languages and Cultures* (pp. 51-59). New York, NY: Routledge.

Scribner, S. (1984). Literacy in three metaphors. *American Journal of Education 93*(1), 6-21.

Week 2 (1/22-1/28): Creativity in Everyday Literacy

Walsh, C., (2007). Creativity as capital in the literacy classroom: Youth as multimodal designers. *Literacy, 41*(2), 79-85.

Kirkland, D. E. (2009). The skin we ink: Tattoos, literacy, and a new English education. *English Education, 41* (4), 375-395.

Willis, P. E., Jones, S., Canaan, J., & Hurd, G. (1990). Chapter 1: Symbolic creativity. In *Common Culture: Symbolic Work at Play in the Everyday Cultures of theYoung* (pp. 1-14). Milton Keynes: Open University Press.

Week 3 (1/29-2/4): Research in Literacy

Bogdan, R. C., & Biklen, S. K. (1998). *Qualitative research in education. An introduction to theory and methods* (pp. 101-110). Thousand Oaks, CA: SAGE.

Gutiérrez, K. D., & Vossoughi, S. (2010). Lifting off the ground to return anew: Mediated praxis, transformative learning, and social design experiments. *Journal of Teacher Education*, *61*(1-2), 100-117.

<u>*Bonus Read*</u>

Fadiman, A. (1997). Chapter 1: Birth , Chapter 6: High-velocity transcortical lead therapy, & Chapter 8: Foua and Nao Kao. In *The Spirit Catches You and You Fall Down: A Hmong Child, her American Doctors, and the Collision of Two Cultures* (pp. 8-18, 43-52, & 62-69). New York: Farrar, Straus and Giroux.

Previous ED 140 student field note examples.

Due 2/4: Field Note 1

Week 4 (2/5-2/11): Critical Literacy

Freire, P. (1970). Chapter 2: Banking concept of education. Pedagogy of the oppressed (pp. 71-86). 30th Anniversary Edition (2000) with an introduction by Donaldo Macedo. New York: Continuum.

Alim, S. (2011). Chapter 14: Hip hop and the politics of ill-literacy. In B. A. U. Levinson and M. Pollock (Eds.), *A Companion to the Anthropology of Education*(pp. 232-246), Wiley-Blackwell, Oxford, UK.

Evans, B. & Wilson, S.M. (2016). Chapter 4: Paulo Freire: The Pedagogy of the Oppressed. In *Portraits of Violence: An illustrated history of radical thinking* (pp. 49-60), New Internationalist, Oxford, UK.

Week 5 (2/12-2/18): Learning as Social Participation

Vygotsky, L. (1978). Interaction between learning and development & The prehistory of written language. In M. Cole, V. John-Steiner, S. Scribner, & E. Souberman (Eds.), *Mind in Society* (79-91). Cambridge, MA: Harvard University Press.

Rogoff, B. (1994). Developing understanding of the idea of communities of learners. *Mind, culture, and activity*, *1*(4), 209-229.

Goodwin, C. (1994). Professional vision. *American anthropologist*, *96*(3), 606-633.

Bonus Read (Highly Recommended)

Palinscar, A.S. (2003). Collaborative approaches to comprehension instruction. In Anne P. Sweet & Catherine E. Snow (Eds.), *Rethinking ReadingComprehension* (pp. 99-114). New York: Guilford Press.

Due 2/18: Field Note 2

Week 6 (2/19-2/25): Connecting School and Culture

Ladson-Billings, G. (1995). But that's just good teaching! The case for culturally relevant pedagogy. *Theory into practice, 34*(3), 159

Moll, L., Amanti, C., Neff, D., & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theoryinto Practice*, (31), 2, 132-141.

Alim, H.S. & Paris, D. (2017). What is culturally sustaining pedagogy and why does it matter? In H.S. Alim & D. Paris (Eds.) *Culturally sustaining pedagogies: Teaching and learning for justice in a changing world* (pp. 1-21), Teachers College Press, New York, NY.

Week 7 (2/26-3/4): Remix and the Living Text

Bakhtin, M. M. (2003). The dialogic imagination (pp. 73-81). In P. Morris (Ed.), *The Bakhtin Reader: Selected Writings of Bakhtin, Madvedev, & Voloshinov*. London, UK: Arnold.

Knobel, M., & Lankshear, C. (2008). Remix: The art and craft of endless hybridization. *Journal of Adolescent & Adult Literacy, 52*(1), 22-33.

Pratt, M. L. (1991). Arts of the contact zone. *Profession*, 33-40.

Due 3/4: Field Note 3

Week 8 (3/5-3/11): Language and Identity

Anzaldúa, G. (1987). How to tame a wild tongue. In *Borderlands/La Frontera: The new mestiza* (pp. 53-64). San Francisco: Spinsters/Aunt Lute.

Martínez, R. A., & Morales, P. Z. (2014). ¿ Puras Groserías?: Rethinking the Role of Profanity and Graphic Humor in Latin@ Students' Bilingual Wordplay. *Anthropology & Education Quarterly*, *45*(4), 337-354.

Bonus Read

Lizárraga, J.R. & Gutiérrez, KD. (In Press). Centering Nepantla Literacies from the borderlands: Leveraging "in-betweenness" toward learning in the everyday. *Theory in Practice.*

Due 3/11: Literacies: Past, Present, Future Assignment

Participation and Engagement Part 1 Will be Assessed

Week 9 (3/12-3/18): Language in and Out of the Classroom

Wong Fillmore, L. (2009). English language development: Acquiring the language needed for literacy and learning. (pp. 1- 15). *Research into Practice*. Pearson Education.

Canagarajah, A. S. (Ed.). (2013). Introduction. In *Literacy as Translingual Practice: Between Communities and Classrooms*. New York, NY: Routledge.

Bonus Reads

Flores, N. (2016). A Tale of Two Visions: Hegemonic Whiteness and Bilingual Education. *Educational Policy,* 30(1), p. 13-38.

Lizárraga, J.R., Hull, G.A., & Scott, J.M (2015). Translingual practices in a social media age: Lessons learned from youth's transnational communication online. In D. Mole, E. Sato, T. Boals, C. Hedgspeth (Eds.), *Multilingual learners and academic literacies: Sociocultural contexts of literacy development in adolescents*. New York: Routledge.

Due 3/18: Field Note 4

Week 10 (3/19-3/25): Multimodality and Digital Storytelling

Hull, G., Kenney, N.L., Marple, S. & Forsman-Schneider, A. (2006). *Many versions of masculine: An exploration of boys' identity formation through digitalstorytelling in an afterschool program.* New York: The Robert Browne Foundation.

Jewitt, C. (2008). Multimodality and literacy in school classrooms. *Review of Research in Education, 32*(1), 241-267.

Spring Break 3/26-4/1: No Class or online assignments.

Week 11 (4/2-4/8): Globalization, Citizenship and Cosmopolitanism

Hull, G. A., Stornaiuolo, A., & Sahni, U. (2010). Cultural citizenship and cosmopolitan practice: Global youth communicate online. *English Education, 42* (4), 331-367 (Links to an external site.) (Links to an external site.)Links to an external site.

Pratt, M. L. (1991). Arts of the contact zone. *Profession*, 33-40. (Links to an external site.) (Links to an external site.)Links to an external site.

Due 4/8: Field Note 5

Week 12 (4/9-4/15): Coding Field Notes

Dyson, A.H., & Genishi, C. (2005). Considering the case: An introduction. In *On the case: Approaches to language and literacy research* (pp.1-18). New York: Teachers College Press.

Saldaña, J. (2009). Chapter 1: An Introduction to codes and coding (pp. 1-31). In *The Coding Manual for Qualitative Researchers*. London, UK: SAGE Publications Ltd.

Week 13 (4/16-4/22): Seeing Learning and Learners Anew

McDermott, R., & Raley, J. (2011). Looking Closely: Toward a Natural History of Human Ingenuhy. *The Sage handbook of visual research methods*, 372.

Hull, G., & Rose, M. (1990). " This wooden shack place": The logic of an unconventional reading. *College Composition and Communication*, *41*(3), 287-298.

Bonus Read (Highly Recommended)

McDermott, R.P. (1993) 'The acquisition of a child by a learning disability', in Chaiklin, S. and Lave, J. (eds.) *Understanding Practice: Perspectives on Activity andContext*. Cambridge: Cambridge University Press, pp. 269–305.

Due 4/22: Field Note 6

Week 14 (4/23-4/29): Case Study Workshops

Week 15 (4/30-5/4): Reading/Review/Recitation Week (no class meeting).

Participation and Engagement Part 2 Assessed

Field Work Log *Due May 4th at 11:59pm*

Week 16

Case Study *Due May 7th at noon*

Appendix B: Pre and Post Surveys

Pre Survey

1. Your Last Name:
2. Your First Name:
3. How do you identify racially and / or ethnically?
4. What is your gender?
5.

For each item below, indicate if you agree or disagree with each statement.

	Strongly Agree	Agree	Undecided	Disagree	Strongly disagree
I think I have good skills working with people from different backgrounds.	○	○	○	○	○
I am interested in teaching and / or working in the field of education.	○	○	○	○	○
I am likely to go into a profession working with children and families.	○	○	○	○	○

I plan to pursue graduate or professional school (such as history, biology, law, medicine, teacher education) soon after I graduate (within 4-5 years).

Yes

No

6. Respond to the following two items in a few (2-4) sentences.
   Briefly define the term "literacy".

Briefly describe in 2-3 sentences what you think is the best way to help young people learn.

Appendix B (continued): Pre and Post Surveys

Post Survey

1. Please fill in the information below.
   Last Name:
   First Name:
   How do you identify racially and / or ethnically?
   Please identify your gender.
2.

For each item below, indicate if you agree or disagree with each statement.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
I think I have good skills working with people from different backgrounds.	○	○	○	○	○
I am interested in teaching and / or working in the field of education.	○	○	○	○	○
I am likely to go into a profession working with children and families.	○	○	○	○	○
My experience in the after school program helped me better understand the theory and concepts taught in this course.	○	○	○	○	○
This course trained me to work effectively with the young people in the after school program.	○	○	○	○	○
I would recommend this course to other students because of the practicum (i.e., fieldwork) experience it provides.	○	○	○	○	○
I would recommend this course to other students because of the course content.	○	○	○	○	○

Appendix B (continued): Pre and Post Surveys

3.

I plan to pursue graduate or professional school (such as history, biology, law, medicine, teacher education) soon after I graduate (within 4-5 years).

Yes

No

4. Respond to the following two items in a few (2-4) sentences.
   Briefly define the term literacy.
   Briefly describe what you think is the best way to help young people learn.

Appendix C: Pre and Post Semi-structured Interview protocols

Pre-Interview

History (background, choosing major, larger purpose of undergraduate education)

- ❏ Tell me a little bit about your background.
    - ❏ Where you from?
    - ❏ What was your upbringing like?
    - ❏ What did your parents do?
- ❏ How did you come to choose your major?
    - ❏ Why West Coast University?

A Regular day going to classes

- ❏ Walk me through your a regular week.
    - ❏ What classes did you go to?
    - ❏ What was the structure of those classes?
    - ❏ What were any extracurriculars that you engaged in?
    - ❏ What did you do for fun?
    - ❏ Who did you hang out with?
- ❏ What are is one of your favorite classes within your major?
    - ❏ What is the structure of that class?
    - ❏ What does learning look like in that class?
    - ❏ What are some of the struggle you engage in that class?

Disciplinary Knowledge/Majors

- ❏ What have been your most impactful classes at Berkeley so far?
- ❏ What readings/concepts from our course have spoken to you? Why
    - ❏ What have these readings done for you?
    - ❏ In what ways can you imagine them helping you with your practice/major?

Conceptions

- ❏ When you start studying for a class, what do you do?
    - ❏ How do you normally engage with a text for a class?
    - ❏ What tools/ideas do you use when you are studying for a class?
- ❏ What are the most pressing issues you think someone graduating with an undergraduate degree need to know about? Why?
    - ❏ How do you plan to help youth respond to these issues in your discipline?
- ❏ What kind of societal issues do you think your major attends to?
- ❏ In an ideal setting, how would you help youth respond to these struggles/issues through your discipline? What does it look like in your interactions with youth?
    - ❏ What would you hope the students would learn from you? What would they be able to do after you work with them?

- ❏ What kinds of tools would you bring into the classroom to help students learn your discipline? Why these tools?
- ❏ Would students collaborate with one another? What would collaboration look like?

❏ What are the most pressing practices or skills you think are important for youth to learn?
- ❏ Why these practices?
- ❏ How do you imagine these practices being applied in the everyday lives of youth?

❏ What would you want to know more about in order to help youth overcome their everyday struggles?

<u>Last questions</u>

❏ What do you hope students will do tomorrow, next year, and in their adult lives with what they have learned from you?

Appendix C: Pre and Post Semi-structured Interview protocols (Continued)

Post-Interview

Side-by-side Conversation

- ❏ Walk/talk through digital assets created throughout the semester.
    - ❏ Ask about creation process and intentionality.
    - ❏ Ask about what was learned.

Course Assignments

- ❏ What have our assignments in class done for you?
    - ❏ What have you learned about your life? Anything new?
    - ❏ What everyday issues have these assignments surfaced for you?
    - ❏ What is it like to use the digital tools in the class? What is it like to collaborate using the tools that we use? Have you used tools in this way before?
- ❏ If you were to adapt any of our assignments or activities to use with kids, how would you do it? Why? How might inform your practice in your discipline, if at all?

Shifts in Perspectives

- ❏ Have your perspectives around literacy and learning changed?
    - ❏ If so how? If not, why not?
- ❏ How do you think you have improved as a teacher?
- ❏ In what ways do you think this class has helped you shape your ideas outside of this class and field work experiences?
- ❏ How has this class changed your perspective on technology and learning?

Expertise

- ❏ How do you think your major has benefitted you in your work in this class?
- ❏ How have you used your major in your work with kids? Try to be specific.

Appendix D: Guidelines for Writing Field Notes

Guidelines for Writing a Field Note

Meta-Data
At the top of your field note, please include your name, your email address, the name of your fieldwork site, the date, the main activities you took part in, and the names of the people you interacted with. Also, in the filename of your submitted file, please include your name and the field note number.

General Observations (1/2 to 1 page)
This section is particularly important at the beginning of the semester, as you're becoming familiar with your fieldwork site. This section should provide a brief outline of the activities you took part in that day. In your early field notes, give a detailed description of the site and its neighborhood based on your initial impressions. Update this description as conditions change or when you notice something new about the general setting. After the first few field notes, this section will become shorter. In later field notes, a paragraph with a brief high-level overview will generally suffice. ***Try to describe your observations of the roughly an hour leading to your arrival at site.***

Focused Observations (1 to 1 1/2 pages)
This should be the longest part of each field note. Generally, you'll want to focus on an activity that you found particularly interesting or significant or that stood out for you in some way. Write a detailed description of the activity and the children and adults who were involved. Focus just on what you saw and heard, describing exactly what you remember, step by step. Don't include your opinions or interpretations about what you observed or value-laden language; rather, stick to describing the facts and events you observed or took part in. You can also include bits of important dialogue and conversation, in quotation marks if you remember the exact wording, and paraphrased otherwise. For the first few field note assignments, you will be asked to focus on specific kinds of events. Later in the semester, as you decide on the topic of your case study, you can focus your field note observations on particular children or activities or themes.

Reflections (1/2 to 1 page)
Write at least one paragraph in which you reflect on your field site visit, particularly as it relates to your focused observations. Unlike in your Focused Observations, where you stuck just to what you saw and heard, in this section of your field note you are free to speculate, ask questions, interpret, wonder, and make connections. Try to connect your focused observations to readings, course concepts, and class discussions. It may also be helpful to reference previous field notes, comparing and contrasting how your understanding has evolved over time.

Appendix E: Engagement Index Tabulation Totals for Study Participants

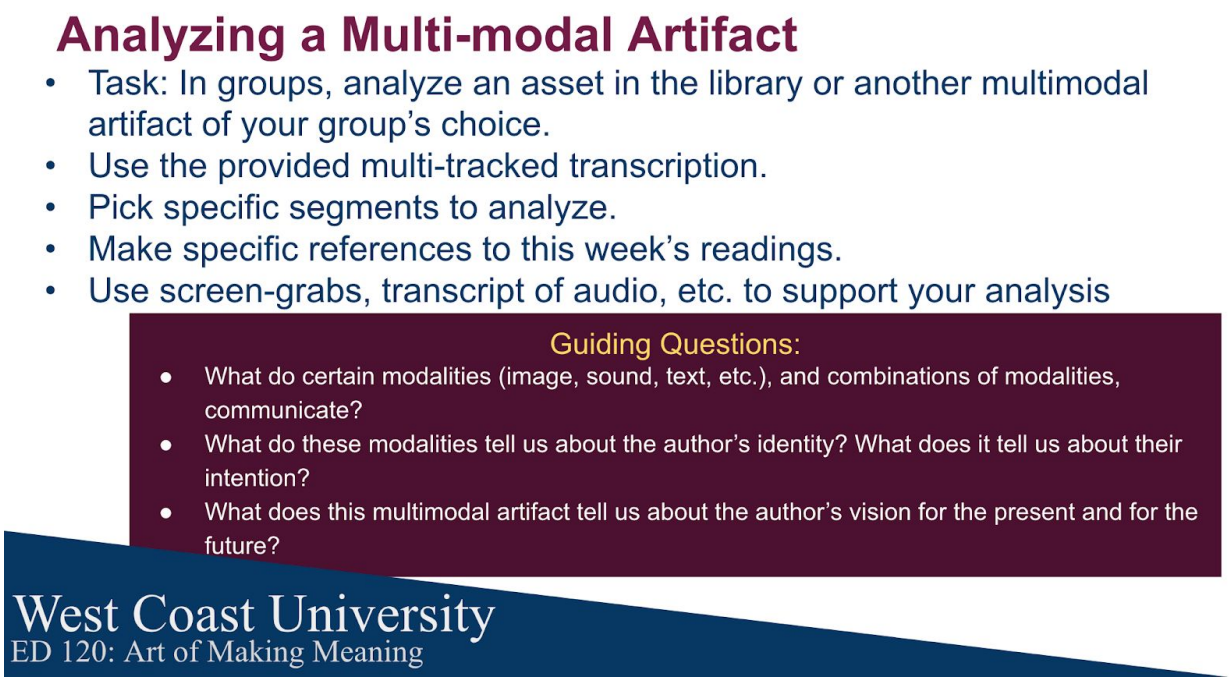
Participant	Contributions			Impact			Total
	Views/ Likes	Interactions	Creations	Views/ Likes	Interactions	Reuses	
Class 1							
Celeste	80	22	36	111	21	10	517
Christine	133	36	47	258	29	9	617
George	138	4	31	124	11	14	508
Heng	139	12	31	125	13	4	538
Jun	53	26	44	183	23	7	568
Malin	107	38	39	215	26	23	631
Margaret	91	15	25	79	7	6	277
Nancy	220	10	45	95	12	8	465
Class 2							
Cole	182	82	41	238	18	9	715
James	40	29	38	390	27	21	592
Marie	186	17	40	273	28	7	584
Nora	168	29	29	199	15	10	606
Samuel	111	18	37	280	31	9	639
Valeria	80	6	15	115	7	1	354

Appendix F: Quote, Argument, Question, Connect Protocol

QAQC of readings.

- QAQC Protocols for Hull, Kenney, Marple & Forsman-Schneider, and Jewitt (record in slides below/can create more slides)
  - Quotation: Quote (a) sentence(s) from the text that you think is/are central to the author's implicit or explicit argument(s).
  - Argument: In five or six sentences, state the author's argument. Be sure to include both what the author is arguing for and arguing against.
  - Question: Raise two questions you think are not fully, or satisfactorily, answered by the text. The question should not simply be a question of fact. It should relate to your practice.
  - Connection: As a group draw connections to what you have learned in your field notes.

Appendix G: Multimodal Analysis Small Group Activity



Appendix H: Cole's Online Contribution

#culturalliteracypractices

Edit details | Pin | Remix | Download | Delete

by Cole W. on February 21, 2018

0 17 2

Description	A cultural practice that I often engage in is the practice of tagging my friends an family in funny pictures and memes on Facebook. It's really only with people of around collage age (18-25) that understand this kind of culture fully. The specific posts that I often get tagged in are weird niche humor posts that are funny for the sole reason that they are not actually funny. I fist started learning this practice when I went off to college and was away from my sister for long periods of time. We kept in touch by tagging each other in these weird memes and soon our friends caught on. It's interesting because I only saw these pictures because some of my other friends had also seen these pictures and tagged their friends in them. It seems to be a large cultural phenomenon that is breaking out right now. I would say that this cultural practice is mainly used by young people so just engaging in this practice and understanding why it happens can be an entry point into understanding the lives of young people.
Category	No category
Source	No source
Used in	#Bakhtinremix #review