

Why Space Matters: Youth's Social Spatial Civic Literacy Enactments within
a Civic Technology Project

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Dedication

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Abstract

Results from studies in the field of Civic Learning and Civic Action (CLCA) indicate that young people from marginalized communities are lacking in both civic knowledge (e.g. knowledge about structures of government) and civic engagement (e.g. communicating through public speaking, petitioning, or canvassing) in comparison to their affluent peers (Baldi, Perie, Skidmore, Greenberg, & Hahn, 2001; Foster-Bey, 2008). A growing group of scholars have resisted and complicated this claim. They argue that the current field is exceedingly concentrated on young people's assimilation into the political system and in the preservation of social and political institutions, thus neglecting how young people are taking up civic action in ways counter to the dominant definitions of civic action and identity (Ginwright & Cammarota, 2007; Ito, Soep, Vilenchik, Shrestova, Gamber-Thompson, & Zimmerman, 2015; Suad Nasir & Kirshner, 2003; Rubin, 2007). These "new civics" scholars (Flanagan, 2012) call for a revisioning of what civic knowledge and civic engagement mean for youth (Mira, Morrell, Cain, Scorza & Ford, 2014). This study responds to their call.

Using the theories of critical sociocultural theory (Lewis, Moje, & Encisco, 2007), social spatial theory (Massey, 2005), and the methods of critical ethnography (Madison, 2011) and geo semiotics (Scollon & Scollon, 2003) this study explores the meaning and enactment of civic literacy among the Tech Crew youth participants, particularly related to their civic action through digital literacies/tool production. Specifically, this study sought to understand how the youth constructed and constituted themselves as civic actors through their production of identity and social space, as well as the roles that technology, the pedagogy of the youth community-based organization, and

larger discourses in place played within this process. Data collection methods including field notes taken from observations, audio and video recordings, youth and adult interviews, a collection of artifacts and official documents. Participants in the study included the eight youth members of the Tech Crew and adult staff at the youth community-based organization. The data were coded, analyzed, and organized first by the three research questions and then into categories and subcategories guided by Doreen Massey's (2005) three propositions of social spatial theory.

The findings demonstrate that TC member's enacted civic literacies through acts of listening in, embodied and multimodal practices, and through youth generated critical engagement that cultivated their civic identities and constructed social space. Additionally, the both/and standpoint of the youth (Collins, 2000) complicated how they enacted civic literacies and constructed their civic identity. Implications reveal how the Tech Crew's work within the social space of the Youth Science Center contributes to the efforts of educators and scholars that are revisioning alongside young people what it means to promote and enact civic literacies that challenge the structural inequities around them. Further, this study addresses the gap between the literature of civic learning and civic action, digital media literacy and critical literacy. It serves as an example of how community-based organizations can employ pedagogical and human design based methods that strike a balance between planning and facilitating civic literacy activities that teach youth the technical skills needed to take civic action, and simultaneously create a permeable social space that allows for unanticipated and emergent youth generated knowledge production and critical and embodied civic literacy

practices. This work underscores the need for educators and researchers to pay attention to how space and place mediate the civic actions and civic identities of youth.

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Chapter One: Introduction

This dissertation begins for me in memories recreated from past events of my life in educational settings. Many of these memories have percolated up throughout my time in graduate school and by way of writing this dissertation. Various memories, I etched out in yellow, red, and orange spiral notebooks and others spilled out on pages and pages of Word documents. Some float in and out of my consciousness, but all are firmly felt within my heart as I take steps each day through my actions and words to work toward my commitment to social justice and anti-racism within educational settings.

A number of the memories that I hold onto come from my time as a fifth and sixth grade language arts teacher at a charter school located in a predominantly Black¹, segregated, and lower socioeconomic neighborhood on the North side of the city in which I live. I choose to begin the story of my dissertation here not to create a sequential “autobiographical account of a particular life” but instead to capture “myself in the act of thinking, feeling, and knowing,” because these memories continue to shape my understanding of social justice, civic identity, literacy, race, and my role as a researcher and educator (Davies, 2004, p.374).

Harriet Tubman Academy² (HTA) was a Kindergarten-7th grade charter school that was created fifteen years ago by a group of African-American parents and community leaders who were dedicated to having a participatory community-run school. HTA began as an institution, which valued the students, staff, and community. For example, hallmarks for HTA included the social justice-oriented civic engagement

¹ I use identity markers of race, social class, and gender throughout this dissertation, thus taking

² Pseudonyms are used for all names of people and places.

program for fifth and sixth graders, an annual block party, and most notably an annual Black History celebration, all of which were led by parents, community members, and staff. Additionally, HTA was involved in racial reconciliation dialogue with staff and students.

I was a fifth and sixth-grade teacher at HTA for three years. During my second year of teaching, administration asked me to help facilitate a civic engagement program with fifth and sixth graders. The program was a youth civic engagement initiative focused on social justice, democracy, and public work. Democratic participation by and for the students was an essential part of their learning process. Students used digital tools and community resources to critically examine and talk about the reality of state standardized tests and how students in their community were scoring on these tests compared to other students in the state as well as address critically the issues of race, poverty, and homelessness. These conversations and projects emphasized critical awareness of race and identity.

In the spring of 2009, the students at HTA met state and federal testing requirements. However, rather than attributing the success of its students and high test scores as inextricably linked to participation and affirmations of cultural ties to the community, the administration—with a new resolve to improve on performance—implemented "Best Practice" techniques. Best Practice techniques are defined as "what works in a particular situation or environment" (Gambrell, Morrow, & Pressley, 2007). However, and as a consequence, the cultural and community programs at HTA were "modified." Along with the implementation of "Best Practices," a new letter campaign program was implemented. Run by a young white woman who was from the Lutheran

Volunteer Corps (LVC) assigned to monitor the cafeteria, the new "civic engagement" program, entitled *Bring the White House to Our House*, was implemented during lunchtime at HTA. The goals of the new program included teaching students excellent manners and writing letters to President Barack Obama and other government officials and community leaders, inviting them to have lunch in the "Banquet Hall" (i.e. the cafeteria). According to the LVC volunteer, the motivation for the program was the desire to make the lunchroom "safe." Rather than seek out help and address the problems students typically have with her as the new lunchroom monitor (a problem some monitors did not have), she implemented a top-down approach to controlling the students in the lunchroom.

This letter writing campaign program (LWC) at a predominately African American school took precedent over other programs and created a shift in the *significance* of race versus the *insignificance* of race at HTA. This program, along with additional best practices implemented by administration, caused a dramatic shift from community-based leadership focused on authentic relationships and social justice-oriented civic engagement to a top-down bureaucratic approach that focused on high expectations and high-stakes testing. In the fall of 2010, the LWC program became the civic engagement program at HTA, and the civic engagement program that I co-directed was shut down. Instead, the LWC program was presented as a "civic engagement" program, the difference being what the civic participation of the participants looked like. Students were not involved in the democratic process of the program or asked for their opinions. Their controlled behavior and letter writing during lunch was the extent of their input. For example, the students did not email, call, or in any way contact the

representatives; instead, they were involved in coloring in letters on signs that were already made. The "civic" part of the program had little action other than writing to a President who they were told would come eat lunch with them and then leave.

The images and visuals of the school lunchroom being turned into a "banquet hall," with fake chandeliers and students sitting civilized and docile with napkins in their laps and calm smiles on their faces, just as Barack Obama and his family did in the White House, invoked respect and praise by the administration and some staff. For them, the LWC program would make the rest of the learning day "easier." In short, the language focused on what a group of white people imagined as civilized, rather than considering the conditions that produced the students' behavior.

Witnessing how these new policy changes undermined the students' parents and the community's cultural contributions to the learning process and performance of the administration at HTA motivated me to explore and ask more questions about how race, culture, and identity inform how we educate students. This exploration led to conversations with professors at the local university, and eventually led me back to school.

My graduate work as both a Master and Ph.D. student focused on critical literacy, identity construction, and culturally relevant practices. From my experiences as a community activist, youth worker, and elementary education public school teacher, I held an embodied understanding of how to "read the word and the world," (Freire & Macedo, 1987), but through critical studies of literacy, identity, race, gender, and pedagogy, I developed a theoretical foundation for an exploration of identity in education settings.

It was at this time I attended a talk at the university by Nicole Pinkard. Dr.

Pinkard shared her research on the Digital Youth Network, a digital media youth learning space in the downtown Chicago Public Library (Barron, Gomez, Pinkard, & Martin, 2014). Dr. Pinkard's talk resonated with me on multiple levels. However, two salient features from her talk propelled my interest in youth's meaning-making processes and civic literacy practices in digital media settings: 1) Her description of how the young people and adults she worked with in Chicago were using media and other forms of digital technologies as tools for learning, communicating, and civic participation; and 2) Her role as a community-engaged scholar. Pinkard's work piqued my curiosity about participatory learning cultures, that is, settings "with relatively low barriers to artistic expression and civic engagement, and strong support for creating and sharing one's creations" (Jenkins, 2005, p.3). I became interested in youth's use of digital media for engaged learning in participatory cultures and understanding more about how youth navigate their civic identities through technology and the opportunity to engage in agentive action.

At Dr. Pinkard's talk, I heard about a youth digital media program at three public library sites in River City³. A group of nine youth, who called themselves the Tech Crew (TC), facilitated this program. The TC was part of a STEM social justice-oriented out-of-school program for youth ages 13 to 21 housed at the local Science Museum (SM). Collectively, the TC members learned creative problem solving, facilitation, and digital literacy skills through technology workshops that they ran at the local libraries (Struck et al., 2014). As part of my graduate work, I conducted a semester-long mini research project with the TC. I investigated youth's participation with digital media at two of the

³ For research purposes, I am calling the city this study took place in River City.

library sites. In the spring of 2013, I continued to work as a qualitative researcher with the TC for another graduate course. I expanded my research setting to the TC members' planning sessions. This study took me into the physical space of the Youth Science Center (YSC) for the first time. Preliminary findings from these studies upheld recent findings that digital media was shifting the ways youth participated in literacy learning, and that out-of-school contexts could encourage and support this participation (Ito, 2009; Jenkins, 2006). At this time, I attended a summer institute on participatory action research led by Dr. Michelle Fine (Public Science Project, 2015). This institute brought together an international group of scholars and community organizers across wide-ranging disciplines to investigate how best to conduct research with communities in ethical and participatory ways. My attendance at the institute solidified my decision that I wanted to conduct my dissertation study with the TC at the YSC. Interested in the intersection between civic identity, critical literacy, and digital literacy, I ultimately sought to understand, what did civic identity mean to the TC members? And in what ways were their civic identities mediated through their technology use and civic literacy practices?

Movement and Social Space at the Youth Science Center

At the beginning of my time as an ethnographer at the YSC, I recorded in field notes and talked with others about how people, material, and abstract objects *moved* at the YSC. I documented how bodies and furniture frequently moved around. I jotted down the TC members' sporadic and uninterrupted travels between virtual and physical places that were mediated by digital tools. It became clear to me that movement was an important theme and that these different types of movement were shaping (and being

shaped by) the TC members' civic identities and engagements within the space. Further, it was clear that these actions helped create a dynamic transgressive space that functioned in multiple and contrasting ways from larger discourses in place at the SM. Documenting how the TC members expressed themselves, what languages they took up, and the ways they shifted their language and negotiated their discourse depending on whom they were communicating with and where in the museum led me to use the word "movement" as a signifier in my notes for movement of bodies, objects, and discourse.

These jottings about movement led me back to the work of critical geographer Doreen Massey. A professor first introduced Doreen Massey's work to me during a graduate level Culture and Teaching seminar. In her book *For Space* (2005), Massey introduces an alternative theory on space. To Massey, social space is not a surface one walks upon but instead a lived experience that one is entangled within. Space is a "product of interrelations" and "constituted through interactions" (p. 9). It is the "possibility of the existence of multiplicity" and it is "always under construction" (p. 9). Massey defines space as "a simultaneity of stories-so-far" (p. 9). Without foreseeing it, this study became one focused on how social-spatial practices mediated youth's civic identity enactments. The following chapters offer additional details about the spatialized focus of civic literacies and civic identity in this study and my role as a critical ethnographer at the YSC.

Background

In today's growing digital society, access to computers and the Internet (and the skills to use these tools) is imperative. In recent years, designers have begun to create "civic technology" tools that leverage public data to increase transparency,

accountability, and efficiency in how people and government interface (Patel, Sotsky, Gourley & Houghton, 2013). However, much of this work has not involved or benefitted marginalized communities. This study explores not only the intersectionality of technology production and civic participation, but also an alternative to the deficit-oriented approach that frequently dominates the framework of researchers, policy makers, and educators when studying marginalized youth. This study informs our understanding of how civic technology programs can draw upon the assets of marginalized youth's sociocultural backgrounds in ways that empower them to be agentive in their roles and responsibilities as civic community members. Furthermore, this project investigates how digital tools become resources for political critique and civic action by and for marginalized youth.

Civic Learning and Civic Action

Results from studies in the field of Civic Learning and Civic Action (CLCA) indicate that young people from marginalized communities are lacking in both civic knowledge (e.g. knowledge about structures of government) and civic engagement (e.g. communicating through public speaking, petitioning, or canvassing) in comparison to their affluent peers (Baldi, Perie, Skidmore, Greenberg, & Hahn, 2001; Foster-Bey, 2008). A growing group of scholars have resisted and complicated this claim by maintaining that the current field is exceedingly concentrated on young people's assimilation into the existing political system and in the preservation of social and political institutions, thus neglecting how marginalized young people are taking up civic action in ways that run counter to the dominant definitions of civic action and identity (Ginwright & Cammarota, 2007; Ito, Soep, Vilenchik, Shrestova, Gamber-Thompson, &

Zimmerman, 2015; Suad Nasir & Kirshner, 2003; Rubin, 2007). These “new civics” scholars (Flanagan, 2012) call for a revisioning of what civic knowledge and civic engagement mean for marginalized youth (Mira, Morrell, Cain, Scorza & Ford, 2014).

While significant, new CLCA research is minimal and the majority of the studies begin from the standpoint of the researcher—not the researched. Moreover, research in CLCA has not fully explored marginalized youth's understandings of civic knowledge and engagement, and how their understandings and participation are situated within social and cultural repertoires and shaped through agency and power. Yet without such understanding, we are left with an inadequate analysis that creates the condition for ill-informed educational policy decisions that position marginalized groups from a deficit perspective. This critical ethnographic study draws on a sociocultural lens to investigate the meaning that marginalized youth make of their practices within civic institutions (community-based organizations) and their role as producers of technology amidst the structural inequities around them.

This study builds on the existing collaboration between members of the TC and an urban civic technology initiative. With the support of a locally funded civic technology initiative, the teens developed a civic technology tool to address the lack of access that young people in their community had to job resources. The tool that the teens developed from this project and the civic literacy processes involved helped broaden their participation in the local and national conversation about civic technology production and youth civic action.

Research Objectives

This study explores the assets of marginalized youth's sociocultural backgrounds

and their agency, combating the often deficit-oriented approach that researchers have when studying civic education. Further, it expands on previous work in the field of CLCA by moving beyond a predetermined definition of “civic knowledge” and “civic engagement” for marginalized youth. Lastly, it serves as an example of community-engaged scholarship, and the findings from this project inform future civic technology projects for both the local urban civic technology initiative and the YSC. Using the methodology of critical ethnography and sociocultural literacy theory as a conceptual framework, I sought to understand how the TC members were constructing their civic identities and taking up civic action using the tools of digital literacies within a civic technology project. Three research questions drove my work: 1) How do the multiple pedagogies and Discourses of the SM and the YSC shape the social space?⁴ 2) How are the TC members enacting civic literacies? 3) What does civic identity mean to the TC members?

The research design of critical ethnography offered me the methods I needed to understand the contexts and the production of the civic tech tool. Moreover, my focus on the “critical” was an emphasis on how learning and literacy are shaped by identity, agency, and power, and how they are social and cultural practices (Lewis, Enciso, & Moje, 2007). The method of critical ethnography insists that the researcher take on an “ethical responsibility,” rooted in her commitment to a more just and kind world (Madison, 2011). Thus, I am committed to engaged scholarship, where reciprocity exists between the academy and the community. Prior to this study, I volunteered with the TC for three years as a research mentor and group facilitator.

⁴ This research question was originally “How do the multiple pedagogies and Discourses of the SM and the YSC shape the TC’s civic technology project?” I revised it after my decision to use Massey’s (2005) social-spatial theory as a theoretical lens.

Definitions of Key Terminology

Civic literacies. I draw on sociocultural approaches to literacy as a “social practice” not a collection of “neutral, technical skills.” The word civic indicates that these literacies are connected to participatory action in communities. For example, literacy practices young people draw on within: critical youth participatory action research (Cammorata & Fine, 2009; Mirra et al., 2016); participatory politics (Kahne et.al, 2014); youth organizing (Kirshner, 2015); and connected civics (Ito & Soep, 2015). In this study, I understand civic literacies as the literacies that the TC members enacted both to acquire the literacies and tools they needed to engage in the human-centered design research process and to produce their civic technology tool. Further, civic literacies included the critical literacies required for the youths' participation in community-based praxis-oriented research, which promoted consciousness-raising (Freire, 1970).

Civic Identities. In my work, I view identity not as a thing but a process, which depends on our social and cultural worlds. The word civic means this identity process is related to a sense of connection between oneself and a member of a community. I am persuaded to perceive identity as always in movement and constituted within and through interactions with others and cultural tools. Identities are constructed within specific spaces and at specific moments. In other words, identities are lived in specific “contexts”—intersections of temporal, relational, and spatial relationships (Moje, 2004). Defining identities in this way is counter to dominant developmental understandings of civic identity that permeate the field of CLCA. I draw on Nasir and Kirscher’s (2003) as well as Rubin’s (2007) understandings of *civic identity* as a critical sociocultural process with a fluid "sense of connection to and participation in a civic community" (Rubin,

2007, p.450). This conception shifts the ideological notion of "civic" away from a static or universal understanding and toward a sociocultural positioning of identities in action. Further, I view the identity construction of the Tech Crew members and the ways they utilize language and literacy at the YSC to be fluid, discursive, and both producing of power and reproduced in relations of power (Foucault, 1980).

Place. In this dissertation, I draw on Massey's (1994, 2005, 2007) notion of places as sites of "throwntogetherness" and conceptualize place as an event. Massey (2005) conceives of places as sites of "throwntogetherness" (p.152). That is, places are sites where local, global, counter, and normalizing discourses converge along with bodies, languages, and physical artifacts to create social space. Massey's notion of place as an event communicates the co-presence of multiple trajectories that always exist within places. Conceptualizing place as an event helps me understand the Youth Science Center (YSC) as a place where the histories, identities, and bodies of adults and youth, along with physical artifacts, and larger discourses of STEM and social justice, were constantly "being-together" (Massey, 2005, p. 155). This continual, complex, and multi-faceted event of "being-together" is what Massey (2005) refers to as the "throwntogetherness" or the "politics of the event of place" (p. 149). Massey contends that places are both "territorially grounded" and also "responsive to a relational space" (p.156, 2007). Space then, is the social construction and interrelations of the ever-changing identities, discourses, and objects in place.

Space. In this study, I conceptualize space as a lived experience, not as something flat we walk across or build upon, but constructed through the interrelations of identities, discourses and objects in place. I theorize a humanized and generative alternative

conception to space the way Doreen Massey (2005) does in *For Space*. To Massey, space is a “product of interrelations” and “constituted through interactions” (p. 9). I believe this alternative approach that conceptualizes space as lived experience is markedly more productive and liberating than a traditional account of space as essential, bound, and flat.

Description of Chapters

In Chapter Two, I review current literature in the fields of Critical Sociocultural Theory and Social-Spatial Theory and address how this study draws on this existing research. I build on critical sociocultural theories of literacy to emphasize a “spatial turn” (Leander & Sheey, 2004) in literacy studies and discuss how this turn in sociocultural literacy research has created new methods for investigating literacy and learning. Next, I segue into a review of sociocultural understandings of civic identity in the field of CLCA. In the last section of this chapter, I discuss empirical studies within the fields of CLCA and Digital Media Literacy in non-formal settings. Finally, I discuss how my research study is situated within these disciplinary fields and I make my argument for how space and civic literacies are produced in relation to one another and are central to the civic identities of youth.

In Chapter Three, I explain my methods. Critical Ethnography was both the theory and the method behind this study. I begin with a brief examination into the epistemological field of critical ethnography and education. I describe the ways in which researchers have chosen this method to make sense of learning in education contexts in and outside of school. Next, I discuss my reasoning behind using Critical Ethnography, particularly in regards to the theory/method nexus. This process lays the groundwork for the research design and methods section where I discuss the background of the study, the

research setting, research participants, data collection, and data analysis methods. This chapter ends with a discussion on research positionality, and possibilities and limitations of the study.

In Chapter Four, I describe two ways I came to think about “movement” at the YSC: 1) as physical movement in space at the YSC; and 2) as a larger social justice movement of which TC members claimed to be a part. I refer to this larger social justice discourse as the “Discourse of the Movement,” which is discussed further in this chapter. First, I address the larger normalizing discourse that was present in the museum space, which I call the “Western Museum Discourse.”⁵ An historical tracing of the YSC’s “Discourse of the Movement” follows this section. The chapter ends with a discussion about some of the interesting ways that the Western Museum Discourse and the Discourse of the Movement were constantly shaping the socio-spatial and civic literacies that adults and youth performed and produced at the YSC. Analysis in this chapter is framed by Massey’s (2005) proposition of space as “a sphere of multiplicity” (p. 9). In conjunction with Massey’s socio-spatial theory, I use geosemiotics (Scollon & Scollon, 2003) to analyze how larger Discourses circulated within and through the interrelations of people, actions, and objects in the SM. This chapter addresses the following research question: How do the multiple pedagogies and Discourses of the SM and the YSC shape the space?

⁵ These two discourses were not fixed and are representative of multiple discursive discourses that were in place at the Youth Science Center. My intention is to not dichotomize these two larger narratives into two distinct separate categories or within a binary paradigm (e.g. dominant/counter, good/bad). Instead, my purpose is to analyze the ways in which the social space of the YSC interrupted the normalizing narratives of the Science museum as an historical Western and white space.

In Chapter Five, I use Massey's second proposition of space "as constructed through interrelations" (p. 9) to examine the crew members' literacy practices during their work sessions. I analyze how crew members' acts of negotiation mediated their civic identities and collective production of social space. Further, I explore how the TC members used their bodies, emotions, and the permeability of space at the YSC as both spatial and civic literacy resources. This chapter addresses my second research question: How are the TC members enacting socio-spatial civic literacies?

In Chapter Six, I discuss the civic identities of TC members Helina and Malik. I use Massey's (2005) third proposition of space as "always under construction, and always in the process of being made" (p. 9) to discuss the multiplicity of their civic identities within the social space of the YSC and throughout their participation in the civic technology project. Via Helina and Malik's stories, I describe three themes of civic identity formation: civic identities within a both/and standpoint; civic identity formation within sites of "throwntogetherness;" and civic identities enacted through digital media. This chapter ends with a discussion about space as always under construction and open at the YSC, which nourished Helina and Malik's sense of belonging within multiple communities of practices: the YSC, the civic technology initiative, and as leaders within their home communities. This chapter addresses the final research question: What does civic identity mean to the TC members?

In Chapter Seven, I conclude with the implications and future possibilities of this work.

Chapter Two: Theoretical Framework and Review of Literature

The purpose of this critical ethnographic study was to explore the meaning and enactment of civic literacy among members of the Tech Crew (TC) of the Science Museum (SM), particularly related to their civic action through digital literacies/tool production. I sought to understand how the TC members constructed and constituted themselves as civic actors through their production of identity and social space, as well as the roles that technology and the pedagogy of the Youth Science Center (YSC) played within this process. The theoretical framework that informed this study builds on intersections between critical sociocultural theory (Lewis, Moje, & Encisco, 2007; Street, 1984; Vygotsky, 1978), civic learning and civic action (Cammarota & Fine, 2009; Ginwright & Cammarota, 2007; Mirra et al., 2014; Nasir & Kirshner, 2003; Rubin, 2007) and socio-spatial theory (Massey 2005). Theoretical frameworks are meant to be lenses that we look through to make sense of things. To carry out this study, it was necessary for me to draw from various theoretical frameworks as I documented and made sense of the civic literacy enactments of the TC members and my positionality as a critical ethnographer at the YSC. I completed a review of current literature in the fields of Critical Sociocultural Theory and Social Spatial Theory. I address how my study both draws on and builds upon this existing research. This review of the literature was iterative and ongoing throughout the data collection, data analysis, and synthesis phases of the study.

My literature review starts with critical sociocultural theory that views identity as dynamic, socially constructed, and mediated by signs and tools. I then build on sociocultural theories of literacy to emphasize a “spatial turn” (Leander & Sheey, 2004)

in literacy studies and discuss how this “spatial turn” in sociocultural literacy research has created new methods for investigating literacy and learning. I argue that a deeper understanding of how space and place mediate the civic actions and civic identities of marginalized youth is necessary, and, further, that it can open up and influence the ways in which we understand how youth engage in democracy and add to discussions already under way in the fields of civic action and civic learning and digital media literacies.

After describing my theoretical framework, I segue into a literature review section. I discuss empirical studies within the fields of civic action and civic learning and digital media literacy in non-formal settings. I end this chapter with my argument for how space and civic literacies are produced in relation to one another and are central to the identities of marginalized youth.

Critical Sociocultural Constructs of Literacy

Critical sociocultural theories of learning and literacy define literacy as a “social practice” rather than a collection of “neutral, technical skills.” Also, language and culture are constituted and constructed by members of a community (Vygotsky, 1978; Street, 1984). Scribner and Cole (1978) define a literacy practice as “a recurrent, goal-directed sequence of activities using a particular technology and particular systems of knowledge” (p. 236). Literacy, as a socially organized practice, “is not simply knowing how to read and write a particular script but applying this knowledge for specific purposes in specific contexts of use” (p. 236). Sociocultural theorist Brian Street (1984, 1995) theorizes literacy as a “social practice” and rejects the notion that literacy is a collection of “neutral, technical skills.” Thus, literacy becomes an ideological matter. These theorizations of literacy helped me conceptualize and decipher the literacy events they

participated in and the literacy practices they enacted. For example, when the TC members drafted a script for the video trailer of their civic technology prototype, they participated in a *literacy event* characterized by an occurrence in which literacy happens (p. 2). The “general and cultural ways of utilizing literacy” that the TC members drew upon during this event, including their values, attitudes, feelings, and social relationships, were representative of their *literacy practices* (Street, 1995, p.2). Literacy practices are the ways in which people construct literacy, how they talk about literacy, and ultimately how they make sense of it.

Street’s explicit use of the term “ideological’ in describing the social and cultural practices of literacy marks a residue of criticality that is inherent in the literacy practices one takes up. Further, it alludes to the power relations intermeshed within literacy practices. I agree with Street’s ideological definition of literacy events and practices. From a critical sociocultural perspective, literacy is always peripherally about power. The distinction between a literacy event and practice helped guide my observations and interpretations of when and how the TC members enacted civic literacies and how the civic literacy events of the TC members were mediated by social space, larger discourses, and power.

Throughout my time at the YSC, I paid attention to the moment-to-moment social relations, practices, and actions of the young people and adults. I observed how their identities were recursively made and remade through these actions. Therefore, I use the work of scholars who have theorized identity as socially constructed, relational, and mediated by signs, systems, and tools (Bakhtin, 1981; Gee; 2011; Holland, Lachicotte, Skinner, & Cain, 1998; Lewis, Moje, & Encisco, 2007; Scollon, 2001a; Vygotsky; 1978;

Wertsch, 1991). Framing civic literacy learning as dependent upon social contexts and shaped by hegemonic forces that discursively exist and pervade local practices helped to inform my understanding of how the Tech Crew members took up the civic literacy events (activities) and their practices (values, identities, and discourses) within the civic technology project. I begin this next section with a review of literature on how literacies and identities are socially constructed and constituted through social relations.

Power, Literacies, Identities, and Social Relations

Critical sociocultural literacy theory arose out of the field of sociocultural theory. In the late 1990s and during the first decade of the 21st century, there was concern in the literacy research community over the lack of sociocultural literacy research that paid attention to how broader political and ideological issues shaped and were being shaped by local literacy practices (Gutiérrez, 1999, Moje & Lewis, 2003). In their seminal book *Reframing Sociocultural Research on Literacy-Identity, Agency, and Power*, Cynthia Lewis, Elizabeth Moje and Patricia Enciso (2007) respond to this concern. They articulate how their conceptualizations of power, identity, and agency opened up their interpretations of literacy learning and practices to reveal deeper insight into the meaning-making practices of people within educational settings. Lewis, Moje, and Enciso (2007) note that while there are strands of sociocultural theory that cut across various epistemological fields, they all “share a view of human action as mediated by language and other symbol systems within particular cultural contexts” (p. 5). Thus, critical sociocultural theorists perceive identity as dynamic and not bound. Identities are constructed within specific places and at specific moments. In other words, identities are

lived in specific “contexts”—intersections of temporal, relational, and spatial relationships (Moje, 2004).

Hall (1995) refers to these contextual intersections as a “suture,” or a meeting point, between “the discourses and practices which attempt to speak to us or hail us into place as the subjects of particular discourses, and on the other hand, the processes which produce subjectivities, which construct us as subjects which can be ‘spoken’” (p. 19). For Hall, identities are constructed as “temporary attachments in discursive practices” (1995, p.19). I draw on Hall’s notion of identities as “temporary attachments,” to theorize the TC members’ identity enactments at particular moments and across multiple places during their Civic Technology Project.

James Gee (2011) refers to identity as “different ways of being in the world at different times and places for different purposes” (p.3). Elizabeth Moje (2004) describes identity as “an enactment of self, made within particular activities and relationships that occur within “particular spaces (geographic, social, electronic, mental, cultural) at particular points in time” (Moje, 2004, p.16). As Lewis and Fabos note, “at the same time that attachments or enactments of identity are generative and creative, they also instantiate economic and social structures” (Lewis & Fabos, 2005, p. 474). Further, I view the identity construction of the TC members and the ways they utilize language and literacy at the YSC to be discursive, and both producing power and reproduced in relations of power (Foucault, 1980). Moreover, the TC members’ identity constructions were always mediated by larger discourses circulating through their enactments.

So, identities are never autonomous fixed entities but are positioned within the context of culturally constructed systems. As Vygotsky (1978) argues, the mind did not

develop separately from society. Therefore, critical sociocultural literacy theorists view identities and literacies as dependent upon social contexts and representative of social and economic structures (Lewis et al, 2007). People take up multiple types of texts, languages, and literacies, all of which are shaped by various discourses—ways of knowing, saying, doing, or being (Gee, 2011). In James Gee's work, discourse ("little d") refers to language-in-use, and Discourse (Big "D") refers to a set of expectations, norms, beliefs, and values that encompass an area of expertise or community of practice (Gee 1990, Lave & Wenger, 1991). Holland et al., (2001) propose that "socially constructed selves...are subject to positioning by whatever powerful discourses they happen to encounter ..." (p. 27). Ultimately, Discourses define our way of seeing the world and shape our identity. While "Discourse" is a useful concept, it also must be troubled to prevent it from becoming too fixed or inflexible. Discourses are not tightly bound, but are constantly moving and changing; Discourses have no discrete boundaries (Gee, 2011). The term "discursive" helps to explore the multiple trajectories and recursive ways Discourses work in the world (Morgan & Mission, 2005). We are never without Discourses. Moreover, access and engagement in Discourse communities is not neutral and the role of power is imbedded in the relational dynamics among members.

Gee (2011) describes a process called "recognition work," in which people attempt to make visible to others (and themselves) "who they are and what they are doing" (p. 37). Sometimes this recognition work is acknowledged and made visible; other times it is not. Recognition work goes hand in hand with the existence of Discourses in the world; they are reflexively related to one another. "The point is not how we 'count' Discourses," Gee writes, "the point is performance, negotiation, and recognition work

that goes into creating, sustaining, and transforming them, and the role of language (along with other things) in this process” (p. 38). I view Gee’s recognition in congruence with Foucault’s (1972) notions of “dominant” and “disruptive” Discourses. When Foucault categorizes Discourses in this way, he seeks to both name them and describe our action when we use them: the dominance of Discourse is a form of knowledge production where hegemony constructs meaning and truth; the disruption of Discourse is a counter-action to this hegemony and an attempt to transform narratives and shift power. Further, if power, in a Foucauldian sense, is a “field of relations that circulate in social networks rather than originating from some point of domination,” then both resistance and dominance play a part of “the same discourse constituted in particular regimes of power” (Lewis et al, 2007, p.4). Power does not exist in only macro structures, but rather “it is produced in and through individuals as they are constituted in larger systems of power and as they participate in and reproduce those systems” (Lewis et al, 2007, p.4). Thus, power is not something one harnesses permanently; it is always circulating through situations. Within this study, the literacy events and practices taken up by the people, including myself, at the YSC were embedded in Discourse communities shaped by differing cultural knowledge bases, practices, and values (Gee, 2011). The notion that literacy is a social practice and rooted in discourse communities shaped by and shaping our ideologies, has informed how I define identity, discourse, power, and space. In this next section, I review empirical studies conducted in out-of-school literacy settings.

Empirical literacy studies in out-of-school settings. Most of the literacy research conducted in out-of-school literacy settings has been based in social and cultural understandings of learning with a focus predominantly on how participants in a

community take up events, practices, activities, ideologies, discourses, and identities (Hull & Shultz, 2001). Beginning in the 1960s, scholars within the fields of anthropology, psychology, linguistics, and education conducted multiple qualitative studies that investigated the relationships between children's literacy practices in their home communities and the literacy practices taken up in school. During this time, sociolinguist Dell Hymes (1974) introduced the concept of "communicative competence." Communicative competence is the unspoken, social, cultural, psychological, and linguistic knowledge central to appropriate use within particular communities (Hymes, 1974). Although notions of power were not foregrounded within Hymes' work, his research opens a door within the field of discourse analysis that acknowledges language and culture as constituted and constructed by members of a community, recognizing that "speech cannot be considered separate from the sociological and cultural factors that help shape linguistic form and create meaning" (Johnstone, 2010, p.4).

Shirley Brice Heath (1983) studied the language use of residents in home and community settings. Heath's work makes visible the connections (or lack of) between literacy practices in schools and the situated literacy practices of youth from marginalized communities. Over a period of ten years, Heath investigated the literacy practices of children in two working class communities. Heath found that the literacy practices enacted in both communities were different than the literacy practices in schools. Additionally, Heath found that there was tension between how students understood and participated in school-based literacy activities and their home literacy practices. This tension impacted their success and engagement within school. For example, in one of the

communities, residents took up reading and writing primarily as a tool for functional purposes (Heath, 1983). The two main functions of writing were to make lists and record business transactions between members of the community (Heath, 1983). There was minimal use of writing outside of these two practices and only some rare occurrences where adults wrote with children (Heath, 1983). Though it was important to parents in the community to have reading and writing materials at home for their children, adult members infrequently read for pleasure independently or with their children.

Heath's findings highlight the tension that can exist between the public and personal literate lives of young people who come from varying racial, linguistic, and socioeconomic communities. Heath's later work emphasizes the importance of identity in non-formal learning contexts and informs how non-formal learning contexts can act as youth-driven spaces that promote literacy practices that build from the cultural and literacy rich communities of marginalized young people, often in contradictory ways to the deficit models so often promoted by schools and federally sponsored family literacy programs (Heath & McLaughlin, 1994, p.13).

With empirical insight from Heath (1983), Street (1984, 1995), and Gee (1991), New Literacy Studies (NLS) surfaced within the field of sociocultural theory. NLS defines literacy as multiple, moving away from an individualized and static notion of literacy (New London Group, 1996). NLS sits at the crossroads of sociolinguistic and anthropological theories of language and ethnographic and discourse analysis methodologies (Gee, 1991, New London Group, 1996 & Street, 1996). NLS scholars pay attention to the "interplay between the meanings of local events and a structural analysis of broader cultural and political institutions and practices" (Hull & Shultz, 2001, p.585).

NLS opened up literacy as an ideological and social practice.

In 1996, a group of ten literacy scholars, the New London Group, came together to discuss and write about how the modes and practices of literacy were rapidly changing. The members of the New London Group were interested in a new adaptive literacy pedagogy and research methodology that embraced the “globalization, technology and increasing cultural and social diversity of our time” (Hull & Shultz, 2001). They called for a plurality of literacy. They termed this new approach “multiliteracies.” They argued the “multiplicity of communications channels and increasing cultural and linguistic diversity in the world today call for a much broader view of literacy than portrayed by traditional language-based approaches” (New London Group, 1996, p.60). NLS scholars emphasize that literacy researchers and pedagogues should focus on two essential elements of literacy learning: “creating access to the evolving language of work, power, and community, and fostering the critical engagement necessary for them to design their social futures and achieve success through fulfilling employment” (New London Group, 1996, p.60). Their appeal for “creating access” made visible the flow of power within social relations among the social actors enacting literacy practices. Also, it marked the beginning of a ‘digital turn’ (Mills, 2015) within the field of literacy studies.

Over the last few decades, researchers from within NLS have problematized elements of the theory. Scholars Deborah Brandt and Katie Clinton claim that the sociocultural paradigm of learning “veers too far in a reactive direction, exaggerating the power of local contexts to set or reveal the forms and meanings that literacy takes” (Brandt & Clinton, 2002, p. 338).

Boldt and Leander (2013) critique the way young people’s literacy practices are

framed within new literacy studies. Specifically, they use Deleuze and Guattari's (1987) criticism of representationalism and Massumi's (2002) interpretations of emergence, affect, and body movement to critique the idea of design and meaning-making that is so central to the New London Group's "Pedagogy of Multiliteracies: Designing Social Futures" (1996). To do this, they observe Lee, a 10-year-old boy, engaging in reading and playing with a Japanese manga over the course of one day. They aim to "reassert the sensations and movements of the body in the moment-by-moment unfolding or emergence of activity" (p.22). They suggest a nonrepresentational approach to understanding literacy activity, "not as projected toward some textual end point but as living its life in the ongoing present, forming relations and connections across signs, objects, and bodies in often unexpected ways" (p.22). Below, I explore social space theories of literacy activities.

Social Space Theory

Within the last decade, literacy researchers have proclaimed a 'spatial turn' in literacy studies (Comber, 2015; Mills & Comber, 2013, Leander & Sheehy, 2004). A group of literacy scholars have theorized how "socio-spatial literacies" (Mills, 2015) produce "subjectivities, relationships, and practices" (Comber, 2015, p.5). Therefore, literacy spaces are socially constructed and imbued with power (Mills & Comber, 2013). Socio-spatial literacy theorists are interested in the messy, complex, and intersecting relationship between globalization and new media literacies that flows between temporal, virtual, and transnational borders (New London Group, 1996; Mills, 2015). Recently, socio-spatial literacy researchers have used socio-spatial theories to investigate the movement, relations, and linkages between literacy practices that circulate within local

and global settings, online and face-to-face settings, and across spatiotemporal boundaries.

For instance, Damiana Gibbons (2010) uses socio-spatial and multimodal theories (Mills, 2015; Kress, 2009) to understand how “identities are made possible and expressed in the interplay between the different parts of the youth video production process as youth artifacts as they move through time and space” (p.8). She explores the identity expression that happens across different landscapes of youth media production. For example, during a summer digital media workshop for Indigenous youth, digital literacy production events took place at multiple locations: within an elementary school and outdoor sacred tribal sites. The filming location influenced the youth’s digital media projects. Additionally, social networking sites such as Facebook created another virtual “space” where the youth-produced videos lived (Gibbons, 2010). Gibbons attests that youth-produced videos are not just individual literacy artifacts but discursive “moving” artifacts that cross and live within a multiplicity of social spaces (p.13).

Elizabeth Moje (2004) analyzed the identity making practices of a group of Latino youth across the pathways of home, school, and community spaces. She found that the youth used literacy and language in different ways depending upon whom they were with and where they were. She discusses how the “actual physical arrangements, institutional, discursive, affinity, and nature relations” shape the identities of youth and influences how they take up literacy and language practices (Moje, 2004, p.7).

Leander (2004) explored the spatiotemporal identity positionings within a literacy event in a high school American studies classroom. He argues that identities are constructed over time (historically) and over space (geographically). He shows how the

“sediment of ongoing spatial histories saturate the words, bodies, texts, practices, and classroom of the participants and their positioning practices” (Leander, 2004, p.8). He calls on literacy researchers to ask new questions and possibly take up new methodological and analytical pursuits when interpreting and investigating socio-spatial literacy practices. He proposes that “micro-and macro-level analyses” are needed to understand the socio-spatial contours that pass between space and time.

Critical Literacy scholar Barbara Comber uses critical geographer Doreen Massey’s (2005) socio-spatial notion “thrown-togetherness” to explore literacy learning in classrooms and placed based pedagogies. Students enter educational learning contexts, both formal and informal, with diverse language and cultural experiences. Massey (2005) believes it is the process of practice and “negotiating of intersecting trajectories” that come together to make a place (p.151). Thus, place can be seen "as an arena where negotiation is forced upon us” (p.151). She asserts that people are “thrown-together” and that it is up to them to negotiate how they will interact in places via socio-spatial relations. Comber (2011) studies classrooms as sites of “thrown-togetherness and negotiation” (p.344). Comber and Nixon (2008) designed a project where university researchers from architecture, literacy, and communication collaborated with two Australian teachers at a primary school in an urban working class neighborhood. Building off of a local urban renewal project in the neighborhood, the group co-created a curriculum that foregrounded spatial literacies with “real-world goals and outcomes” (p. 221).

Most recently, Comber (2015) traces lessons learned and insights gathered within this collective longitudinal project in her book *Literacy, Place, and Pedagogies of*

Possibility. She describes how socio-spatial theories (drawing predominantly from the work of Massey) are productive when designing social justice-oriented critical literacy pedagogies. She explicates that the “physical and metaphorical significance of ‘the school’” as “a particular kind of place” shapes people’s imaginations of what kinds of places schools are and what stories get lived out within them. Creswell (2004, as cited in Comber, 2015) refers to this as an “imaginary materiality” that can lead to a flattened streamlining of the multiple ways in which teachers and students feel, experience, and move within their lived experiences in schools. This streamlining of stories into “a story” is damaging in the sense that the only story left standing is often the single dominant story of certain students and teachers (white, middle class). This has lasting impacts on how literacy and learning is conceptualized and taken up within educational policies and curriculum design.

In this study, I extend Comber’s notions of socio-spatial literacies within social justice-oriented critical literacy practices to the civic literacies of the TC members and the pedagogies within the YSC. Below, I talk more about how Massey’s (2005) social theories influence my own interpretations of space resources and civic literacies at the YSC.

Massey’s Social Space Theory

Traditionally, in geography and literacy studies, space has been theorized as fixed, flat, and as a surface to walk over, or a container to fill. In literacy studies, the dynamism of space has typically been taken for granted or typically not questioned or analyzed (Comber, 2015; Leander & Sheey, 2004). This study is predominantly framed by critical geographer Doreen Massey’s theory of space as social, dynamic, and

constructed through mutual or reciprocal relations of identities/entities in a place. Massey is interested in doing space differently. In her book *For Space* (2005), Massey introduces an alternative theory on space. In *For Space*, Massey attempts to reinvent and re-evaluate space within the field of human geography. Massey is concerned with creating and acting within a “responsible geography” (Sparke, 2007, p.395). Through personal narratives about space and political philosophy, Massey sorts through “situations and engagements in which the question of space has in some ways been entangled” (p.13). Her ideas open up an imagining of space as “neither a container for always-already constituted identities nor a completed closure of holism” (p.12). This is a space of “loose ends and missing links” (p.12). For the future to be open, “space must be open too” (p.12).

Massey’s notions about space as alive, dynamic, and active helped me to conceptualize space as an active participant within the critical civic literacy practices of the TC members. At the beginning of this study, I began to record in field notes and talk with others about how bodies and furniture frequently moved around at the YSC. I wasn’t clear how, but on an intuitive level, this felt important to me. I paid attention to how bodies moved and interacted around the physical space of a room and the objects within that space. I documented how youth expressed themselves, what languages they took up, and the ways they shifted their language and negotiated their discourse to fit new contexts. As my theoretical movement memos took form, I also noted how certain TC members were making sense of the TC’s civic technology project as part of a larger social movement, which is described further in Chapter 4. My theorizing progressed beyond imagining space solely as the aesthetics of a place and something youth simply passed over and through. Massey’s reimagining of space influenced how I paid attention

to the production of space at the YSC. Massey's generative notion of space as interrelated, multiple, and constructed shed light on not only the ways I made sense of the TC members civic identity and enactment of civic literacies, but also on how the young people and adults at the YSC actively negotiated, invented, and opened up space in transformative and political ways.

In this dissertation, I use Massey's (2005) propositions of space to investigate the spatialized literacies that mediated the civic actions of young people and adults at the YSC. Massey's conceptualization of space consists of these three interwoven propositions: space as constructed through interrelations; space as a sphere of multiplicity; and space as continuously under construction (p. 9). These three spatial propositions are discussed below.

Imagining space as produced through interrelations. Massey imagines space as created through mutual or reciprocal relations of identities/entities in a place. She asserts that space does not exist prior to these interrelations. For Massey, space is alive, and is "important in the lives in which we live, and in the organization of the societies in which we live" (Social Science Space, 2013, "Podcast: Dorren Massey on Space," para. 1). These stories are made up of individuals constantly positioning themselves and being positioned by space. For example, when I walked across the space of the YSC, I was not just walking across a flat surface. I was cutting "across a myriad of stories going on" (para. 2). Massey's theories helped me remember that these stories mattered. These new ways of thinking opened up my understandings of the YSC and shifted how I chose to interact as an ethnographer, being in and exploring the interrelations and multiple stories happening in a space.

After observing the TC crew, I would typically find a quiet place to sit in the museum and write out field notes on my computer before I went home. I recorded my memories of what had happened with the TC that day. My first draft of field notes consistently included descriptions of what youth and adults in the YSC who were not a part of the TC were doing. After revisiting Massey, I began to notice how those jottings were representative of images that were “frozen” in time. However, they were not actually frozen. The other youth and adults at the YSC were doing something and that something is a story. In this first proposition about space, Massey argues that similar to the dimension of time as something non-material and abstract, there is a dimension of space that is also abstract and non-material. This dimension of space is a product of “our relations with each other” and our connections with the landscape of the space (Massey, 2005, p.101). This dimension can be investigated through the way in which relations are constructed, arranged, and performed in a digital technology non-formal learning site like the YSC, or on the macro level of globalization in which geographies of relations cast out across the globe. Space is social, and all relationships are imbued with power. This is how and where space and the political intersect for Massey, because “the distribution of social relations mirrors the power relations within the society we have” (Social Science Space, 2013, “Podcast: Doeren Massey on Space,” para. 5).

Massey builds on Chantal Mouffe’s (1995) conceptualization of political subjectivities being relationally constructed. For Mouffe, “identities and interrelations are constituted together” (as cited in Massey, 2005, p.10). Massey extends this argument by addressing the spatial within political subjectivities. She asserts that spatiality is also “integral to the constitution of those identities,” and that spatial identities (i.e.

neighborhoods, community-based organizations) can equally be re-conceptualized in relational terms (p.10). Massey makes strong connections between her first proposition of space and the emergence of recent “politics committed to anti-essentialism” (p.10). Arguing against identity politics, which understands identities as a fixed set of qualities that are essential to a person’s racialized, gendered, or classed identity and function, this new politics of anti-essentialism positions identities as multiple and shifting, and furthermore, “the relations through which they [identities] are constructed to be one of the central stakes of the political” (p.10). Rather than taking and working with already-constituted identities/entities, this politics then “lays its stress upon the relational constructedness of things” (p.10). Viewing a space as constructed through the multiple, ever-changing, shifting interrelations of its participants allows for a relational understanding of that space, and a relational understanding of the world, which as a result, makes room for a politics which responds to the discursive practices within the myriad stories of the participants.

Imagining space as a sphere of multiplicity. Massey begins her book *For Space* (2005) by sharing three personal ruminations about space. One of the ruminations is a story about Hernan Cortes, the Spanish conquistador, and the conquering of the Aztec city of Tenochtitlan. Throughout her writing, Massey shifts between the stories of the Aztec peoples and their leader, Moctezuma, and the stories of the Spanish army and their leader, Cortes (Massey, 2005, p 2-6). She tells this story from multiple viewpoints to demonstrate how “the way we imagine space has effects” (p.4). For instance, from the viewpoint of the Cortes and the Spanish army, this is a tale of conquering space. In this case, “space” is conceived as flat, empty, or “something to be crossed but over” (p.4).

The story implicitly equates space as a landscape. It is a surface that is “continuous” and a “given” (p.4). In this grand narrative of Western manifest destiny, space is “something that stretches out around us” (p.4). Cortez is positioned as the “maker of history” as he, and the men in his army, journey “across” and “over” space and find Tenochitlan and conquer it (p.10). Massey points out how this story is defined by power, as all stories are. The meaning of a story is dependent upon how it is told and from whose perspective it has been told. Nigerian author Chimamanda Adichie (2009) declares, “power is the ability not just to tell the story of another person, but to make it the definitive story of that person” (para.18). Massey’s reflections on this story illuminate the power imbued within its Western telling. Massey contends that this way of imagining space is “not an innocent maneuver,” because of how it positions the Aztecs (p.4). She writes, “Immobilized, they await Cortes (or global capital’s arrival). They lie there, on space, in place, without their own trajectories” (p.4). From this perspective, the Aztecs are depleted of any agency. The Palestinian poet Mourid Barghouti (as cited in Adichie, 2009, para. 19) declares, “if you want to dispossess a people, the simplest way to do it is to tell their story and to start with, ‘secondly.’” These power-filled white, heteronormative, and Westernized stories of conquest and globalization make it hard to conceptualize that the Aztecs have “been living and producing” stories before, during, and after the arrival of the white man’s stories of what happens in these spaces (p.11). Massey challenges us to imagine space as “the sphere of the possibility of the existence of multiplicity” (p.11). She recognizes these dominant grand narratives as not the truth but only a specific story among many. She argues that “these stories are only one of many trajectories, that make up the complexities of space” (p.11). By framing space as a sphere of multiplicity, she illuminates how

people tend to forget about the multiple stories that happen in spaces, and instead, hone in on one story to emphasize a “truth.” Massey’s ideas create a new vision of space as full of stories and multi-dimensional. This shift of paradigm allows for a “thorough, spatialisation of social theory and political thinking that can force into the imagination a fuller recognition of the simultaneous coexistence of others with their own trajectories and their own stories to tell” (p.11). This argument is easily applicable to the ways that museum spaces are traditionally conceptualized, and who belongs there. Typically, museums in the United States are very white, middle class spaces, as described more in Chapter 4. However, Massey’s proposition helped me make sense of how the larger transgressive Discourses at the YSC disrupted the grand narrative of what a science museum is and who belongs there. The adults and young people at the YSC named, noticed, and attempted to make visible a multiplicity of stories being told, listened to, and acted upon. The construction of space(s) at the YSC happened over a course of 20 years, which transformed the framework and pedagogies of the YSC and ultimately, the spatial and civic identity constructions of the TC members.

Imagining space as always in process. If space is a product of “relations-between” then it is always in flux—between here, there, and everywhere. According to Massey, space is never finished, never closed (Massey, 2005, p.12). In line with current political disruptive discourses that aim to break apart grand narratives of modernity, Massey’s third proposition of space is an offering of hope—a mash up of counter narratives that offer alternative stories to the larger narratives of “Progress, Development, and Modernization” and in the case of the YSC, to the larger narratives of “College and Career Readiness, STEM education, and Diversity work.” Massey connects this

proposition of space with the political philosophers Laclau and Mouffe, particularly, with their theory of “radical democracy” (Laclau & Mouffe, 2001). Laclau and Mouffe argue that for democracy to not be flattened, the interplay between democratic principles and the hegemonic neoliberal and neoconservative underpinnings that also exist within democratic nations and institutions must be acknowledged. Therefore, democratic social movements must aim to create social and political change within and through difference, power, and multiplicity (Laclau & Mouffe, 2001).

Massey parallels this reimagining of democracy with her conceptualization of space as open. She argues, “not only is history open, but space is too” (Massey, 2005, p.12). This opening of space creates a “place” for constant discursive movement of multiple, historicized, present, and future trajectories and it flips the linear space-time continuum on its head. Massey uses her third proposition to critique the ways in which the dominant common-sense narrative of globalization has turned the dimension of space into a dimension of time. For instance, people often use a terminology of ‘developed,’ ‘developing,’ and ‘underdeveloped’ to describe the economic continuum of the countries in our world. This categorization converts contemporaneous difference between countries into a single linear history. It communicates that “developing” countries are following a one and only historical journey, and that this journey has only one outcome: becoming a ‘developed’ nation. This understanding of globalization denies the “the simultaneity” and “the multiplicity” of space. This ideological standpoint does not recognize how people and institutions are doing things differently in ‘underdeveloped’ countries right now. Massey suggests that acknowledging the real-time lived experiences and histories of

participation (Rogers, 2003) opens up space and “opens up politics to the possibility of alternatives” (para. 12).

I see this “space as always in process” as the greatest potentiality for a transformation within the civic literacy practices and pedagogies used by marginalized youth. “Space as always in process” means that we can reject and disrupt the ways in which space has traditionally been established or the normalizing narratives that have shaped it before us. First, we have to recognize the dominant narratives. For example, the YSC is located within a city science museum. Science museums, like public schools, are places that were built for white and middle class people. As a place that is mostly made up of nonwhite bodies and non-dominant “histories of participation,” (Rogers, 2003) the YSC disrupts the larger place of the science museum. The space construction and the civic literacies enacted by youth and adults at the YSC messes with the larger narratives about museums. Further, it disrupts larger narratives that position the YSC youth and adult’s own communities and literacy practices as being deficient. This “messing with” *is* messy and always in process. For *space* is always in process. There is a parallel here between Massey’s critique of “developing” countries and the deficit terms used to describe young people at the YSC as “at risk” and their neighborhoods as “impoverished.” In the following chapters of this dissertation, I describe how youth and adults at the YSC spoke back to dominant narratives and used civic literacies to create their own storylines of what it meant to be civic actors from marginalized classed, raced, and gendered communities.

Over the last 20 years, socio-spatial literacy research has changed how literacy researchers think about the social and geographical locations and relations of people,

digital tools, contexts, and texts. Viewing space as socially constructed and as a sphere of multiplicity (Massey, 2005) enhances the understanding of the relationship between literacy, civic identity, and social justice action. Although literacy theorists continue to draw on socio-spatial theories to interpret literacy practices, empirical studies are slight. Further, there are minimal studies that are investigating the intersection between social space resources, digital literacy practices, and civic identity. In the next section, I discuss empirical research within the fields of Civic Action and Civic Learning and Digital Media Literacy in non-formal learning settings. I describe how this dissertation fills a gap within socio-spatial literacy studies and suggest a turn toward the “civic” within the literacy field.

Empirical Research within the Fields of Civic Learning and Civic Action and Digital Media Literacy in Non-Formal Settings

This section explores empirical studies on youth civic engagement in general and youth civic engagement studies within digital media literacy non-formal settings in particular. I review research within the fields of Civic Learning and Civic Action (CLCA) and Digital Media Literacy (DML). Recent research in both fields has moved away from positioning marginalized youth as simply having “voice” towards positioning them as agents of social change. (Ginwright & Cammorata, 2002; Ito et al., 2013; Jenkins, 2006; Kahne, et al, 2014; Rodriquez & Brown, 2009). Themes that emerged from my analysis of the literature include: 1) Youth Civic Identity is theorized from a critical sociocultural perspective; 2) Youth Civic Action is participatory, and synchronous between localized and globalized settings within digital media literacy non-formal settings. Each theme is overviewed below.

Youth Civic Identity through a Critical Sociocultural Lens

I drew on the critical sociocultural understandings of identity described above as I continuously made sense of the civic identity enactments of the TC members at the YSC and throughout my iterative analysis process (Hall, 1996; Holland et al., 2001; Lewis et al., 2007; Moje, 2004). Identity is fluid, a process, multidimensional, and not fixed. It is always in movement and constituted within and through interactions with others and cultural tools. Identities are constructed within specific places and at specific moments. In other words, identities are lived in specific “contexts”—intersections of temporal, relational, and spatial relationships (Moje, 2004). Defining identities in this way is counter to dominant developmental understandings of civic identity that permeate the field of CLCA. This study does not locate the participatory contexts of civic engagement and literacy practices within a developmental paradigm. Instead, it focuses on the meaning-making practices of the TC members and extends the conversation of CLCA scholars who view civic identity as social, cultural, and always interacting with power.

Results from studies in the field of CLCA indicate that young people from marginalized communities are lacking in both civic knowledge and civic engagement in comparison to their affluent peers (Baldi, Perie, Skidmore, Greenberg, & Hahn, 2001; Foster-Bey, 2008). A growing group of scholars have resisted and complicated this claim by maintaining that the current field is exceedingly concentrated on young people’s assimilation into the existing political system and in the preservation of social and political institutions, thus neglecting how marginalized young people are taking up civic action in ways that run counter to the dominant definitions of civic action and identity (Ginwright & Cammarota, 2007; Ito, Soep, Vilenchik, Shrestova, Gamber-Thompson, &

Zimmerman, 2015; Mira, Morrell, Cain, Scorza & Ford, 2014; Nasir & Kirshner, 2003; Rubin, 2007). These “new civics” scholars (Flanagan, 2012) call for a re-visioning of what civic knowledge and civic engagement mean for marginalized youth (Mira, Morrell, Cain, Scorza & Ford, 2014). Below, I briefly describe how critical sociocultural scholars in the field of CLCA define civic identity.

Nasir and Kirshner (2003) first conceptualized civic identity as a sociocultural process within their work with three youth community-based organizations. Describing citizenship as a daily practice of negotiation, they shifted the ideological notion of “civic” away from a static or universal conception and toward a sociocultural positioning of identities in action. They conceptualize civic identity within a community of practice (Lave & Wenger, 1991) and claim that civic identity must be interrogated within three different fields: “(a) the social interactions that occur between individuals, (b) the cultural practices that structure these interactions, and (c) the institutions in which these interactions occur” (p. 46).

Banks (2008) suggests that attempts to define citizenship as an inclusive or essentialized entity unavoidably push marginalized young people’s civic practices to the sidelines, because of the ways in which marginalized communities are “othered” in efforts to support the interests of the white and middle/upper class. Ginwright (2006) maintains that young people from marginalized communities frequently take up civic action for the purpose of social transformation and to disrupt systemic injustice that directly impacts their own lives. In this sense, civic identity is both political and personal. Lawy and Biesta (2007) view youth civic identity as a cyclic process that foregrounds “the actual practices that make up their [young people’s] daily lives” (p.45). They argue

that “citizenry is not a status or possession, nor is it the outcome of a developmental or educational trajectory that can be socially engineered” (p. 47). Instead, civic identity is intimately tied to the daily practices of youth in their own lives and embedded within their civic literacies in their own communities. Thus, civic identity is a discursive, communal, and active meaning-making process.

In this neoliberal era, the Dominant narratives of Black and Brown urban youth typically tell suspicious stories of poverty and violence, and depict skewed images of youth of color. Moreover, as ethnographer Soo Ah Kwon (2013) explains, “the term ‘youth’ itself frequently suggests negative connotations” (p.13). Jean and John Comaroff (2001) assert, “in much of the late-twentieth-century English-speaking world, young white persons are teenagers, their black counterparts are youth...and most often, if not always, male” (as cited in Kwon, 2013, p.14). According to Ginwright and Cammorata (2002), these “popular notions of urban youth have led the public to believe that young people create more problems than possibilities” (p.82). These larger discourses position youth not as agentive civic actors but as troubled and delinquent.

In resistance to this dominant story about urban youth, Ginwright and Cammorata (2002) critique the lack of analysis happening within the field of CLCA. They urge educators, researchers, and policymakers to widen their aperture to the impact that “racism, the influence of poverty, and the effect of unemployment” have on the everyday lives of youth of color living in marginalized communities (p.92). Dominant criminalizing narratives constantly hover over urban youth of color and cause many researchers in the field to focus on the behavior patterns of young people instead of focusing on the powerful social forces and structural barriers that actually create and

maintain these problems (Ginwright & Cammorata, 2002). Ginwright and Cammarota (2002) developed the Social Justice Youth Development (SJYD). Within the SJYD research model, the larger social, political, and economic forces that shape and are shaped by youth are acknowledged and analyzed. Additionally, the SJYD model recognizes young people's own theorizing around civic identity, negotiations, and struggle (p.83). The SJYD supports exploration by young people and adult researchers into the "hows" and "whys" of youth resistance to larger systematic forces.

Catlin Cahill's (2006) work with six young women researchers (the Fed Up Honeys) examined the relationship between the gentrification of their community, public interpretations/representations, and their own identities. The Fed Up Honeys (Cahill, 2006) investigated and took action against the dominant stereotypes of young women of color as "problems" in their New York City neighborhood (p.336). Their civic actions included: presenting their research findings on a collectively created website; writing a research report; distributing their findings to youth organizations, schools, and policy makers; and conducting a stereotype sticker campaign (p.336). This youth-driven civic action project illustrates how critical participatory action research methods can guide and shine light on the ways in which larger sociopolitical systems (e.g. gentrification) intersect with the daily lives of urban youth. Further, it provides an understanding of the contradictory ways that power is both hindering and productive within the social justice-oriented civic action of urban youth of color (Cahill, 2006).

Putting critical theory in action means theorizing and paying attention to how larger systems of governmentality, or the ways in which governments have attempted to control young people throughout history, impact youth's agency as political actors

(Foucault, 1975). It also involves acknowledging how power works and how power can be both generative and restrictive for young people invested in critically-oriented community engaged research in their own marginalized communities (Kwon, 2013). Too often, young people from marginalized communities are positioned as constantly “overcoming” or “rising above” the injustices and hindrances that surround them (Rodriguez & Brown, 2009). This positioning becomes even more nuanced when young people choose to participate in community-engaged projects that are funded and run by non-profit organizations. The economic links between neo-liberalism, philanthropic foundations, non-profit organizations, and positioning young people as democratic subjects are complicated and embedded within power relations (Kwon, 2013). In these scenarios, the dominant discourse of “overcoming” can silence the important transformative questions that both CLCA scholars and young people could be paying attention to. Also, the entanglement of these larger dominant narratives, youth’s agentic civic action, and their civic identities can be flattened. In her book *Uncivic Youth*, Soo Ah Kwon (2013) expands on Foucault’s notions of power and governmentality. Within her analysis, she interrogates the relations of power that both enable and limit young people, particularly racial minority youth, as “political actors and emerging democratic subjects, as well as inevitable vectors of danger” (p.25). Kwon calls on researchers to attend to the multiple powers of “subjectivity and subjection, as well as to the political practices that accept and refuse them” (p.24). CLCA scholars need to give attention to how power may affirm, oppress, or operate unrecognized (Kwon, 2013).

Nicole Mirra, Ernest D. Morrell, Ebony Cain, D’Artagnan Scorza, and Arlene Ford (2014) investigate the civic identity and agency of the participants of the Council of

Youth Research, a group of marginalized young people that use participatory action research methods to interrogate school inequities and mobilize around transformative endeavors of educational justice. Looking through a critical sociocultural literacy lens, they describe how the civic actions taken by the Council illustrate how democracy is being reimagined in dynamic and robust ways through participatory civic action by marginalized youth in the United States. Their findings include: (a) how youth and adults learned through dialogue that positioned them as public intellectuals; (b) how youth developed new forms of civic participation via digital, participatory, and interactive production; and (c) that youth's sense of agency is heightened as a result of meaningful civic literacy activities. These findings suggest a potential move toward a critical democratic stance within the field of CLCA (Mirra, et al., 2014).

Youth Civic Action as Participatory and Synchronous between Localized and Globalized Settings within Digital Media Literacy Production

A significant commonality I found within the studies described below is that when learning begins with youth in the driver seat, youth have a higher degree of agency. Thus, they are invested in the digital literacy products they create and are able to take the reins and have more control over the productive nature of power and how it mediates their actions within the projects that they care about.

Across the fields of literature that I analyzed, many of the studies share a commitment to research and learning in which the “topics of inquiry, the content of learning, and the knowledge produced reflect and address the real-life problems, needs, desires, and experiences” (Rodriquez & Brown, 2009, p.25) of the young people involved in the study. Much of the research invested in examining young people's engagement

with digital learning often takes place in informal settings, and many community-based organizations around the country are adapting models that together are bridging the accessibility gap that divides youth based on racial and class lines (Gee, 2002). Youth are using digital media and other forms of digital technologies as tools for learning, communicating, and participating as active citizens in various learning and social justice contexts (Alvermann, 2004; Soep & Chavez, 2013). Further, new media literacy practices are changing how youth interact with digital media and technology. Instead of solely being consumers of media, youth are now participating as producers of videos, music, blogs, websites, and more. This “digital turn” —a pun on Gee's (2000, p. 180) "social turn" in literacy research—is a consequence of globalization and the growing range of technologies for communication (Mills, 2010, p.247). Youth are constantly making “meaning from texts of all kinds in all places” (Pahl & Roswell, 2006, p.21). Multimodal texts offer “wider affordances than print-based literacy” (p.21) and significantly complicate the interpretations of meaning in non-formal literacy settings. Subsequently, recent New Literacy Studies scholarship has revealed how innovative and dynamic forms of learning can occur with digital media practices “in peer- and interest-driven networks that are oriented toward personal interest, social communication and local participation” (Mills, 2010).

Since 2001, scholar and activist Glynda Hull has been an active participant in the designing and studying of multimodal activities with youth and adults in the community. In 2001, Hull along with Michael James, started DUSTY (Digital Underground Storytelling for Youth), a community technology center serving youth and adults in a marginalized community in Oakland, CA. At DUSTY, participants use multimedia,

multimodal literacies to tell the stories of their lives. As Hull asserts, “by means of these technologies and modalities and social practices, [they] position themselves as agents in and authors of their lives locally and globally” (Hull, 2006, p.40). Through her research, Hull has advocated for the transformation of literacy as a multimodal, communicative, and agentic act. Hull believes literacy includes “a full range of communicative tools, modes (oral and written), and media, plus an awareness of and a sensitivity to the power and importance of representation of self and others, along with the space and support to communicate critically, aesthetically, lovingly, and agentively” (Hull, 2006, p.25).

Mizuko Ito and her colleagues (2008) participated in a MacArthur Foundation-sponsored three-year ethnographic study that examined young people’s participation in the new media ecology (p.1). This study was motivated by their interests in youth practices and agendas in and with new media and also the navigation of youth and adults in non formal learning settings, specifically in regards to the interplay between agency and authority. In their paper, *Living and Learning with New Media: Summary of Findings from the Digital Youth Project*, Ito and her team (2009) describe three states of successful youth digital learning in participatory spaces: Hanging out, Messing Around, and Geeking out (HOMAGO). ***Hanging out*** refers to how youth use new media primarily to socialize and extend existing friendships through social networking tools, such as Facebook, Twitter, and texting. ***Messing around*** corresponds to a tinkering phase in which youth begin to explore and play with digital media. ***Geeking out*** is the most advanced stage and the most challenging to achieve. This is the stage at which the use of digital media is applied to a real collaborative project for the enjoyment of the users and/or to solve a real-world problem. In this phase, the combination of social

relationships and technology encourages youth to delve deeper into how the technologies with which they have been *messing around* can be applied to address community needs.

Currently, Ito's work includes research with the Connected Learning Research Network (Ito, Gutierrez, Livingstone, Penuel, Rhodes, Salen, Schor, Sefton-Green, & Watkins, 2013). Ito, along with sociocritical theorist Kris Gutiérrez and others, introduced the research design of Connected Learning (CL) as an approach to working for equity in the multiple educational spaces of the 21st century. CL seeks to "leverage the potential of digital media to expand access to learning that is socially embedded, interest-driven, and oriented toward educational, economic, or political opportunity" (Ito et al, 2013, p.4). This model of learning is based on critical ethnographic research that illustrates how spirited, durable, and adaptive learning encompasses individual interest as well as multiple forms of social support.

Project New Media Literacies and the work of Henry Jenkins (2006) define a participatory culture as a culture "with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one's creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices" (p.3). Jenkins asserts that in order to engage fully in these participatory contexts, youth need to develop "new media literacies: a set of cultural competencies and social skills that young people need in the new media landscape" (p.4). Jenkins' work highlights possible benefits of practicing new media literacies including "opportunities for peer-to-peer learning, a changed attitude toward intellectual property, the diversification of cultural expression, [and] the development of skills valued in the modern workplace" (p.4). For Jenkins (2006), a participatory environment fosters

learning that feels relevant to students' identities and interests and offers opportunities for peer-to-peer learning, a changed attitude toward intellectual property, the diversification of cultural expression, the development of skills valued in the modern workplace, and a more empowered conception of citizenship (p.8). Jenkins' work encapsulates the essence of new media literacies as a communal and multimodal practice. Moreover, I believe in my own work it helps me expand my conceptions of what civic literacy is and how to locate the spaces where it takes place. In the 21st century, youth take up civic action and enact civic literacies in many different spaces. The new media literacy skills outlined by Jenkins help illustrate how youth enact civic literacy and moreover participating as active citizens.

Elisabeth Soep is a critical ethnographer/research director and senior producer at *Youth Radio*, a Peabody Award-winning, youth-driven production company in Oakland, California, with bureaus across the country and partners around the world. Youth Radio program graduates and others recruit participants between the ages of 14 and 24 from local under-resourced public schools. Founded in 1992, Youth Radio is a space where youth learn media production skills and peer education; obtain college, career, and mental health support; and deliver news and commentary to public and commercial media outlets in the US and internationally (Soep & Chavez, 2010). In their book *Drop that Knowledge* (2010), Soep and Vivian Chavez (2010) call for a reimagining of learning as “*converged literacy*” (p. 16). For Soep and Chavez, *converged literacy* involves creating and understanding “boundary-crossing and convention-breaking texts (i.e. radio stories, spoken-word poetry, and music clips),” using social media and new media literacy as tools to “leverage public interest in the stories youth want to tell,” and creating openings

for youth to exercise their right as citizens and producers of media (Soep & Chavez, 2010, p.16). Through their findings, Soep and Chavez show that the radio stories produced by Youth Radio are dynamic and multilayered. Their work exemplifies how youth are using multimodality to “disrupt narratives of exclusion that promote the self-interest of those already occupying positions of privilege and power” (p. 47).

Additionally, Soep and Chavez (2010) redefine teaching as *collegial pedagogy*. This particular pedagogy involves a *youth-driven* collaborative production process where youth and adult mentors work together within the production and design processes of media work. The interests and passion of the youth guide this process. Soep’s work endeavors to name and locate how youth participate as active democratic citizens through their creation of stories in an out-of-school youth media program.

CLCA scholars Joseph Kahne, Ellen Middaugh, and Danielle Allen (2014) investigated how young people are using new media literacies to participate in civic and political life. They argue that these new literacies are significantly changing how young people “express and exchange their political ideas, raise funds, and mobilize others to vote, protest, and work on public issues” (p. 3). Focusing on empirical evidence that showcases how young people are using and producing new media texts as tools for political critique and civic action, they illustrate how new media literacies are “facilitating participatory politics--interactive, peer-based acts through which individuals and groups seek to exert both voice and influence on issues of public concern” (p.2).

In the following chapters, I argue that a greater understanding of how space and place mediate the civic actions and civic identities of marginalized youth is necessary and further, that it can: impact and agitate the ways in which we understand how youth

engage in democracy; add to discussions already under way in the field of Civic Action and Civic Learning and Digital Media Literacies; and be a crucial part in the social imaginations (Greene, 1995) of marginalized youth—which enables an “opening up to the very sphere of the political in the first place” (Massey, 2005, p.9).

Chapter Three: Research Methods

“What is at stake when you stand in as the transmitter of information and the skilled interpreter in both presenting and representing the lives and stories of others whom you have come to know and who have given you permission to reveal their stories?”

(Madison, 2011, p.5)

Maggie,

RESPONSE REQUIRED. I just reviewed your recent IRB exempt application. On your Information sheet for research you must delete the entire signature block. In your application, you state no id's will be gathered or attributed so there is no need for a signed consent form. Please respond to these questions so I can complete the review.

Thank you,

Human Resource Protection Program (HRPP)

Dear HRPP,

Thanks so much for getting back to me. In regards to my information sheet, I want to make sure I am being clear about the ethnographic research I will be doing with a group of teens. When you say, "no id's will be gathered or attributed," does that mean that because I will not be identifying the identities of the teens and staff at the YSC in my writing, I don't have to ask for consent? Even if I audio or video record their work sessions? Thanks for helping me through this process!

Take good care.

Maggie

Maggie,

No that's not what I said. Please just remove the signature block...where subjects sign. The "Information Sheet for Research" should clearly describe any recording that takes place.

Dear HRPP,

Attached is the information sheet with the signature block deleted. I apologize if my questions seem redundant to you, but I want to make sure I am clear on my expectations as a qualitative researcher in the field. By removing the signature block, do I still need to get written consent from the research participants for this study?

Maggie,

If it's really important to you go ahead and get signed consent. But exempt research generally does not require consent. Very low risk.

(Personal Communication, June 12, 2014)

Introduction

When I applied for approval to conduct this study with the university's Institutional Review Board, the Human Subjects Committee determined that it was exempt from review under federal guidelines; in other words, the Human Subjects Committee did not categorize my dissertation as research at all. After three years of working in a doctoral studies program and doing critical qualitative research, the request to remove the signature block from my information sheet and therefore not gain consent from research participants made me feel uneasy and brought up a thought that I continue to grapple with: "**I** am researching **them**." The fact that I (white university researcher) was not only told to delete the signature block because of IRB protocol but also that consent from YSC youth and adults (the majority of whom were people of color) was not required felt unethical. I was reminded of the violent and racist history of university research within marginalized communities and the research-subject binary that I hoped to trouble in this work.

Moreover, the request from the HRPP brought up tensions between doing participatory research and more traditional ethnography. At this point, I was still figuring out how to foreground methods within my research design that legitimized the knowledges of my research participants, most of whom came from communities that had been historically marginalized in research (i.e. youth, immigrant, queer). I did not agree with the HRPP that this study held "very low risk" or that I didn't need to ask for consent from the research participants. For me, what was at stake was the danger of positioning myself as the lone narrator of someone else's story through traditional ethnographic methods thus reifying normalizing research narratives. As a white female university researcher who was working with youth of color and attempting to add nuance to and

disrupt traditional forms of knowledge construction through incorporating participatory and emancipatory methods, not asking for permission did not fall into my planned course of action.

Throughout this study, I have doubted, dove into, and reflected about my role as a white queer woman positioned as a university researcher at the YSC. Thus, I attempted to **both** disrupt grander notions of what counts as research and knowledge production through my enactment of a critical ethnographic research design **and** employ a research study that met the University requirements needed to get my doctoral degree. The above stated request from the HRPP to remove the signature block underscores how normalizing discourses of what research is and who gets positioned as “researcher” and “the researched” are taken up as commonsense. These commonsense narratives view research as positivist, truth-seeking, and assume a distinct binary relationship between researcher and subjects/participants. Additionally, the researcher is traditionally assumed to be white (and often male) and the researched are assumed to be members of marginalized communities. For me, the email exchange highlighted above is illustrative of how critical ethnographic studies do not garner as much respect or attention and can ultimately get discredited. It also represents how IRB research protocols continue to be tied to Western imperialism and colonialism. Linda Tuhiwai Smith (1999) asserts, “Research is inextricably linked to European imperialism and colonialism. . .the effects of travelers tales, as pointed out by French philosopher Foucault, have contributed as much to the West’s knowledge of itself as has the systematic gathering of scientific data” (p.2). In essence, this dissertation project has been a continual process of examining, troubling, and thinking through the question, what does it mean for me as that traveler telling tales

about the adults and young people who work at the YSC? And what does it mean to attempt to conduct a study that examines how power operates within particular social and cultural sites with and for a group of young people?

To understand the theoretical and epistemological underpinnings of critical ethnography, I begin this chapter with an examination of the field of critical ethnography and education. I describe the ways in which researchers have employed this method to make sense of learning in education contexts in and outside of school. Next, I discuss my reasoning behind using the method of critical ethnography, particularly in regards to the theory/method nexus. This process lays the groundwork for the research design and methods section where I discuss the background of the study, the research setting, research participants, data collection, and data analysis methods. This chapter ends with a discussion on research positionality and the possibilities and limitations of the study.

Theoretical and Epistemological Underpinnings of Critical Ethnography

In this first section, I trace the theoretical and methodological underpinnings of critical ethnography, paying extra attention to the uses of critical ethnography in the area of education.

Histories and Intersections between Critical Ethnography and Education.

Rooted within Marxist, neo-Marxist, feminist, and post-structural theories as well as interpretive movements in the fields of anthropology and sociology, critical ethnography is similar to critical research in other epistemological fields (Anderson, 1989; Lather, 2007; Madison, 2011). Critical ethnographers examine how power operates within particular social and cultural sites. They investigate how authority and knowledge

serve as dialectically reinitiating practices that regulate what is considered reasonable and valid (Madison, 2011).

In the early to mid-19th century, tensions and movements amongst ethnographers began to shift and create ruptures within the field of ethnography (Andersen, 1989; Deegan, 2001; Madison, 2011). Specifically in the United States, two ethnographic traditions, the British sociologists from the 19th century and the ethnographers from the Chicago School of Ethnography working in the 1920s to the 1960s, had significant influence over critical educational researcher's practices (Deegan, 2001; Madison, 2011). The ideologies found within these two institutions of thought influenced and supported the emergence of critical ethnography within the field of education.

The sociology department at the University of Chicago has been seminal within the area of ethnography for over 100 years (Deegan, 2001). A group of sociologists from the University of Chicago created the Chicago School of Ethnography (Deegan, 2001), and after World War 2, the School began to investigate various groups of people living in the urban communities throughout the city. Within these studies, culture moved from being defined as static and monolithic and solely tied to race and ethnicity to culture as active, fluid, and discursive—not something that you possess but something that you enact and embody (Deegan, 2001).

Consequently, this understanding of culture created splits in the field of ethnography, as some ethnographers began to pay attention to how larger systemic factors such as marginalization and racism shaped the identities and practices of research participants. This counter definition of culture illuminated the nuances and complexities that made up the lives of people living in poor communities and created a stirring of

possibilities for social transformation in the field (Andersen, 1989). Studies that came out of the Chicago School at this time included: E.R Mowrer's *Family Disorganization* (1927), Ruth Shonle Cavan's *Suicide* (1928), and Walter C. Reckless *Vice in Chicago* (1933) (as cited in Deegan, 2001).

Meanwhile, scholars at the Centre for Contemporary Cultural Studies (CCCS) at the University of Birmingham, England, were investigating the dialectic relationship between structure and agency (Andersen, 1989). The scholarly field of cultural studies transpired out of this work (Hall, 1990). Scholars such as Stuart Hall, Richard Hoggart, and Raymond Williams were particularly interested in the interplay between power, identity, and agency. They sought to develop scholarship and "practical work that would enable research to be done in the formations of contemporary culture" (Hall, p. 17, 2000). These scholars/activists declared their work to be political. Hall stresses:

It was not possible to present the work as if it had no political consequences and no form of political engagement, because what we were inviting students to do was to do what we ourselves had done: to engage with some real problem out there in the dirty world, and to use the enormous advantage given to a tiny handful of us in the British educational system who had the opportunity to go into universities and reflect on those problems, to spend the time usefully to try to understand how the world worked. (Hall, 2000, p. 18)

Thus, in their cyclical undertaking of thinking and practice, these scholars expounded on the Marxist and critical theory ideas from the Frankfurt School and the works of the Marxist theorist Antonio Gramsci (Hall, 2000).

Concurrently, across the Atlantic Ocean, there was tension caused by rifts within the field of educational research in the United States. Educational researchers were struggling with the limitations found within the quantitative paradigm (Andersen, 1989). In the aftermath of John F. Kennedy's assassination, President Lyndon Johnson passed the Civil Rights Act of 1964 and initiated a "war on poverty and racial injustice." He introduced "The Great Society" social reform programs, which included economic and education support for marginalized communities throughout the nation ("The Great Society," 2013, para 2). The first piece of Great Society legislation, the Economic Opportunity Act of 1964, attempted to generate more tools for people living in poverty. This legislation included the creation of a Job Corps and the federal Head Start pre-school program ("The Great Society," 2013, para 4). This Congressional Act prompted discussion amongst ethnographers about limitations within the quantitative research paradigm (Andersen, 1989). Educational scholars felt the need to "break out of the conceptual cul-de-sac of quantitative methods" (Rist, 1980, p. 8). Simultaneously, the ideas and theories of Neo-Marxist and feminist scholars, such as Pierre Bourdieu (1977), Michael Foucault (1973, 1978), Paulo Freire (1970), Jacques Lacan (1968), and Liz Stanley and Sue Wise (1983) were beginning to be explored by educational researchers.

Accordingly, this "political and intellectual fervent" (Andersen, 1989, p.257) challenged the neutral standpoints found in the previous decade in the fields of sociology and anthropology. In anthropology, the analysis moved towards "thick description and interpretations of symbol and meaning" (Andersen, p.249). These shifts occurred from the 1970s onward in both North America and Europe, producing differing accounts of what constituted ethnography and critical ethnography (Andersen, 1989).

For example, American critical ethnographers Samuel Bowles and Herbert Gintis (1976), influenced by Marxist thought, developed the "correspondence principle," which argues that there is a correspondence between schooling and the social relations of production in the workplace. They theorized that the public school as an institution was organized as part of the capitalist workforce and therefore was in place to uphold the hegemonic ideologies that sought to keep the status quo intact by educating and preparing specific students for specific roles within the labor market dependent upon race, class, gender. Bowles and Gintis' theory illuminated the workings of the hidden curriculum in school sites across our nation and inspired other critical ethnographic work (Anyon, 1980, 1981; Willis, 1977) that investigated how schools reproduce prevailing inequalities (Andersen, 1989).

Further, critical ethnographer, Patti Lather (1986) discursively traced the hybrid roots of critical qualitative research through the three overlapping traditions of feminist studies, neo-Marxist critical ethnography, and Freirean empowering research. Lather discussed how these three traditions continuously intersect and stand in resistance to objectivity and the positivist quest for truth. These three research traditions have "transformative agendas" and are concerned with research as praxis (Rose, 1979, as cited in Lather, 1986, p.64). Lather's work continues to influence educational, critical ethnographic work and is an example of the undergirding principles and goals of critical ethnography as a theory/method nexus (Andersen, 1989; Lather, 1991; Lather, 2007; Madison, 2011).

Why Critical Ethnography?

The method of critical ethnography begins with an "ethical responsibility" (Madison, 2011, p.5). I concur with Dr. Soyini Madison that this moral responsibility rests on the beliefs of working toward a just and kind world. I brought to this study a history of community activism, youth work, and public elementary school teaching. Through my past and present work as a community-engaged researcher at the YSC, I have come to believe and feel "a moral obligation to make a contribution toward changing those conditions toward greater freedom and equity" (Madison, 2011, p.5). Related to Foucault's (1978) reframing of the question and essence of power, critical ethnographers' point of departure from traditional ethnography begins with the question they seek to investigate. The question moves from defining what is happening within this culturally specific setting to asking how things are happening in the setting and why (Thomas, 1993; Madison, 2011). Thus, as a critical ethnographer working with the youth at the YSC, I paid attention to the construction of power, knowledge, and relationships. Moreover, my understanding of knowledge production and civic identity formation at the YSC was messy and non-linear. As Michael Apple (2013) states, the eye of the critical scholar is focused "on the connections between knowledge and power" (p.4). I used the tools of critical ethnography to follow how power moved within the interrelations in space, and moreover, how power was productive within the social space of the YSC and resulted in moments of social transformation (Thomas, 1993; Madison, 2011). Below, I examine the goals of critical ethnography within the areas of theory with/in method.

Theory with/in Method. The purpose of critical ethnographic research is social change and transformation. It is a methodology designed to confront injustice (Kincheloe & McLaren, 2000, Madison 2011;). Phil Francis Carspecken (1996) claims, "Criticalists

find contemporary society to be unfair, unequal, and both subtly and overtly oppressive for many people" (p.7). Hence, they do not like the way society is functioning so they aim to change it. My interest in working with the TC at the YSC began when I learned about the ways in which the youth and adults were interrupting traditional notions of science, technology, and civic engagement within the SM and their home communities. The YSC program design and the civic literacy practices of the youth and adults connected to my own theoretical commitments to critical literacy and critical pedagogy. Thus, putting critical theory into action by way of using a critical ethnography research design for this study made the most sense. From this viewpoint, ethnography became the action or the enactment of critical theory.

I engaged with theory at multiple levels throughout the analysis process to express and distinguish the invisible forces of discourse that functioned within the TC's process of building a civic technology tool and within their individual and collective identity enactments. For example, Massey's (2005) critical socio-spatial theory helped guide my attention to how social space construction was part of the TC member's civic identity enactments and shaped the larger discourses in place at the YSC. Geosemiotics (Scollon & Scollon, 2003) helped me understand how the symbol systems, customs, and social codes in the YSC constructed social space and were in tension with the Western discourses of the SM. Critical theories about qualitative research methodology (Lather, 2007; Madison, 2011; Pillow, 2003) guided the ways in which I acted on researcher reflexivity and my documentation and dissemination of research findings with participants. The theory/method nexus within this study ultimately rested in the realm of activism research, with an emphasis on the application of critical theory to practice.

Background

For three years before conducting this study, I collaborated with the TC as a volunteer and graduate student qualitative researcher. I pinpoint the beginning of my work with the TC to a conversation I had with Dr. Bic Ngo in the fall of 2012. At that time, I was a graduate student in her Culturally Relevant Pedagogy (CRP) course. The final project for the CRP course was a mini qualitative research study that had to take place at a local community-based organization. Dr. Ngo and I met in her office at the beginning of the semester to discuss the final research project.

Walking into Dr. Ngo's office, I planned to conduct the study at a community center in the northeast part of the city. Located next to the community center was an elementary school where I worked with students and teachers as part of a literacy initiative coordinated by a Reading Center at the university. As I discussed the details of the potential site, I explained to Dr. Ngo the ideological tensions I felt between my own and the initiative's pedagogical understandings about literacy and learning. Although the opportunity to work in a local elementary setting was engaging, relevant, and important work, I struggled with the literacy and learning paradigms that the literacy initiative aligned with and acted from. The Response to Intervention and banking model approach to literacy teaching (Freire, 1970) rubbed me the wrong way—and was all too reminiscent of the literacy frameworks pushed on my students and me during my last year as an elementary school teacher in the same predominantly Black community. In response to this tension, I conducted an action research study that documented and analyzed the processes of an adaptive, culturally relevant pedagogy based on my teaching practices with three third grade students during a reading intervention group (Struck &

Vagle, 2014). I planned to explore these three student's participation at the community center next door to their school for my CRP final project. However, Dr. Ngo thought otherwise.

I finished explaining my plan. Dr. Ngo paused and asked me two follow-up questions: "What are you interested in?" and "what are you passionate about?" Her questions struck a chord and my well-intentioned plan to conduct my project at the community center went out the window. The last half of our conversation we discussed a topic I was passionate about—youth's literacy practices in digital media learning settings. I walked out of Dr. Ngo's office with a new plan to conduct my study at two different after-school public library sites where a local group of teens facilitated digital media workshops. Consequently, my participation with the TC members as a qualitative researcher began.

I conducted two semester-long mini research projects with the TC. The first study investigated youth's participation with digital media at two of the library sites where they facilitated technology workshops for other teens. I spent twelve hours in the field and conducted two interviews: one interview with the Youth Programs Specialist at the public libraries and one focus group with TC youth. Preliminary findings from that semester upheld recent findings in the broader scholarly field that digital media was shifting the ways youth participated in literacy learning and that out-of-school contexts could encourage and support this participation (Ito, 2008; Jenkins, 2005).

In the spring of 2013, I continued to work as a qualitative researcher with the TC for my Critical Ethnography course. I expanded my research setting to the TC members' planning sessions. This took me into the physical space of the YSC for the first time. I

spent twelve hours in the field and conducted an interview with the TC adult manager, Kevin. Through my participation in these pilot projects, I built relationships and trust with TC members.

At the end of the spring semester in 2013, I learned about the research methodology of Critical Participatory Action Research (CPAR) (Cammorata & Fine, 2008; Torre et al., 2009; Tuck et al., 2008). The critical and collaborative nature of this design interested me and aligned with the program design of the YSC. I introduced Kevin to this model, and we applied for the CPAR Summer Institute with the Public Science Project (Public Science Project, 2014). Kevin and I intended to attend the CPAR Institute with the purpose of beginning a CPAR project with the TC in the fall. Two things changed that summer that altered the plan. 1) Kevin got accepted into a design program at Harvard University and moved to the east coast in the fall; 2) the YSC had budget cuts, which meant there was no funding for an YSC staff member to attend the CPAR Institute with me. Thus, I went to the CPAR Institute alone, unsure of how my proposed research project would play out. That fall, I continued to work at the YSC as an adult volunteer. I mentored youth through various research activities, including writing a literature review, coding survey data, and facilitating focus groups. During this time, I built trust with Anh, the new TC manager and the new TC youth members: Phil, Helina, and Malik.

In the spring of 2014, I approached the adult leadership team about doing my dissertation work at the YSC. The TC had just received a grant to build a civic technology tool. Anh articulated to me that the TC would be using a human-centered design framework (IDEO, 2014) during this project. Although it was not CPAR this method interested me. These factors led to my decision to study the TC's civic technology

project. I applied for IRB and started my official work with the TC at the YSC beginning in June 2014.

The Research Setting and Participants

The Youth Science Center

My research site was the YSC an out-of-school program for youth ages 13 to 21, located on the second floor of the Science Museum (SM) in River City. At the time of this study, River city was the state's capital and home to 279,590 residents.

Representative of the state's broader demographics, the city's population was mostly made up of residents who identified as white. According to the 2000 census, the racial and ethnic breakdown of the city was 61.7 % white, 13.5% Black, 12.4% percent Asian (10.1% Hmong), 8.9% Latino, and 0.8% Native American.

The YSC began in 1996. The YSC engaged predominantly young women and youth of color in STEM learning experiences within the museum (e.g. building exhibits) and through socio-scientific civic engagement projects in the predominantly Black, Hmong, and Latino working-class communities that surrounded the downtown city area near the museum. At the time of this study, 75% of the youth participants were from lower socioeconomic families, 60% identified as female, and 90% were youth of color (YSC Artifact, May 2014). The culture and the context of the YSC and the larger science museum as an institution will be discussed more thoroughly in the next chapter.

The Tech Crew

The TC was one of eight youth "crews" at the YSC. The TC began in January 2012 as a collaborative effort between the YSC, the Public Library Department, and the Parks and Recreation Department. During the first few years, the TC members created

and facilitated technology workshops for young people in their communities at multiple library locations across River City (Struck et al., 2014). Facilitating the technology workshops put parameters on the TC's work and collective identity. Given this, the TC members developed an interest in expanding their work within the local digital divide movement. They aimed to dig deeper into and understand more about technology empowerment work—what was happening (and not happening) in their own communities—specifically around issues of access and technology skill building. As Kevin, the first TC adult manager put it; "we want to move towards framing our work more like community organizing and less as community service" (Interview, April 8, 2013).

In light of this, during the summer of 2013, the TC participated in a youth justice-organizing workshop put on by the Movement Strategy Center (2013). Consequently, the TC members expanded their vision of what community social justice-oriented technology work could look like and created a mission statement: "The Tech Crew is a group of teens committed to bringing visibility to issues in our community and empowering youth through technology" (Artifact, July, 2014). This newly founded mission statement fueled TC members' continued participation in qualitative research methods to uncover and identify the digital divide community issue they wanted to address. In the winter of 2014, they settled on the topic of using digital media to help teens get access to jobs. At this point, Anh made contact with a former YSC co-worker employed at a university center. The center strived to connect the resources of the university with the interests and needs of the surrounding urban communities. The center employee told Anh about a local civic technology initiative and encouraged the TC to apply for it. The TC applied and got

accepted to the initiative. In the next section, I describe the university center that the TC collaborated with for their civic technology project.

The Center

Located at a land grant Research One university in the metro area, the center was one of over 300 centers on campus. Tucked away in a back corner on the third floor of a brick building, the center served as a connector between the university and urban, suburban, and rural communities throughout the state. With a focus on urban and regional affairs, the center coordinated and supported initiatives between state and local governments, communities, and nonprofit organizations. The center was established by the state legislature in 1968 in an effort to strengthen the involvement of the university in addressing social and political unrest in the urban neighborhoods located around the university. The state wanted the university to be more responsive to what was happening in its local communities. Since 1968, the center has remained committed to community issues, including economic, education, housing, and social and human services.

The center's mission statement foregrounded their community engagement practices (Artifact, 2014). The center staff that I met through this project prided themselves on the center's community-centric identity and community engaged research model. Multiple staff members bragged to me that the center was known more off campus than on. For example, Erica, the civic technology initiative coordinator, expressed:

Instead of the university just being an island, the Center flips the traditional academic research model around...and asks the community what is it that you want to know? What issues do you want to work on? What do you want to

research? Then we match those questions, those interviews, and those opportunities with resources from the university. (Audio Recording, November 22, 2014)

Erica's words epitomize the center's commitment to community-engaged work and the ways in which the staff embodied this commitment. Several times, I witnessed center staff (including Erica) facilitate or participate in community organizing meetings around issues such as police brutality and gentrification within the urban neighborhood that I live in. Erica's role as coordinator for the civic technology project involved technical assistance, including answering questions and linking the TC members to an array of resources. Erica corresponded with the TC members via email, face-to-face information/help sessions, and joining the crew for four meetings throughout the project (Field notes, November 22, 2014).

The center and the YSC had similar attributes. They both were "centers" located within larger institutions that offered alternatives to using scientific tools and institutional capital for social justice driven work within local communities. This connection was meaningful and relevant to YSC, center staff, and me. Yusef, the YSC high-school program manager, described it this way to the TC members during one of their work sessions:

They're kind of like us in that they're a great department doing really grounded community-based work in a bigger institution that doesn't typically do grounded community-based work. The science museum doesn't usually do the type of work that you all are doing. Universities that size don't usually do the type of research that the center is doing. Or maybe they do, but that's my perspective. I'm sayin'

the community focus and engaging the community in the processes to provide some real tangible resources to make an impact on the community, that doesn't always happen. (Audio Recording, November 22, 2014)

The TC's participation in the civic technology project initiated the partnership between the Center and the YSC. Further, TC members gained social capital within the YSC because of launching this collaboration. As Yusef expressed to the TC youth, "we're excited [about the partnership] and you all kicked off our relationship with the center" (Audio Recording, November 22, 2014). The next section discusses the TC's involvement in the civic technology project.

The Civic Initiative

I got more passionate when we started to do more work that I care about—social justice work. When we started to do the civic technology project that is when our work got real.

-Michael, Audio Recording, August 15, 2014

In the fall of 2013, the center partnered with a local philanthropic foundation to create the civic technology initiative. They sought to bring funding and resources to members of marginalized local communities who were interested in technology production within community development projects. Specifically, the center was interested in how civic technology could increase and improve access to resources and benefit community-based organizations and residents within marginalized local communities (Artifact, 2014). The initiative defined civic technology tools as:

Tools that help people connect, have a voice in public processes, access, deliver resources and information, visualize the present and imagine the future. Civic technologies can be digital, information-based tools like mobile apps, websites,

data visualizations, animations, text messaging systems, or other phone-based systems (Artifact, 2014).

Previous to this initiative, the majority of people involved in civic tech efforts in the local metro area were white, from middle-upper socioeconomic communities, and male. In response to these real challenges, the center privileged proposals for the civic technology initiative from communities of color and lower income communities. In the same fashion, they positioned the project within the local digital inclusion movement as evidenced in the statement below, originally located on the front of the civic technology initiative flier:

A digital divide still exists in the River City area: in the access people of Color and low-income people have to digital technology and Internet and in the representation of people of Color in the technology development and design industries. Coupled with this, people of Color face disparities in other measures of well-being, including employment rates, income, health indicators, foreclosure rates and graduation rates (Artifact, 2014).

The Center received 20 applicants and a review panel working with center staff selected seven candidates. In April of 2014, the TC was accepted as one of the nominees. The TC received \$10,000 to build a civic tech tool prototype. This “prototype building” phase took place between May and October of 2015. The center civic technology project took an incubator approach that layered additional resources on top of monetary awards to build the capacity of program participants' ability to develop technology-based civic tools (Artifact, 2014). By providing frequent feedback, mentorship, technical assistance, small grants to support the development of prototypes, and opportunities for networking, they attempted to facilitate a collaborative environment throughout the process. A core

component of the civic technology initiative involved participants utilizing the Human Centered Design Method (HCD) (IDEO, 2014). I discuss the HCD method in the next section.

The Human Centered Design Method.

The process has helped us learn and fight for things we didn't know we cared about and grow as individuals, as a team, and as a community.

–Malik, Personal Correspondence, November 2014

Aligned with the center's mission statement and commitment to community-led research, the guiding framework for the civic technology initiative was the HCD method. The HCD method is a design-based research process developed by IDEO, an international design and consulting firm (IDEO, 2013). According to IDEO, HCD is an inquiry and action-focused research process that centers on the knowledge and experiences of the people involved. HCD begins "with the ideas, contexts, and lived experiences" of the community members facing the challenge or issue they want to transform in their community (IDEO, para 2, 2013). Although there are contradictions between the theoretical frameworks of the human-centered design method and critical ethnography, for the purpose of this dissertation, I will not do a deep analysis of the human-centered design methodology. Instead, I am interested in the TC member's civic literacy practices, investigating how the youth used the HCD tools and how the method shaped their civic literacies and identities. This approach proved to be a generative instrument for the TC, and they relied on it. Anh alleged that it not only gave them structure and content support but also allowed for wiggle room and creativity. She explained to me:

Honestly, we relied on that [the HCD method] heavily. That informed our whole way of doing this because I'm not an engineer or designer. I don't know how to go about solving these problems. It's like, "We're going to really rely on this process because it's a process that these engineers and designers use, so we have to trust in it." So we followed the whole process and the many exercises... We relied on that completely. (Interview, August 14, 2014)

The HCD Discourse positioned the TC's civic technology project within a larger entrepreneurial discourse that got entangled and conflicted with the broader social justice-oriented narrative of the YSC. I discuss this entanglement more in depth in chapters 5 and 6. The next section provides an overview and timeline of the TC's HCD process. The title of each subsection come from the IDEO's Human Centered Design toolkit (IDEO, 2015).

Phases of the TC's Human Centered Design Process

Phase 1: inspiration. In April 2014, the TC members applied and got accepted into the Civic Technology Project at the center. In May 2014, Anh and Malik attended a workshop on the HCD method at the center. In early June 2014, the TC members conducted primary research by surveying local websites and job resources for teens. Additionally, from May through June 2014, the TC members canvassed youth between the ages of 13-18 at the TC library sites, at the SM, and at local malls. They audio recorded and took notes during interviews. Following the HCD method, they used their interview data to create "an extreme user" profile (IDEO, 2015). In June through mid July 2014, they interviewed eight adult employees of local job and career counseling resources for youth in the city.

Phase 2: ideation. TC members worked in pairs of two in the first round of open coding. Through their coding process they discovered themes such as:

- Adult employers did not actively try to reach teens and employ engagement strategies to have teens use their resources.
- Most adult employers did not come from the same cultural, linguistic, and discourse communities as the youth they were trying to serve.
- The job resource organizational websites were complicated for teens to use and overwhelming.
- Organizations were sometimes unapproachable and lacked expertise in how to reach out to teens. (Artifact, June, 2014)

Thus, through their analysis, the TC concluded that these organizations could serve teens effectively if more young people actually knew that the organizations existed. They concluded that the adult employers needed to work harder to reach out to teens.

Following up this analysis, the TC member's engaged in multiple rounds of brainstorming sessions following the process as laid out in the HCD toolkit (IDEO, 2015). According to HCD, "the goal of brainstorming is not about coming up with one solution. It's about generating a ton of ideas, team building, and being open-minded" (IDEO, 2013, p. 57).

In late July, the TC member's created new open-ended interview questions to ask teens at the local library sites. They conducted group interviews at three library sites. Next, they discussed and analyzed the ideas that emerged out of the brainstorming session and their analysis of the interview transcripts. They voted and chose two possible civic technology tools to build: a video game or a web series. The TC members created

“mock” prototypes to share with youth at the library sites. Micahel, Ubah, and Heaven created a video game prototype. Malik, Phil, and Kalia created a 45 second video trailer of their proposed web series. The TC members tested their prototypes with youth at each library site. The majority of youth polled voted for the webinar series. In late August, the TC members decided on what type of prototype to build at an overnight retreat. Each group presented their findings and arguments about what tool to build. After over three hours of deliberations, they decided that they would make a web series.

Phase 3: implementation. For the production period of the TC’s web series *What’s Werk?* they created a film trailer. During this period they wrote scripts, created and produced a theme song, gathered materials/props for the filming, edited the video, and prepared for their presentation at the center’s Demo Day event. In September 2014 the TC presented on their project. They shared their video trailer with a number of the job resource organizations and a panel of judges. In October 2014, the TC members were chosen as one of three finalists. They were given 10,000 dollars to continue production on the *What’s Werk?* webinar series.

Research Participants

The TC adult manager. I approached Anh about this study in spring of 2014. It was Anh’s fourth month in the TC manager position. She was both interested in my project and willing to participate, and agreed to have me work with her and the crew. Anh's interest, kindness, and willingness to let me jump right into the process as an active participant initiated a trusting friendship between the two of us that we built throughout the project. Anh's passion for social justice and digital media interested me and aligned with the TC’s commitment to the local digital justice movement. Anh studied art and

video production in college, so the work of the TC aligned with her passion as an artist and videographer. She told me during an interview that the TC's work was "something I really got into" and that she was "drawn to the content area" (Interview, August 8, 2014).

Before working with the TC, Anh had been employed in the Education Technology department at the SM for five years. Anh shared that her initial reasoning for working at the SM was fueled by a desire to "do good in the world" (Interview, August 8, 2014). Although she enjoyed her work in education technology, she described it as "enrichment," and it wasn't until she started to work at the YSC that she felt that her identity as a person of color was acknowledged and foregrounded in her work and in the relationships she built with youth. Anh drew on her own social and cultural experiences in her role as crew manager. Her social location influenced her pedagogy and the agency that youth felt. She remarked during an interview:

It took me coming to the YSC and working in the YSC to have these experiences I didn't get to have. I'm Vietnamese. My family grew up in a very rural white area, so I didn't have a lot of people I had common experiences with. We would go to the nearest metro area, and we would buy crabs. I'd save the crab claw to bring to show-and-tell, and people would be like "What? This girl had a crab claw. What is that? Gross." But those are my experiences in my cultural background. I could not relate that to other people. I think for a long time I was like, "I wish people wouldn't see that I'm Asian. I wish they would see me as everything else." It was something that you tried to make invisible. I've struggled through those things, and I've come to a place where I feel I'm in a good place. Now I

want these teens who are having a very similar experience—for me to be able to support them through that and help them through that. (Interview, August 14, 2016)

Her social justice orientation to the work came out in both formal and informal pedagogical ways. Anh welcomed conversations about race, and facilitated discussions about race and social justice with crew members. For example, on August 4 2014, after the shooting of Michael Brown by a police officer in Ferguson, MO, Anh was one of the first YSC adult staff to take action on organizing a dialogue and community space for YSC youth to come together to grieve and process what happened.

The TC members described Anh as “a listener,” “understanding,” “a mentor more than a boss,” “straight forward,” “a boss, but not THE BOSS,” “chill,” “opinionated,” and “nice but someone who doesn’t play” (Audio Recording, July 28, 2014). I would describe Anh as a dedicated youth worker with a quirky and smart sense of humor that carried into her work with youth. Anh enjoyed her work at the YSC. Her identities as an artist, first generation Vietnamese-American woman, and filmmaker contributed to her work as a facilitator of the civic technology project and mentor to the TC members. Her gifts as a facilitator came out in the ways she listened and was firm. She would often pause before giving her input or feedback. She did an excellent job synthesizing information for crew members throughout the civic technology project. For example, during a group reflection, Malik articulated that Anh helped the youth “make sense of things...make it [the civic technology project] more of a process, instead of just slap[ping] a bunch of information on the table” (Audio Recording, July 28 2014).

Anh's facilitation style could be described as dialogic. Pedagogically, she used talking to stimulate and extend the TC member's thinking and understanding throughout the civic technology project. She frequently asked open-ended questions that elicited discussion. She used facilitation methods to connect to youths' lives in real and culturally relevant ways. For example, she drew on Michael's skills as a photographer multiple times throughout the project, including having him document varying aspects of their process. Although Anh, frequently facilitated group discussions during group work, she backed off and let the youth take the lead on the work and tasks of the day, including where in the YSC they wanted to work. Most of the time, Anh welcomed joking, laughter, and did not deter youths' use of technology or their body movements during crew meetings.

The youth crew members. All youth participants for this study attended high school within the River City school district. They ranged in age from 15 to 19. I invited all TC members to participate in the study and all of them self-selected to be involved. I knew four of the youth from my previous work with the TC. Table 2 describes their demographics (i.e. race, gender, age⁶), the number of years they were a part of the YSC, and their affiliations. The four focal students are marked with an asterisk.

Participant	Demographics	Affiliations	Years at YSC
Heaven	Rwandan, Black, female, 18	One of the original TC members. Close friends with Ubah and Kalia. Referred to as a "mentor" by Malik. Her brother was in the YSC middle school program.	6

⁶The terms I use for ethnicity/country of origin, race, and gender, represent the identity markers the youth named when I asked them how they self-identified. Additionally, the age listed is how old they were at the beginning of this study (July 2014).

Helina*	Ethiopian, Black, female, 15	Went to high school with Malik. Got close to Ubah and Heaven during the Allied Media Conference trip. Worked closely with Michael and Anh during the film production phase of their video trailer. Had a younger sister in the YSC middle school program.	3
Kalia	Hmong, Asian, female, 17	One of the original TC members. Had a close relationship with Anh. Close friends with Heaven and Ubah. Worked closely with Phil and Malik on the video trailer prototype.	5
Malik*	Black, male, 16	Attended high school with Helina. Developed a close friendship with Phil over the summer. Was the only TC youth to attend the HCD training with Anh.	1
Michael*	African- American, male, 18	One of the original TC members. Close working relationship with Kalia, Heaven, and Ubah. Worked closely with Anh and Helina during the production and editing phase of the project. Changed job positions in September 2014 from TC youth participant to TC Intern.	6
Phil*	Black, male, 15	Developed a close friendship with Malik. Worked closely with Malik on the theme song and scenes for the trailer.	3
Ubah	Somali, female, 17	One of the original TC members. Close friends with Heaven and Kalia. Worked closely with Michael and Heaven during the production phase of the prototype.	4

Table 1: Youth Participants in the Study

Focal participants were chosen based on their participation, enthusiasm, and insight as members of the crew. In light of there only being seven TC youth, I initially thought of them all as focal participants. However, because of the quick pace of their work sessions during the summer coupled with scheduling conflicts, I chose to do the bulk of my individual interviewing with focal participants after August 2014.

In late August, Ubah left the TC because she got an internship at a local engineering firm and Heaven went to college in another state. I conducted a semi-structured interview with Heaven over Thanksgiving break in 2014, but did not interview

Ubah. Kalia was initially a focal participant. However, she abruptly left the crew in early September 2014 for personal reasons. I contacted Kalia a few times in attempts to meet up for an interview, but it never transpired. In the next section, I briefly describe the seven youth, leaving the four focal participants for last.

Heaven. Heaven was one of the first TC members that I got to know. Heaven's parents fled Rwanda during the genocide in the 1990s. Heaven and her younger brother were born and raised in River City. Her mom worked as a custodian at the SM and heard about the YSC program from a coworker. She signed Heaven and her brother up to be in the middle school program. During her senior year in high school, Heaven worked in the career counseling office at her school. She was not in honors classes, but perceived of herself as a "good student" (Interview, November 23, 1014).

Heaven applied to be in the TC her sophomore year in high school. The main reason Heaven applied to work at the YSC was to get a job, and she knew from her experience with Design Team that "she didn't care what crew she worked for at the YSC, she knew that any crew would be doing great things" (Interview, November 23, 2014). During her time in the TC, Heaven presented at conferences in Minneapolis, Boston, and Detroit. The hiring of new crew members happened in the spring of 2014. Heaven took pride in her leadership during the civic technology project. She explained during an interview:

I started stepping in because these new folks, they don't really know the work that we are doing as well as we [the original members] do. They're in the same position as we were in the beginning; we just thought that technology was impacting us in a really big way. They don't see the inside part of it, the work

we're actually doing to impact others using technology. (Interview, November 23, 2014)

Other crew member's described Heaven as "kind," "accepting," "a powerful woman," "a good listener," "independent," and "a good friend" (Field Notes, August 28, 2014). In the summer of 2014, Heaven was preparing to attend a state university located in a small rural town about 50 miles away from River City. At this time, I had two friends who were professors at this university and put Heaven in contact with both of them. Heaven and I met a few times individually over the summer to talk about her upcoming move to the university. Heaven worked on the civic technology project through August. During the prototyping phase of the project, she worked closely with Ubah and Michael on creating a video game simulation. She stood firm in her choice that the video game simulation was better than the webinar series. However, the final decision about what prototype would be built happened after Heaven left for college.

Kalia. I met Kalia when I first started to work with the TC. Kalia was not afraid to assert her voice into conversations. She talked fast. She gave input. She stood up for her beliefs. She was a theorizer. One of my first memories of Kalia involved her interpreting the digital media practices of teens at the TC's technology workshops using Mimi Ito's (2008) theory about Hanging Out, Messing Around, and Geeking Out (HOMAGO). Kalia attended Advanced Placement classes at her high school. She typically excelled in school, but had recently struggled with anxiety and at times insomnia, which caused her to fall behind on her school and work commitments. For instance, during the summer months of 2014, Kalia enrolled in summer school to make up credit for a class she failed in the spring—this then impacted her attendance at TC meetings.

Anh described Kalia as "generous." Kalia often brought food to share at crew meetings. Kalia had a healthy relationship with Anh and valued having a manager that was Asian-American. She often spoke about the agency she felt about her Hmong identity at the YSC. She referred to having "Hmong pride," and described how she felt differently about her Hmong identity at the YSC than she did at school. She explained, "even when I feel confident in school as a student, my involvement isn't as deep, and my Hmong pride isn't as strong" (Focus Group, August 10, 2014).

Kalia was playful and liked to joke. She would often explore racial issues through joking with Malik, Phil, and Michael. One crew meeting, Phil said to Kalia, "even if we get out of hand with our off-hand racial jokes, you know how to pull us back, but you also have some vicious jokes up your sleeve" (Audio Recording, August 28, 2014). Sometimes Kalia's jokes upset other crew members. For instance, one time Kalia made a racist joke about Black people and Heaven got upset at her and snapped, "Kalia, you can't say that—it is racist" (Field Notes, August 12, 2014).

Kalia was long-time friends with Heaven, Ubah, and Michael. During the production of the civic technology tool, Kalia worked closely with Malik and Phil. Kalia left the TC abruptly in September 2014. I was unable to talk with her directly about why she left, but heard from Anh that she got another job that worked better with her home and school commitments.

Ubah. Ubah was one of the original TC members. Other youth held a tremendous amount of respect for Ubah. Malik, Heaven, and Kalia described Ubah as "savage." A savage person is "someone who displays an act that is either cool or hardcore, going beyond the normal scope of the given situation" (Urban Dictionary, 2014). Michael

described her as someone with a "gentle vibe but who holds strength in her gentleness" (Audio Recording, August 28th, 2014). Heaven and Ubah identified as best friends. Heaven described Ubah as someone who "stands up for what she believes in, and that is carried into her work with the TC. She is smart and doesn't take crap from no one. I don't meet a lot of other girls like Ubah" (Audio Recording, August 28th, 2014). Ubah spoke Somali in addition to English and observed Muslim religious rituals. She always wore a hijab and during Ramadan wore a niqab. Ubah was born in River City and had three older sisters and two younger brothers. She left the TC in late August because she got an internship at a local engineering company.

Michael. Michael was the first TC member I ever met. Michael heard about the YSC when he was awarded an "African-Americans in Science" award at his middle school for a science fair project, an accolade that he told me about multiple times throughout this project. One of his teachers recommended he participate in the YSC's Design Team program. As a partnership between the YSC and six local middle schools, the Design Team was an afterschool program that met two to five times a week. Students worked in teams of 12 to 20 on science projects in four STEM areas: Biology/Public Health, Environmental Science/Environmental Justice, Media & Technology, and Design & Engineering. Young people in the program had opportunities to prepare outreach activities to share their work with their community and family at the end of each quarter (YSC Artifact, August 2015).

Michael was on the design team with Heaven and Kalia. YSC staff encouraged design team members to apply for high school club positions. Two years before this study, Michael became a member of the TC. Michael loved music and often took on the

role of DJ during crew meetings. Michael was interested in research and curious about science. Michael and I had more than one conversation about similarities and differences between qualitative and quantitative research designs during this study. Michael loved technology, specifically coding and creating video games. He had two other jobs besides his job at the YSC. He worked at McDonalds and facilitated Minecraft workshops for youth at the library in his neighborhood.

Other crew member's described Michael as "smart" "a techie" "a thinker" and "an artist." Michael lived with his mom at the beginning of this study and a roommate at the end of it. He had an older brother who was a professional photographer and an older sister who was in the army. Michael graduated from a technology and science focused public high school in May 2014 and started coursework at a local technical college in September 2014. Michael did not have access to the Internet at his home and frequently hung out at the YSC to use the Internet. He was known as an "YSC regular." During the production phase of the civic technology tool, Michael did the majority of video editing using the software Final Cut Pro.

Phil. Phil was always moving. He was not one to sit still. One of my first memories of Phil is of him sitting in a chair, swiveling back and forth with his feet up on a table. Frequently, Phil wore a turquoise hat with white letters and black trim that spelled out his name. Phil identified as a skateboarder. He took public transportation to get around town and between bus rides rode around on his longboard. Phil held another job at a credit union located at his high school and because of this was often late to crew meetings. I knew when he arrived because you could hear the wheels of his skateboard as

he slid into the YSC. Other youth described Phil as "artistic," "creative," "thoughtful," "smart," and as someone who "talks a lot" (Audio Recording, August 28, 2014).

Phil went to school in a different neighborhood than where he lived. Phil lived in a working class, predominantly Black neighborhood with his mom, sister, and niece. From a young age, he attended the "good" (i.e. white, middle/upper class) schools in the district. Phil identified as Black, and the majority of his good friends were white. He didn't attend the high school in his neighborhood, and he didn't feel connected to the youth in his community. For instance, one time, when Phil was facilitating a technology workshop at the public library site located a few blocks from his home, he told me, "I'm not friends with kids from around here" (Field Notes, July 8, 2014). As a TC member, Phil gravitated to the musical and technical jobs on the crew. He opted to create the digital graphics on posters and PowerPoint presentations. He and Malik composed the music for the *What's Werk?* trailer. Phil identified as a hip-hop artist. He used the YSC recording studio to record songs, and he had his own music page on the social media site Soundcloud (Soundcloud, 2015).

Malik. The two words I would use to describe Malik are inquisitive and determined. Malik was smart. He was an observer and theorist. He cared deeply about his family and felt a responsibility to help take care of them financially. Other youth referred to Malik as "a good conversationalist," someone who had a "fine taste in music," "a good friend," "very smart," and "willing to help" (Audio Recording, August 28th, 2014). Malik held a 4.0 at school. Being successful in school was important to Malik. He was determined to succeed. He chatted with me about future college options often. Malik was the newest crew member and had the least amount of experience working at the YSC.

Malik was an avid baseball player and played for one of the local park and recreation teams; he was also a talented musician who played the piano and percussion. He was a member of the honor band at school and also founded a blues/rock band with other YSC youth. This band performed at YSC annual events.

Helina. Helina started as a member of the YSC's middle school Design Team. She joined the TC two months before this study began. In the beginning, Helina was relatively quiet during crew meetings. As time went on, she asserted herself more during group discussions. Helina was reflective and shared with me that she learned best when she got to process and reflect out loud in a group setting (Field Notes, November 22, 2014). Before joining the crew, Helina had minimal experience with technology outside of using social media. She went to the same high school as Malik, and the two of them were friends outside of the TC. Helina became friends with Ubah and Heaven through their work on the civic technology project.

Helina was close with her family. She had one younger sister and two older sisters. Her oldest sister lived in Atlanta, and Helina and her other family members visited there two to three times a year. She often talked about her love for Atlanta and had plans to attend Clark College after high school. Her other older sister worked for Delta Airlines and got airline tickets at a discounted price. Thus, Helina traveled somewhat frequently and during this study went to Los Angeles, Jamaica, Atlanta, and Ethiopia. Helina's parents were from Debre Zeit, Ethiopia. Her mother first moved to River City in the 1990s with Helina's two oldest sisters. Her father was an air force pilot for the Ethiopian military and came to the United States a few years after her mother. Helina and her youngest sister were born in River City. Helina considered her youngest sister her

best friend. Helina self-identified as a young Black feminist. She loved to garden. She was in the National Honor Society at her school and took post-secondary classes at a local community college. Near the end of this study, I was asked to teach a course on culturally relevant pedagogy and digital media to a cohort of teachers from the River City school district. I hired Helina and Phil to help me design and facilitate the course. I developed a deeper relationship with Helina and her older sister through this partnership.

Other adult staff at the YSC. Other adults that participated in this study include: Yusef, the high school crew manger; Susanna, the curriculum specialist; Brenda, the YSC director, and Erica; the center employee who coordinated the civic technology project. I describe their roles and my relationships and interactions with each of them in the following data chapters.

Data Collection and Analysis Methods

Data Collection

The data used for this study included field notes taken from observations of the TC work sessions and other YSC activities (e.g. staff retreats, new crew member orientation), audio and video recordings of TC work sessions, youth and adult interviews, a collection of artifacts (e.g. youth produced films, Facebook posts, photos, TC meeting notes), and YSC and SM official documents. Data collection took place from July 2014 through July 2015. I describe each of these data sources below.

Field notes. As reflection and analysis, two categories of field notes—descriptive and analytical—were crucial to my study (Emerson et al., 1995). I used descriptive field notes to flush out my jottings and record my observations and interactions with YSC youth and adults. Analytical field notes were written about researcher positionality and

ongoing analysis and interpretation (Emerson, Frenzt, and Shaw, 2011; Macbeth, 2001; Pillow, 2003).

Observations of TC work sessions took place between one and four times per week, from July 2014 through December 2015. Each observation lasted approximately three to four hours. From December to July 2015, observations happened less frequently and were dependent upon what the TC was working on, my personal schedule, and follow up with a particular person or topic. By developing a rapport with adults and youth at the YSC, I was welcomed to come at any time to work on my data analysis at the YSC. Yusef, the high school manager, gave me entry to the YSC through my volunteer ID and an SM email address, so I could access the internal server. From January through July 2015, I spent multiple days working on my dissertation at the YSC. This access allowed for informal conversations to happen with YSC youth and adults throughout the data analysis and initial writing phase. In total, I observed 48 TC work sessions. I also participated in eight two-hour long YSC crew leader meetings and other YSC-wide events including two all day staff retreats, YSC SM events, new crew member orientation, six of the TC's technology workshops at local library sites, and the TC's Demo Day presentation.

My observation style emphasized participation in order "to write" (Emerson et al., p.72, 2001). At first, I did most of my jottings at the YSC in a journal in hopes of jogging my memory later that day or night when I typed up my field notes (Emerson, et al., 2011). This method proved to be somewhat problematic, as my notes were often illegible or at times unclear. Thus, I found it easier to record my jottings on my laptop. This way, I could record my jottings faster and follow along with the Google Drive documents that

TC members worked on. This method ended up being one way that I developed trust. For example, during an appreciation circle, Ubah expressed:

Maggie, I like that you are so determined. I told them [Heaven and Michael] that. When we were doing stuff on Google Docs, we noticed that you were on Google Docs and then we were talking about like, "Wow, Maggie is so determined. Like, she is so interested to know what we are doing." I was so astonished about that... You are so determined to find out what the TC is doing and be a part of it. You jumped into the project, and it didn't feel like you were a guest or an outsider... I consider you a part of the crew. (Audio Recording, August 28, 2014)

Typically, after my observations with the TC crew, I would find a quiet place to sit in the museum and write field notes on my computer before I went home. At times during the production phase of their civic technology tool, the TC members worked in multiple places in the SM, which made it difficult to record consistent notes. During YSC-wide events (e.g. Youth Science Day and Project Me) and at the TC's overnight retreat, I chose not to take notes in the field. In these cases, I wrote up field notes after I left the YSC or recorded voice memos on my way home in the car or even while walking my dog around my neighborhood park. In the end, I had over 250 pages in my field log and 22 voice memos. These voice memos became another source of field notes. During the TC work sessions, I employed an audio recorder, my smartphone camera, and at times a video recorder to capture what was happening. I describe these sources below.

Audio and video recordings of activities. TC work sessions that I attended were audio recorded. Before beginning this study, my advisor advised me to video record TC work sessions. In fear of being intrusive, I choose not to video record for the first month.

My plan was to start filming TC work sessions after the first month, but this proved to be difficult because of the size and open-studio design of the YSC and the TC members tended not to work in one location. Thus, I ended up not video recording many TC sessions. Anh recorded two sessions for me when I was gone, and I used the video recorder a handful of times. In hindsight, I wish I would have video recorded more work sessions, especially because of my focus on social space construction in the YSC.

I had two audio recorders that I placed amongst the youth while they were working. Initially, they were hesitant to be recorded, and the first few sessions, I noticed that their communicative practices changed when I pulled out the recorder (Field Notes, July 14, 2014). Eventually, it became an ordinary practice, and for the most part, the youth's hesitation went away. Other factors that influenced the audio recordings included the noise level in the YSC and the audio recorder used as a tool to communicate with me. Malik tended to say funny things and Kalia made remarks such as, "Did you catch that Maggie?" or "That was for you, Maggie" (Audio Recording, August 8, 2014). During my initial phase of coding, I listened in chronological order to all of the audio recordings, time stamping and flagging the recordings that were relevant and correlated with one of my three research questions.

Interviews. I developed preliminary, open-ended protocols for interviews with YSC adults and the focal youth (see Appendix A and B). Helina, Michael, and Phil participated in two interviews while Malik, because of a leave of absence, only participated in one longer interview. Anh participated in two interviews and Brenda, Susanna, Yusef, and Erica participated in one interview each. Interviews were semi-

structured and occurred in the middle or near the end of the study, after I had developed relationships with participants. Thus, they felt more like conversations at times.

With the TC youth, the purpose of the first interview was to gain information about their identities, affinities, their history with the YSC, and their relationship with digital media and civic engagement. The other interviews with youth were retrospective interviews conducted after Demo Day and the production of their civic technology tool. In these interviews, I asked a range of questions about their process, their production of the *What's Werk?* webinar series, the social space of the YSC, and their civic identity.

With Anh, the interviews were geared toward finding out background information, pedagogical beliefs, personal interests, and her relationship with digital media. Additionally, I asked Anh questions regarding focal participants and things I had observed in the field. The second round of interviewing allowed me to develop questions regarding the focal students and the civic technology project.

Documents and artifacts. I collected a variety of artifacts that the TC made and used, including videos, audio interview recordings, meeting notes, emails, social media correspondence, flyers, notes, art done by youth, and multiple youth-generated multimodal texts. Additionally, I collected SM documents found on either the SM's website or the internal server, including mission statements and historical information. At YSC staff meetings, I obtained documents regarding professional development and upcoming events.

At first, I used the computer software program Dedoose to organize my data. I uploaded my audio recordings, voice memos, interviews, and field notes to Dedoose. Also, I kept a copy on my hard drive and Dropbox. Once I began to code, I realized I

preferred coding using time stamps and the highlighting feature on Microsoft Word. I ended up only using Dedoose as a storage space for data in this study. The next section elaborates on my analysis process.

Analytical Procedures

I used interpretive and reiterative coding processes based on ethnographic methods. My coding practices informed how I theorized and made meaning in this study. I acknowledge that I bring specific critical theoretical lenses to the analysis process that shaped what categories emerged from the data as well as my interpretation of the findings. In this section, I describe my analysis process. While there are distinct components of my analysis method described, it was a fluid and iterative process.

Analytical memoing. My data analysis started in written analytical memos throughout data collection. Through memoing, I made connections between the data I collected and theoretical issues that surfaced (Patton, 1990). For instance, some of my original memos explored sociocultural understandings of civic identity (Ginwright & Cammarota, 2007; Mira et al., 2014; Nasir & Kirshner, 2003; Rubin, 2007; Watts & Flanagan, 2007). Specifically, I started to write about how components of the research design of the TC's project shaped their civic identity enactments. Memoing about this topic led me to explore Maxine Greene's (1998) ideas about social imagination. I began to record questions in my memos such as: What role does social imagination play within the Human Centered Design Method (HCD) used by the TC in the civic technology project? How are TC member's using their social imaginations to “invent visions of what should be and what might be” in their communities AND in their individual lives (p.25)? How does the Human Centered Design Method lead to reproducing, not reconstructing,

Western and positivist research practices? Moving between reading theory, writing field notes, and memoing helped me begin to theorize what was happening in the space (Field Notes, October 23, 2014).

Coding methods. I triangulated my findings through multiple data sources (e.g. field notes, interview transcripts, artifacts, memos) to accurately represent thematic findings within the study (Miles & Huberman, 1994). Using the method of open coding (Corbin & Strauss, 2008), I re-listened to the audio recordings of the TC work sessions, interviews, and focus groups and read through the transcripts, theoretical memos, field notes, and artifacts to identify themes and patterns. I met with critical friends (Elliot, 1985) to discuss my initial coding and categorization of how the TC members constructed civic literacies and their identity enactments. Through this process, I realized how important it was for me as a researcher, theorist, and learner to talk about my data and interpretations out loud. At times, I audio recorded my conversations with others, which then became another source of data to triangulate.

When I moved on to axial coding (Corbin & Strauss, 2008), I used Massey's (2005) social-spatial theory as my guiding theoretical lens. Thus, I chose to separate my open codes into her three propositions of social space construction (p.9). I then met with more critical friends and my advisor to discuss the categories and questions that arose from this round of coding. Finally, I completed selective coding (Corbin & Strauss, 2008) of the identified focal categories (e.g. civic identities within a both/and standpoint) to complicate and flesh out my themes and select the data pieces to highlight in my dissertation. The categories developed during each phase of analysis are in Table 2 (located in Appendix B) and Table 3 below. I don't intend to present my analysis process

as polished or smooth; it wasn't. The process was messy, iterative, challenging, clear at times, confusing at others, and lengthy. It involved me "thinking with theory" (Jackson & Mazzei, 2003). That is, I used Massey's social-spatial concepts to analyze my data and write *into* it. Writing helped me to open up my interpretation of Massey's ideas and my process of data analysis. The final process of selective coding was fluid and continued through the drafting of my dissertation.

Open Codes	Axial Codes	Selective Codes
Movement of bodies Movement of furniture and objects Movement between virtual and physical contexts Plurality of language use "Layering of literacies" with digital tools Diverse racial and gender demographics SM as "Western" space YSC participants identifying as members of a social justice "movement" Time organized by intersecting moments rather than shaped by the means of time (i.e. deadlines). Talk about race, gender, difference	Massey's (2005) proposition of space as "a sphere of multiplicity" (p.9).	Two larger Discourses in place at the SM and the YSC: The Western Museum Discourse and the Discourse of the Movement ⁷ . "Movement" in YSC as: (1) physical movement in space at the YSC; and (2) a larger social justice movement that TC members were claiming to be a part of.
Care shown between youth and adult participants Laughter Banter Playing with music Use of YSC digital tools for professional and personal reasons Codemeshing Expressing emotion	Massey's second proposition of space, "space as constructed through interrelations," (p.9)	Crew members' use their bodies, their emotions, and the permeability of the social space to negotiate and enact their civic literacy practices.

⁷ These two discourses were not fixed, and are representative of the multiple discursive discourses that were in place at the YSC. My intention is to not dichotomize these two larger narratives into two distinct separate categories or into binaries of dominant/counter, good/bad, etc.

<p>Critical Consciousness/Activist Stance, Counter narratives of race, gender, and class</p> <p>Entrepreneurial Stance/Market-Based Economy</p> <p>Part of a “movement” Carrying along a community as they achieve success</p> <p>Part of a capitalist “global system/economy.” Learning how communities and individuals (teens of color) can work within a “global system.”</p> <p>“We” centered</p> <p>“I” centered</p> <p>Imagining a better world for “us” (kids/adults of color/low income families)</p> <p>Imagining individual success, upward mobility within the system</p>	<p>Massey’s (2005) third proposition of space as “always under construction, and always in the process of being made” (p.9)</p>	<p>Civic identities within a Both/And standpoint.</p> <p>Civic identity formation within sites of “Throwntogetherness.”</p> <p>Civic identity enacted through digital media.</p>
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Table 3: Open, Axial, and Selective Coding Categories

Researcher Dilemmas at the Youth Science Center

“To me it is such a compelling opportunity to be forced to think about what it means to be an academic researcher who pokes around in other people's lives, in particular ways, for particular reasons, almost always, clothed in the rhetoric of doing good.”

(Lather, 2007, p. 55)

Poking around in other people's lives, in the particular ways of qualitative data collection methods and for the particular reason of conducting an ethnographic study, was a compelling and challenging opportunity, to say the least. Figuring out my role at the YSC was a continuous and conflicting process. As a novice researcher, I fretted over choices I made in the field, particularly around my participation style and researcher positionality.

My role as a participant observer with the TC dipped heavily into participation. During crew meetings, I attempted to be both an active participant and an observer. In the beginning, I participated often. In some ways, I felt like I owed it to Anh and the youth to

take part in the civic technology project. As time went on, I allowed myself to be more observant. Typically during group discussions, I stayed silent, unless someone asked me a question. However, when TC members worked individually or in small groups, I engaged with them by asking questions and offering help if needed. Ultimately, this led to youth viewing me as part of the crew and resulted in me developing relationships with them. Nonetheless, there were multiple days where I left the YSC believing that I should have taken up more of an observational stance and jotted more descriptive notes. George Noblit (1999) asserts that doing ethnographic research is a commitment to people, inquiry, and advocating. Throughout the year of this study, I remained committed to creating spaces for the TC members to share their interpretations, knowledge, and perspectives on the civic technology project and their civic identities.

Moreover, in addition to wearing the hat of a university researcher, I wore the hat of "adult facilitator" for a multi-site ethnography project, "Pathways Project: From Connected Learning to Sustainable Futures" (YSC Artifact, July, 2014). The principal investigator for this project was Ben Kirshner from the University of Colorado, Boulder. I guided five youth through a process of understanding and conducting ethnographic research, creating digital work plans and portfolios, networking/sharing experience with youth across the nation, and developing tools and artifacts that represented and shared what they learned. My role included presenting at a local social justice education fair with two youth and taking one YSC young person to the Digital Media Learning Conference (DML Research Hub, 2015) in Los Angeles, CA to present their work.

My job as the "ethnography crew manager" granted me an insider status. For example, at the first YSC staff retreat I attended, Yusef, the high school program director,

introduced me as the "ethnography crew manager who is doing her dissertation work with the TC" (Field Notes, September 14, 2014). Additionally, I drew on my research with the TC as examples of the ethnographic process during ethnography crew meetings. This activity became a reflexive practice for me about my role as a researcher at the YSC. For example, one day one of the ethnography crew youth, Arial, and I were putting together a presentation about the project. As we talked through the implications of our work, Yusuf joined the conversation. He explained to Arial that the ethnography project was an example of how communities of color could use ethnographic research to study problems they experienced; instead of having an outside party research them. From this conversation, Arial came up with the implication that "ethnographic research could be used as a powerful tool for communities of color and young people to stand up and fight for what they find is important in their community" (Artifact, October 22, 2014). This instance is one of the numerous times where I felt in my body the history of whiteness. While I was a participant in the conversation, it is representative of the ways in which my racialized identity as white perpetually positioned me (for good reason) as an outsider researching the youth and adults at the YSC.

Another white Maggie. Critical self-reflexivity is a fundamental tenet of critical ethnography. As a white woman who has worked within communities of color as a youth worker, teacher, and now community-engaged researcher, reflexivity has been an integral part of my self-identity work as both white and queer. I brought a history of reflexivity, particularly around my racialized identity, to this study.

Typically, I was one of a handful of white people in the YSC space. In the beginning, my thoughts often diverged to how few white people there were in the space.

The YSC was different than the community I had become a part of at the University in regards to racial demographics and I noticed and felt this difference constantly. When I first started hanging out at the YSC as a volunteer, there were two other "white Maggies" that worked there, and thus it became a joke that I was just another "white Maggie." YSC staff respected the other two Maggies and in some ways, I think being able to enter into the social space of the YSC on the heels of this joke opened up a door for me.

The SM as an institution was a white space, and there were numerous times that this was made visible to me. For example, when I forgot my volunteer pass, it was easy for me to ask the white security guard if he could stamp my parking voucher without a pass. Further, most of the visitors to the museum were white people and every day as I rode the elevator down to the YSC, I typically stood next to people who looked just like me. Moreover, most of the other SM department staff were white. Specifically, the Teacher Professional Development (TPT) department had multiple employees who identified as white and queer. There were a few times when I told other SM employees that I was doing my dissertation work at the SM, and they assumed I collaborated with the TPT department.

I attempted to be conscious about the ways my biases and assumptions impacted my data collection methods, my interpretations, and my representation of the data as I made sense of the TC members' civic identity enactments. Wanda Pillow (2003) talks about researcher reflexivity as a practice should be "used to both explore and expose the politics of representation" (p.176). Through a continual process of "turning back" (Davies, 1995, p.3), I interrogated my own positionality by recording reflexive audio

memos, writing reflexive analytical entries, revisiting theory, and talking with trusted colleagues and critical friends.

At first, my performance as a researcher in the space took on many facets that never felt just right. For instance, I was unsure about coming out about my sexuality to TC youth in the beginning. Susanna, the YSC Curriculum and Assessment Specialist, became a critical friend and helped me work through some of these tensions. I remember one conversation specifically when I talked with her about an incident that happened when I was observing one of the TC's technology workshops. The excerpt below comes from a reflexivity vignette I wrote about the incident.

Dre is under the giant structure now. He is laying on his back and kicking the baskets. Two boys go over and start poking him with a dowel.

“Oww! Who poked my nipple?”

“You are a FAGGOT!”

My QUEERNESS rushes over me fast—silently. I sit on the tattered blue couch in this silence. Inside, I am swimming between identities of strong white women graduate student and fly on the freakin' wall white queer woman researcher—in the intersections and spaces of these shifting identities is where it has been difficult for me lately, to say the least.

(Reflexivity Essay, May 6, 2013)

This vignette marked the first recorded memories where I grappled with my positionality as white women, queer women, and critical ethnographer. My silence in the moment represented two intersecting parts of my identity: who I was as a white middle-class activist, working in solidarity with people marginalized by race and class; and who I was

as a white queer women living in partnership with another woman. I think in some ways I remained silent because it was early on in my work with the TC and I was the outsider—the white female researcher who didn't want to interfere. I wanted to respect the space of the youth, and because of my whiteness and identity as an outsider, I didn't want to interrupt the technology workshop and center the attention back to me—the white person in the room. Charles W. Mills (2014) asserts, “in a racially structured polity, the only people who can find it psychologically possible to deny the centrality of race are those who are racially privileged, for whom race is invisible precisely because the world is structured around them” (p.76). My silence was in resistance to the grand narrative of Whiteness that race doesn't exist. I didn't want this incident to be about me, even at the expense of the violence of that word against my sexuality.

As time went on, and I strove to “write science differently” (Lather, 1991, p.123), having a conversation about this incident with critical friends such as Susanna helped me address questions such as: How do I write myself into the narratives I create? How do I aspire to deconstruct sexual and gender binaries that are reified through social text and grammar (Letts and Sears, 1999)? What happens to my authenticity within my relationship with my partner and to the larger LGBTQ community, if I continue to be silent about my sexuality? I also continued to build relationships with TC members that led to discussions about the power of language and the ways that language marginalizes and privileges. As I sought to be more understood, more transparent, and not necessarily accepted by the TC members, I shared about and named my queerness. Also, by making my queerness visible, I contributed to opening up space for YSC youth to invoke and make visible their queerness with me. There were not many YSC adult staff who

identified as queer, and Susanna and other YSC staff valued my insight around ways that YSC staff could better support queer youth.

Conclusion

I strove to be a community-engaged researcher at the YSC. In my roles as ethnographer, volunteer, and youth mentor, I contributed to the work at the YSC, both in my direct work with youth on the TC, and through sharing parts of my data with YSC adults to help clarify their approach to youth-led critical research. Further, I wrote letters of recommendation, organized university visits for youth, and helped YSC staff write grants. Yusef expressed the following in a letter of recommendation he wrote for me: “Maggie is someone who consistently asks challenging questions that helped to deepen our collective work. Maggie is a bridge-builder and a connector, bringing to light the ways in which academics and grassroots initiatives can connect and build mutual capacity” (Artifact, September 17, 2015). Although always partial and flawed, I do believe that the essence of my critical ethnographic work with the TC was an act of social transformation and example of community engaged research. This dissertation is but one product that has come out of the collaboration.

Chapter Four: Crossing Space at the Science Museum

“Space is the sphere of the possibility of the existence of multiplicity in the sense of contemporaneous plurality; as the sphere in which distinct trajectories coexist; as the sphere therefore of coexisting heterogeneity.” (Massey, 2005, p.9)

I enter the Science Museum building through the parking garage. One of my perks of being an official volunteer is free parking in the ramp. After exiting my car, I walk through the parking lot to the nearest elevator. Eight people, possibly two different families, stand waiting. Judging by their appearance, they fit into the demographic of families that I see frequent the main floors of the museum as visitors. They are white, and the adult couples (both consisting of a cis-man and cis-woman) are wearing denim jeans. Both couples have two young children, all of whom appear to be under six. Wearing my SM volunteer badge and my backpack, I casually smile at them, assuming they think I work here. The elevator doors open and we all pile in for the silent and awkward ride up; no one talks and I stare at the numbers as the elevator takes us up to the fifth floor of the museum. The doors open.

Visitors enter into the museum through the entry lobby, lined with glass panels. The main lobby and ticket area are awash in bright daylight that filters in through the glass panels. The two families I rode the elevator up with proceed to the ticketing line, marked by black poles and roped off lanes. I cut across the lobby and make a beeline for the elevator that will take me down to the YSC. I am reminded of Doreen Massey’s (2005) idea of space as “cutting across a pin cushion of a multitude of stories” (p.9). I think about what that means for this main location in the museum. I travel across the terrain of the lobby quickly. I gently pull the thread of the blue lanyard that holds my

official volunteer badge. The badge is a sign that indexes to those around me that my location within this place is welcomed. I hit the down button for the elevator. The doors open up and it is only me in the elevator this time.

The second floor elevator doors open. I pull my backpack close and curve around the corner toward the YSC. Situated on the second floor of the museum, the YSC, borders seven education classrooms. I open up the big wooden doors of the YSC and step in. There is a lot of movement and noise. The savory smell of a noodle dish leads my gaze towards three young people who are eating noodles at the small table next to the kitchen area. I see Marcos, the Midway Crew program assistant, talking with his hands as he makes his way through whatever he is saying. At a table to my left, I hear two of the youth members on the Aquaponics Crew speaking Spanish and tinkering with parts of an old fish aquarium. I recognize an Ethnography Crew member, Ariel, sitting on the couch, resting her chin on an IKEA pillow she is hugging. As I walk by the couches, Ariel looks up and shouts, "What's up Maggie?" The smell of garlic food, the mesh of linguistic and non-verbal bodily repertoires used to communicate, the kitchen space, the grey couches, and the noise of the YSC are all sensory disruptions to my childhood notions and current realities of what sights, sounds, and happenings take place in a public science museum.

The TC members are sitting at the big wooden table in the center of the room, near the back wall. It's the biggest table in the room. Around the table are 12 plastic green office chairs that are on wheels and swivel. On this particular day, sunlight shines in from the southern facing windows and pop music plays from the small set of speakers hooked up to a laptop computer on a wobbly wooden shelf next to the whiteboard. Malik, Ubah, and Michael are huddled around one end of the table. Michael hunches over in his

chair, and focuses on the sticky note in his hand that he is folding into a paper crane. Two stacks of Post-it notes and a few folded paper cranes sit on the table in front of him. Every so often Michael looks up at Anh, the Tech Crew manager, who is talking through daily announcements with the group.

The agenda for the day is scribbled in Anh's handwriting on the whiteboard that is perpendicular to the table. Malik is sitting next to Michael. He rocks back and forth in his chair as Anh finishes up with announcements. His arm lightly brushes Kalia's forearm every time he slides his chair forward. Kalia's head is down as she plays a game of Solitaire. Her arm gently rests on the table and she holds her phone loosely with her left hand. The Americorps CTEP volunteer, Keith, is sitting next to Kalia. He is eating a bowl of cereal and looking toward Anh. Ubah is sitting next to Keith, fiddling with the pink sparkling decorative jewelry attachment on her phone.

I sit at the table next to Michael. I lean over, peel off one of the post-it notes and start to fold a paper crane. I am a bit distracted because the noise level is high with so many people here today. I lean forward in my chair in attempt to hear Anh better. Anh ends the announcements with an update about the annual "YSC Olympics." Michael, nods his head, indicating his affirmation for the event. Malik pushes his chair back, rubs his hands together, and boasts, "Yeah! Tech Crew!" Anh smiles, reaches over the table, and gives Malik a high-five. She calls out to the Tech Crew members, "Grab a laptop and let's head up stairs and get to work," signaling the end of the check-in portion of the day.

The TC members grab a laptop and we all head toward the front door of the YSC. Again, I notice the volume level in the place. I ask Kalia about the number of people here today. She tells me that middle school crews are here. She shrugs her shoulders and

explains, “These are the loud days!” We enter into the hallway and the energy shifts again. The walls in the hallway are red, unlike the bright white walls with multiple windows in the YSC. It feels different out here with the red-painted walls and the brown-carpeted floors. It is quiet. I notice a shift in the bodies of the TC members as we all move in forward motion toward the employee elevator that is tucked away in the back corner of the second floor. These changed behaviors continue as we enter the third floor.

The third floor of the museum contains numerous cubicle office spaces that we walk past on our way to the conference room. Other museum employees occupy the cubicle spaces. As the employee elevator door opens up into this third floor atmosphere, I notice Kalia lower her voice as she interacts with Michael. One of the adult museum employees who works on the third floor stops Michael and asks something about the TC’s work. Michael stands up straight, holds his body still, and code switches into a more formal English dialect with the adult employee (Field Notes, July 22, 2014).

Movement at the YSC

At the onset of this study, I began to record in field notes and talk with others about how people, material, and abstract objects *moved* at the YSC. I documented how bodies and furniture frequently moved around. I jotted down the TC members’ sporadic and uninterrupted travels between virtual and physical places that were mediated by digital tools. It became clear to me that movement was an important theme and that these different types of movement were shaping (and being shaped by) the TC members’ civic identities and engagements within the space. Further, these movements helped create a dynamic transgressive space that functioned in multiple contrasting ways from other spaces within the Science Museum (SM) that were typically exemplified by traditional

Western Dominant discourses, descending from the European Enlightenment period of the 18th century where authority and validity were determined through intellectual and scientific reason and ideals such as the scientific method, progress, and separation of church and state were advanced (Gay, 1996). Documenting how the TC members expressed themselves, what languages they took up, and the ways they shifted their language and negotiated their discourse depending on who they were communicating with and where in the museum, led me to use the word “movement” as a signifier in my notes for movement of bodies, objects, and discourse.

As my theoretical movement memos took form, I observed certain TC members making sense of the TC’s mission as part of a larger social justice discourse. This led me to thinking about “movement” in two ways: (1) as physical movement in space at the YSC; and (2) as a larger social justice movement of which TC members were claiming to be a part. In this chapter, I refer to this larger social justice discourse as the “Discourse of the Movement,” which is discussed in more detail later in this chapter. First, I discuss the larger normalizing discourse that was present in the museum space. I am calling this the “Western Museum Discourse.” A historical tracing of the YSC’s “Discourse of the Movement” follows this section. Next, I expand on how I used the two categories of “movement” to understand how space was constructed at the YSC. The chapter ends with a discussion of how the Western Museum Discourse and the Discourse of the Movement were constantly shaping the socio-spatial and civic literacies that adults and youth performed and produced at the YSC.

Analysis in this chapter is framed by Massey’s (2005) proposition of space as “a sphere of multiplicity” (p.9). In order to understand how youth and adults at the YSC

socially constructed space, I went through my data and coded patterns related to this proposition. Through this process, I developed subcategories described in the following section. In conjunction with Massey's socio-spatial theory, I use geosemiotics (Scollon & Scollon, 2003) to analyze how the larger discourses circulated within and through the interrelations of people, actions, and objects. This chapter addresses the following research question: How do the multiple pedagogies and discourses of the SM and the YSC shape the space?

Museums as Western Spaces

Museum spaces are traditionally conceptualized as white, colonial, and Western spaces. Massey's proposition of space as a sphere of multiplicity helped me make sense of how the larger transgressive narratives at the YSC disrupted the grand narrative of what a science museum is and who belongs there. In order to understand the culture of the YSC and the TC members' enactment of civic literacies, I first address the multiplicity of discourses that were always at play within the larger context of the SM and in the YSC. Moreover, as illustrated in the opening vignette, power circulates differently and discursively through larger discourses depending upon where one is within the museum (e.g. the museum's main lobby versus the YSC). I believe that both of these narratives were continuously acting in powerful and multiple ways that should not be ignored.

Three underlying principles of geosemiotics guide my analysis: (1) indexicality, which states that a sign's meaning is dependent upon the sign's location within space; (2) dialogicality, which states that signs are intersemiotic and operate in an aggregate; and (3) selection, which refers to how signs get foregrounded or backgrounded depending

upon the meaning given to the sign by social actors in a specific space (Scollon & Scollon, 2003, p. 205). Below, I analyze how the Western Museum Discourse shaped the construction of space in three distinct museum spaces: the mission, vision, and values statements; the museum's online homepage; and the physical space of the main lobby.

The Science Museum

The SM sits on the banks of a river in the city's downtown area. It is frequently referred to as a bridge between the downtown city center and the river. The building offers 370,000 square feet of space. It includes a 10,000-square-foot temporary exhibit gallery, five permanent galleries, 10 acres of outdoor exhibits, an Imax Convertible Dome Omnitheater, educational learning indoor/outdoor classrooms, and the YSC. Over 600 employees and around 1,600 volunteers staff the museum. The SM is both a science museum and a science center, meaning that the SM merges interactive activities into larger thematic exhibits. The SM was founded in 1907 by a small group of elite white men, including the state's first game and fish director, a physician, and two entomologists from the largest state university. It was the first of its kind in the Midwest and drew upon the resources of its members to provide lectures and discussions about technical and traditional elements of science (Artifact, July, 2015). The following is a brief analysis of the SM's mission and visions statements.

"Turn on the science: Inspire learning. Inform policy. Improve lives."

The SM's mission statement locates the SM as a public and civic institution that not only ignites engagement in science, but also positions the institution as one that has ties to the public by "informing policy" and "improving lives." The use of present (e.g. inspire, inform, improve) and present progressive (e.g. learning and living) tense of verbs

creates a sense of a perpetual “now” for the mission statement—it is void of specific indexes to time so that no matter when someone reads or refers to it, it remains relevant and applicable to that immediate time. Further, grammatically it is an active imperative statement, marking it as vitally important to the SM.

“We envision a world in which all people have power to use science to make lives better.”

The SM uses the plural personal pronoun, “We,” to index an inclusive community. Because the pronoun indexes an inclusive “we,” all employees and volunteers of the SM should see themselves as members of this community. This use of “we” insinuates that people at the SM collectively use the tools of “science” to make the lives of everyone in the world “better.” The ways in which the SM lives out this mission and vision statement is indexed in the list of values found on the SM website. The values listed on the website include: “We value science as an essential literacy: The ability to understand and use science is essential to educational success and full civic and economic participation in the world;” and “We value inclusion inside and out: Our museum and our people reflect and respond to the diverse needs and cultures of our community,” (Museum Website, 2015). The “we” encompasses all museum employees, including YSC staff. These are powerful statements of inclusion, diversity, culture, and engagement. They say something critical about race and difference as well as foreground alternative community-centric conceptions of science. The SM mission, vision, and value statements are tightly controlled aggregates, placed in the world intentionally and created for specific purposes and audiences. However, a closer look into what is selected and showcased on the museum’s website homepage tells a different story about what larger

storylines are leveraged, foregrounded, and hold meaning within the physical space of the museum.

Before I begin the analysis below, I want to be clear that I am not intending to set up a rigid dichotomy between the cultures of the SM in general and the YSC. This would be too simple of a telling of the analysis and interpretations gathered from this study. Instead my purpose is to examine how power circulated within the social spaces of the SM and the YSC and how the socio-spatial dimensions shaped and were shaped by the larger discourses in place. These larger discourses shaped cultural practices in the museum and different spaces in the museum reified and challenged the discourses. One was constituted in the other. Further, I hold deep respect for the SM as an institution and the number of SM staff who work tirelessly everyday to put the inclusive and community oriented messages found in both their mission statement and values to action. In the following sections, I illustrate how larger discourses were reproduced within signs in place at the SM and the YSC and that these larger narratives along with the people and objects who occupied these places produced varying social and cultural spaces. Below, I highlight the ways in which the Western Museum discourse was still working on and through people and objects within the space.

Museum as Holder of Culture and Science in Virtual Space



Figure 1: National Parks Adventure Photo. A photograph showcasing the Omnitheater IMAX film from the SM's homepage (June, 2016).

When one visits the SM home webpage the first thing ones sees is the image above: a white man, wearing a particular type of clothing, riding a BMX bicycle, is seen jumping off a red rock cliff. Directly under him are the words, "National Parks Adventure: Now showing in the Omnitheater" (Museum website, 2016). The main image on the SM's web page shifts with programming and this image was advertised during the showing of the "National Parks Adventure" Omnitheater film. Selected as the first image one sees when they click on the website, this sign indexes a particular person the museum is trying to appeal to. This image is an advertisement for the Omnitheater movie about the U.S. National Parks System. The human is at the center of this image. The natural environment gets placed in the background. This sends a message that parks are there for humans to explore, tame, or own. The image also ties to grander narratives of colonialism and supports a larger narrative of what museums were traditionally about (i.e. holder of land, culture, and science) and whom museums are for (i.e. white men). White men are indexed as social actors who traverse over, through, and on the "space" of the park in acts of desire, recreation, and adventure. This positions white men and the museum as holders

of culture, history, and science. Thus, space could be conceived as essential and bounded. This traditional description of space prevails within the Western Museum Discourse.

Museum as Consumerist Institution in Virtual Space

The SM is choosing to foreground parts of the museum, like the Omnitheater advertisement, to attract certain kinds of museum visitors. The Omnitheater is the most expensive part of the museum. The museum is showcasing the Omnitheater as the most important section of the museum. There is an additional cost to watch films in the Omnitheater. Another draw for people to come is that the Omnitheater shows rotate over time, thus, enticing museum visitors to come back.

When an institution indexes an image, then the sign's meaning is dependent upon the sign's location within space. This image holds a significant amount of meaning for a number of people, including museum administrators, museum funders, and museum visitors to name a few. The image above was selected as the first image that visitors see when they go to the museum website in search of location, hours, and cost information. This sign, selected as the first thing one sees, elevates its importance and positions it in a powerful way. In contrast, in order to read about the museum's mission and values statement, one has to scroll down to the bottom of the page, read through a list of choices in small font, click on the statement, "About Us" and then scroll down once again. It is obvious what message the museum is choosing to foreground.

Additionally, the dialogic relationship between these signs connects to the larger narrative of what a museum is. The relationship could be read as a message of what the purpose of the museum is and the greater narratives that the SM believes about the role of humans in our world. This Western Museum Discourse takes things in our everyday

world, puts them behind glass as a way to control cultural meaning, and then uses these meanings to promote what counts as pleasure and success. This image indexes the museum as a Western institution. This image on the website helps to construct the larger narratives of the Western Museum, which affects how space in the physical museum is used to reproduce dominant storylines and Western authority.

Space Construction in the Main Lobby

The first thing you see when you walk in is a police officer in the lobby. I think the museum...is one of these cultural institutions. They come from a place of wanting to share “cultural experiences” and “other perspectives,” but it's always coming from this Western dominant lens of how to share this information. To anyone outside of that dominant culture, it is so evident that it is coming from that space. It's interesting...they [box office museum employees] will say we have things translated, but there is no one at the box office who is a person of color who speaks another language. There is no one who is greeting who is a person of color or speaks more than one language. It is constantly white faces that people see when they walk into the museum.⁸

-Susanna, YSC Assessment and Curriculum Specialist (Interview, May 23, 2015)



Figure 2: Science Museum Main Lobby. A photograph taken of the Science Museum's main lobby.

⁸ At the end of my time as an ethnographer at the SM there was a person of color hired as a security guard to work on the main lobby floor. My purpose of including this quote is to understand more about how Susanna and others at the YSC made sense of the Western Museum dominant lens that continued to influence the norms and practices at the SM.

In the quote above, Susanna describes specific ways (only monolingual and white employees work at the box office and as greeters) that space in the main lobby gets produced through the Western Museum Discourse. In this section, I elaborate on Susanna's theorizations of space and discuss how the physical space of the SM reinforces the normalized Discourse of the Western Museum that Susanna names in the opening quote. Scollon & Scollon (2003) contend, "there is a social world presented in the material world through its discourses--signs, structures, and other people--and our actions produce meanings in the light of those discourses" (Scollon & Scollon, p.1). The SM can be viewed as a semiotic aggregate where there is a complicated mix of "semiotic actions" that collectively form a "composite meaning." These actions and meanings are then read and taken up as normative discourses. The physical space of the SM reinforces the normalized Discourse of the Western Museum.

Museum as consumerist institution in physical space. As mentioned in the opening quote of this section, when one enters the museum's main lobby, one immediately sees the museum's gift shop and box office. The gift shop signals the museum as a material place of consumerism. People come here to spend money and buy things that mimic the bits and pieces of the history, culture, and science they experience in the SM space. The gift shop indexes the discourse of capitalism and the need for consumerism in order for this institution to survive. Although the SM's mission speaks to educating and serving the public, it is also a 501 3c non-profit organization, with an undergirding mission to make money to balance the budget. Its aims to educate and preserve culture are explicitly stated in public discourse. The message here is clear: people in this space come to buy tickets, buy food, and buy SM souvenir items to take

home. Consequently, the mission and vision statements that foreground alternative community-centric conceptions of science and do not prioritize capitalism or consumerism are hard to find within the material landscape of the main lobby floor.

Museum as holder of culture, history and science in physical space. People come to the SM to experience culture, history, and science. It could be assumed by the visitors that they will know more about these three things before they leave. In Western thought, this can be seen as precious knowledge. This attribute of the Western Museum Discourse is made visible by the mounted skeletal dinosaur display placed in close proximity to the glass panel doors at the entry to the museum. To the left of the entryway is an interactive display of physics. These two displays are purposefully placed at the entryway as an initial (and free) experience with science. They are a sneak peek into the types of interaction museum visitors will have with culture, history, and science on the exhibit floors. Moreover, the mounted dinosaur display indexes the Western notion that culture, history, and science can be held, contained, and protected. This suggests a need for security and regulation of people and objects in place.

Museum as regulator of bodies and objects in physical space. The box office, the lane lines, the people are standing in line (mostly white), and the material boundaries created in the lobby between the visiting patrons and the box office museum staff offer implicit messages about how bodies should move in the space and whose bodies belong in the space. People are regulated by the lane lines and fall into place. It is assumed that when waiting in line at the museum you stand directly behind the person in front of you. You wait in line to pay for a wristband so that your body is physically marked as eligible

for entrance. The wristband grants you access to the museum exhibit floors. Employees need to have a badge to get access into the other spaces of the museum.

Not shown in this picture is the security guard podium to the right, located in front of the gift shop. As Susanna noted in the quote above, the security guard is one of the first things one sees when entering the front lobby. The presence of the security guard marks this space as a secure and regulated material place. The podium, as a physical barrier, holds power—locating visitors to a position of reduced authority. The guard watches over precious knowledge in the form of valuable scientific objects (such as the dinosaur skeleton) and specially tagged visitors in need of protection. Additionally, the guard monitors the movement of bodies, making sure people follow the “rules” of the line and pay for their admission to the exhibits.

The examples above exemplify how the Discourse of the Western Museum continues to construct the SM as a bound and fixed space, and within it, knowledge could be contained, consumed, and controlled. This formation of space as static and enclosed holds the assumptions that space, and therefore knowledge, is objective, and rational. This belief allows for Western thought—including the beliefs that museums can be holders of culture, history, and science—to reproduce itself and be reproduced by the people and objects in this space.

In the opening quote of this section, Susanna contends, “They come from a place of wanting to share cultural experiences and other perspectives, but it's always coming from this Western dominant lens of how to share this information. To anyone outside of that dominant culture, it is so evident that it is coming from that space.” Susanna’s

remark about “anyone outside” alludes to counter narratives at work in the material and virtual spaces of the museum found within the space of the YSC.

YSC as Non-Western Space

My leading question for TC members during our first focus group interview was, “If you could come up with a word that describes the YSC, what would it be?” (Focus Group Interview, September 14, 2014). Michael selected the word, “open.” He elaborated:

“It’s definitely, like, an open space – more of a place to build each other up instead of work. I mean, work is when you do stuff for the company to make them money. This is more like they’re using their money to build us up and also make the community a better place. And we get to bring our ideas here, make it diverse between our past experiences to help us bring out better ideas.” (Focus Group Interview, September 14, 2014)

The discourses indexed as important at the YSC felt different than those foregrounded on the museum’s website and within the SM main lobby. Within the YSC, there was a culture and environment of openness, an acknowledgement of diversity, and a sense of alternative conceptions of science. As Michael expressed, youth at the YSC believed that the museum was using their money to “build them up,” not to get them to buy tickets to the Omnitheater or exhibit halls. In this space, the mission and value statement of the museum held meaning and were relevant to the work of the TC members. Below, I take a closer look into how a space of multiplicity was constructed within the YSC through their mission statement, the history of the YSC, the YSC’s home web page, and the physical space of the YSC.

Mission Statement of the YSC

I think the larger context of the YSC is important, it's like, I personally am interested in politics and social justice work, whatever, but it's not like I am on my own saying this is important for Tech Crew, it's important to all the crews in the YSC. If I didn't care, I would be the odd duck if we didn't have that social justice lens or ways of approaching stuff, cause like you know, we have the three C's in the YSC which are Community-Connection, Careers, and Content, and like, it says, Community Connection, but really that is tying to the politics being involved in a social issue. The mission is like, "Empowering Youth to Change our World through Science"...then we have our goal of how everything works, what the world will look like in 25 years, and it starts out with women and people of color will be leading STEM fields in community-based science work, and changing how science and the community work together. I remember when it got put in writing; I was like, "Holy Shit! You are going to put that?" It was so forward, saying that women and people of color will do this. I knew we were doing this rad work, but I didn't know that it would go out with grant proposals and we would own it.

-Kevin, original Tech Crew Manager

It was evident for Kevin that the change in mission of the YSC was powerful. In 2010, the mission of the YSC changed from: "The YSC seeks to promote the healthy development of youth by involving them in the process of science and providing them with opportunities to contribute to others while learning," to "Empowering Youth to Change Our World Through Science." Not only did this redefining of the center's mission prompt programmatic shifts, but the language used in the mission statement itself shifted the position and agency of YSC young people. In the first mission statement, it is the YSC that has agency. The youth are *given* opportunities to contribute through the YSC "involving them in the process of science," and "providing them with opportunities to contribute." In the second mission statement, although something or someone is still "empowering" them, the youth have agency "to change" our world through science.

In 2008, Brenda, a local artist, activist, and the daughter of two local community organizers from the cities' largest African-American community, became the YSC director. Under the new leadership of Brenda, the YSC shifted from a youth development

program that provided youth with museum-based STEM experiences to a program that positions youth and adult staff as “both/and” museum employees/community-engaged activists who use STEM tools to take social action on socio-scientific issues of importance. My use of “both/and” here signifies the nuance within ones’ roles as a standard museum employee and a community- engaged activist. Further, it indicates the both/and standpoint of the majority of young people and adults at the YSC whose intersecting axes of identity (i.e. Puerto-Rican, Female, Heritage Spanish Speaker) positioned them as “outsiders/within” their job at the museum (Collins, 1981). This both/and positioning of adults and youth at the YSC complicated the multidimensional ways in which they took up civic literacies, participated in political activities and constructed space at the YSC. This ideological shift in the program from technical to political resulted in a vastly different program with new staff, new partnerships, new projects, and a shift in energy around youths’ work.

Ultimately, the YSC transitioned from a STEM out-of-school time program focused on engaging marginalized youth in the *real work of the museum* (YSC pamphlet, 2000), to a program focused on engaging young people in the *real work of the world*. For Kevin and other crew managers at the YSC, the impetus of “doing” science work transitioned from not only changing the culture of the museum to engaging young people in “the politics of social issues” in their communities. This shift was both generative and fraught with complexities and challenges. The actions of young people and adults at the YSC pushed up against larger forces of injustice and simultaneously collided with the normative Western Museum Discourse at the SM and beyond. In the following section, I discuss how this new conceptual framework guided by critical and humanizing theories

created disjuncture within YSC strategic planning, hiring policies, the design of the physical space, and the YSC's relationship with the larger museum.

Histories of the YSC: 2008-2016

The historical tracing of the YSC begins in 2008 when the mission statement changed and Brenda became the director. The YSC officially began in 1996. I am choosing to only write about the last eight years because the hiring of Brenda marks the beginning of policy changes that transformed who got hired (mostly adults of color) and programming changes from which the Discourse of the Movement emerged. As I trace this brief segment of YSC history, I rely heavily on information from my interview with Brenda. Brenda shared many institutional and program histories with me including the fact that the rewriting of YSC's mission statement happened after the development of a strategic plan that created tension throughout the YSC. Brenda claimed that these tensions occurred under her leadership and through implementation of a new strategic plan.

Strategic plan. In 2008, the director position for the YSC was advertised. Previously, an interim director worked with staff, youth, their families, and local community-based organizations to create a five-year strategic plan for the YSC. This strategic plan framed the director interview process. Brenda referred to the strategic plan as "beautiful" and claims it is what "sold" her on the position (Interview, May 27, 2015). Previous to her work with the YSC, Brenda was the executive director of an African Diaspora and arts education community-based organization, located within an African American neighborhood in the city. She entered into a museum space that held deeply embedded Western ideals and espoused a corporate mindset.

In 2008, the majority of YSC's staff were white and held varying kinds of science degrees. Although the majority of the young people at the YSC came from marginalized racial and socioeconomic communities, the staff was not as racially diverse. The majority of people of color at the museum worked in food service or custodial positions. Brenda remarked, "They wanted to have the community values but it was different inside the museum" (Interview, May 27, 2015). Although social inclusion and diversity were being foregrounded as important within the language of the YSC's strategic plan, minimal action or visibility existed within the hiring practices and pedagogies of the YSC.

Representation matters and diversity and community "outreach" initiatives are pointless if one doesn't practice what they preach. Although events such as community listening sessions and the formation of a community advisory board happened during the strategic planning process, Brenda learned that the major funders of the YSC were not satisfied with the low numbers of family and community members involved in these activities. Moreover, the funders expressed a need for these numbers to increase. As Brenda attempted to put the strategic plan into action, she ran into silence or conflict with other museum staff. She shared, "In those first couple of years, I realized this is an amazing program, we had some amazing things going on, but we weren't community-centric in the ways we were engaging with young people, families, and partners in the museum. I wanted to change those factors" (Interview, May 27, 2015).

Brenda's action. The strategic plan was in place, but taking action on the plan proved to be a slow and frustrating process at times. Brenda shared, "Everything I was doing comes from the strategic plan, this is what they wanted to do!" (Interview, May 27, 2015). As a woman of color, Brenda did not feel comfortable in many of the physical spaces in the larger museum and this made her think about the comfortability and access for YSC young people of color and their families at the museum. In response to these feelings and in her attempts to implement the strategic plan, Brenda took action in three ways; she changed the job description for YSC staff, she attempted to change the culture

(through race talk) at the YSC, and she created a YSC parent advisory board. These three actions are explained in the following interview excerpts.

A changed job description for YSC staff. One of the first institutional changes that Brenda made was to change the job descriptions for YSC staff. She shared the following with me.

Brenda: So, I wanted to start to change the hiring process.

Maggie: Ok.

Brenda: I changed the position descriptions.

Maggie: Was there tension or resistance when you did that?

Brenda: There was.

Maggie: How did you change that?

Brenda: So, I started to talk to people around the museum to try to understand why it was that we were so white. I had a great partner in HR. I said, these kids know. They know what the museum's priorities are and what the museum values, that they are talking about this and that, but all the Black people in the museum are in the cafeteria." (Interview, May 27, 2015)

When Brenda began at the YSC, the job description for an adult manager position included a requirement of having a college degree in science or science education. As Brenda talked about the lack of employees of color at the museum with others, she was often told that one of the reasons people of color weren't hired is because people of color tend not to have science degrees. Brenda concluded that was because the museum had an abundance of resources and expertise in science, but not a lot of expertise in community engagement. Thus, something needed to be changed. A core element of the YSC's

strategic plan included “working successfully and building partnerships with communities of color” (Interview, May 27, 2015). In order to work toward making this a reality, with support from the HR department, Brenda changed the job description. Using the new job descriptions, Brenda hired two people of color. They both left within the first year of being hired. Although they both left for a variety of reasons, one of the employees referenced the culture of the larger museum as difficult to work in. After their departures, Brenda realized, “I have to change this culture so when they [people of color] come in it will be healthy and they will want to stay” (Interview, May 27, 2015).

Changing the culture of the YSC. A significant tension among staff at the YSC was race. Although not spoken about at first, it became clear to Brenda that in order to change the culture of the space, she would need to engage in anti-racism and identity work with YSC adult staff. The first phase of this work involved inviting a few colleagues from the Teacher Professional Development (TPT) Department to do a workshop on access and equity in STEM education. The TPT department developed a professional development framework for teachers around issues of cultural relevance, access, and equity in STEM. The workshop resulted in multiple staff members having “aha” moments—specifically around white identity and how essentializing notions of race, ethnicity, socio-economic status, and gender become “common sense.” This workshop led to Brenda making conversations about race more common within the YSC.

Brenda also found out about a professional development training related to “courageous conversations in race” (Singleton, 2006). She described that local teachers and administration at the local school district were going through this training and that YSC staff were invited to attend. Brenda found this training helpful as it gave her words

to use and tenets related to whiteness to frame the race talk happening among white adults and adults of color in the YSC. Slowly, explicit dialogue about race began to affect the culture of the YSC among the adult staff, which in turn helped to shift the culture of the space for young people. Brenda emphasized, “We want to be that space where kids are sharing their identities.” The formal conversations about race made room for informal talk about race. From Brenda’s perspective, these conversations about race changed things. As YSC staff worked together they began to actively deconstruct the Western notions of space at the YSC and move toward a social construction of space as multiple and transgressive. This social construction of space included a change in methods of how to bring the community into the YSC.

Parent advisory board. A piece of feedback that came from funders of the YSC after the strategic plan process included the need to increase parental involvement in the YSC. When Brenda first came, she realized that over the last few years, the YSC had held a couple of family events throughout the year, but that not many young people and their families attended. She decided to tackle this dilemma by first hiring staff that had experiences in youth development and community engagement. She not only sought out employees who looked like the youth racially, but also searched for employees who worked hard to build meaningful relationships with families. This created a domino effect and eventually other adult managers at the YSC started to follow suit. Brenda kept stressing to the staff, “We have to break down those barriers and we don’t have to act like everyone else here [in the museum]” (Interview, May 27, 2015).

Brenda and other YSC staff also started to make efforts in getting youth excited about the community engagement events and adding extrinsic rewards to motivate their

interest in participating (e.g., a pizza party and an ice-cream party). Over the course of her time with the YSC (2008-2015), community engagement events went from 20 youth and a few family members to over 150 participants. Bringing YSC youth's families into the museum changed the space of the YSC. As Brenda noted, "We were able to start showing that there were different ways of engaging people and people would show up...so that changed a lot of things" (Interview, May 27, 2015). YSC also received funding for a parent advisory group. For the first few years, Brenda chose to facilitate this group. She shared, "We had to make sure they [families] understand the kind of relationships we want to engage with them in to cut through the ice and to cut through the disconnect" (Interview May 27, 2015).

I chose to include these historical moments that happened because they exemplify how the actions of Brenda and others at the YSC attempted to make visible counter narratives to the dominant Western discourse that lived through the experiences, identities, and actions of youth and adults at the YSC. Below, I expand on these cultural shifts and the ways in which they showed up in both virtual and physical YSC places.

YSC in Virtual Space



Figure 3: Youth Science Center Photo. This photo was taken from the Youth Science Center home webpage.

When one clicks on the YSC home webpage, the image above appears: a group of six youth of color, gathered in front of an interactive science exhibit on sustainable transportation options and types of energy usage. The young people wear green T-shirts that display the YSC logo. Directly under them are the words, “Empowering Youth through Science,” followed by three smaller photos where youth of color are engaged in a STEM activity that coincides with a brief description of the three YSC programs—The Middle School Program, the High School Program and the Career and Community Connections Program (Museum website, 2016). Selected as the four images one sees when they click on the YSC website, these signs distinctly counter the museum’s home page message of what science is and what kind of person the museum is meant to appeal to.

In the main image there are four females and one male. This ratio of females to males is representative of the YSC’s 25-year vision statement, “women and people of color will be leading STEM fields in community-based science work, and changing how science and the community work together” (Artifact, 2015). Further, the interactive exhibit created by the youth indexes how YSC youth are presently “changing how science and the community work together.” These five youth were a part of the Midway Crew. The Midway Crew focused on sustainable transportation in the Midway neighborhood, a multiracial lower-income community that bordered the downtown area where the museum was located. All the Midway Crew members, including the crew manager, Tong, lived in the Midway neighborhood. The Midway crewmembers led workshops on bike mechanics and organized “unity rides” and public art events for

community members. This image sends a message that the crewmember's existence at the SM holds value and noticeably represents one of the museum's value statements: "Inclusion inside and out: Our museum and our people reflect and respond to the diverse needs and cultures of our community" (Museum Website, 2015).

The YSC's web page is another tightly controlled virtual aggregate, placed in the world intentionally by staff at the SM. It was created for specific purposes and different audiences than the museum's home page. The language, photo, and positioning of participants within the image were produced by SM staff at the YSC and in the marketing department. However, the relationship between the viewer and the webpage also constructs new discourses and brings different meanings to the signs in this aggregate. In this case, the SM is choosing to highlight certain parts of the YSC in virtual place. The intended viewers of this webpage are young women, youth of color, and possibly their family members interested in joining one of the YSC programs. In this next section, I discuss the counter Discourse of the Movement that was developed by the youth through the work and construction of space at the YSC. While the Discourse of the Movement was not part of the official discourse of the YSC on the website, the narratives produced through text and image on the website have influenced the youth developing the Discourse of the Movement in their work at the YSC.

Discourse of The Movement

About a month into this research project, the TC presented their work at the Allied Digital Media Conference in Detroit, MI (Allied Media Projects, 2014). The focus of the Allied Digital Media Conference is social justice media-based organizing work. At this conference, people from a variety of fields and backgrounds gather together and

share how they use digital media to take action against injustices in both local and global contexts. Helina, Michael, Heaven, Malik, and Ubah, and Anh, attended this conference. Through this experience, TC members connected their own work to a larger social justice movement. Heaven expressed this to me during an email exchange:

One [workshop] in particular stuck out to me. It was like, a presenter who was from Detroit, Michigan and she talked about how parts of Michigan were like, a failed state. Many neighborhoods lack basically resources such as clean water. I will never forget the passion she had speaking about this issue and it made me realize how important the work Tech Crew does is. In general, Tech Crew merges technology with social justice. We spend a lot of our time talking about how technology is not a tool many people have access to, especially in poor neighborhoods...Presenting at the Allied Media Conference gave Tech Crew a boost of confidence because we were able to see other groups striving for the same purpose. (Personal Communication, August 17, 2014)

Additionally, Helina began to refer to the TC's civic technology project as an important part of "the movement" and to the TC members as being participants in "the movement" (Field Notes, July 7, 2014). When I first heard Helina use this term, I asked her what she meant. She explained:

We...are given these leadership roles...in the movement in the Tech Crew...Anh pushes us to go out to our communities and other states...to do this stuff. We are given a lot of opportunities to project our vision in the movement...and share our knowledge with the community... It's happening,...ya know, Maggie? (Audio Recording, July 7, 2014)

It was evident to me that Heaven and Helina were situating their work within a larger movement of social justice. I inquired about this larger discourse of the movement at my first formal interview with Anh:

Maggie: One thing I wanted to ask you about..I've asked Helina and Phil about this specifically. Helina is the first person I heard say it...being a part of a movement, and that the TC's work is connected to a movement. Have you heard them say that? Where do you think that comes from?

Anh: Movement...Helina...that is so deep. She's really into social justice. I feel like her and Heaven and Ubah really bonded over that.

Maggie: Yeah...me too.

Anh: I think a part of it is the Allied Media Conference...but it's also just part of the YSC, being part of the YSC...empowering youth to change the world through science. That's a pretty big statement.
(Interview, August 8, 2014)

Anh's reference here is to the YSC's mission statement, "empowering youth to change the world through science." Heaven, Helina, and Anh's theorizations of being a part of a "movement" opened up my own theorizations of "movement" in the YSC and led me back to Massey's (2005) ruminations on space. Imagining space as "the sphere of the existence of multiplicity" (p.11) recognizes that the Western Museum grand narrative conception of space, what a science museum is, and who the science museum employees

and visitors are is not *the* truth but only a specific story among many stories.

Multiplicities in Space: Movement within the YSC

Changes in policy, culture, and practice happened over time and influenced the social construction of space at the YSC. These changes affected both the design and movement that occurred within this space. In interesting and often conflicting ways, the Western Museum Discourse and the Discourse of the Movement were constantly shaping (and shaped by) the socio-spatial and civic literacies that adults and youth performed and produced at YSC. The Discourse of the Movement garnered more power in the space of the YSC, where space itself was conceived as generative and collective, allowing for both tensions and possibilities between these two Discourses to emerge. Massey (2005) contends it is the process of practice and “negotiating of intersecting trajectories” that come together to make a place (p.151). Thus, place can be seen “as an arena where negotiation is forced upon us,” (p.151). She emphasizes that people are ‘thrown-together’ and that it is up to them to negotiate how they will interact in places via socio-spatial relations. For YSC staff and youth, this place of “thrown-togetherness” looked and felt very different—messy and generative—compared to the SM spaces outside of YSC. Below, I return to the physical space of the YSC and discuss how the interplay between the two discourses created both tensions and possibilities within the social space. The Discourse of the Movement was not a smooth and pretty discourse like the Western Museum discourse; instead it was messy, always in tension, fluid, and changing.

The redesign. In 2011, the YSC received funding to hire a group of youth to redesign the physical space of the YSC. This design team began in 2011 and consisted of eight youth and one adult manager. Using elements of design and participatory

qualitative research methods, the team literally analyzed, deconstructed, and then reconstructed the physical space of the YSC. Their practices here did not simply mimic the traditional academic practices of design or qualitative research nor did they mimic the design of the SM space in general. Rather, their design features illustrate a synthesis of negotiation of design principles, traditional research methodology, and participation in a social, spatial, and civic practices that mattered to them—it became a space where more liberating movement of bodies and objects were central to the learning experience. This project was youth-led, so youth got to change and redesign the space to fit their needs, desires, and visions.



Figure 4: A photograph of the Youth Science Center. This photo was taken by Tech Crew member, Michael.

Freedom of movement of bodies and objects in the YSC. Michael took this photo one early Saturday morning in November 2014. Saturdays, the meeting day for all crews during the school year, were typically busy, loud, and full of movement, as described in the opening vignette of this chapter. On this particular Saturday, it was unusually quiet and only two crews met—one group over in the couch area and one in the back of the YSC. Prior to Michael taking this photo, the two of us chatted about the difficulty of capturing the whole space of the YSC with a camera (Field Notes, November 14, 2014). My own multiple attempts to take a panoramic photo using my phone failed to capture the entirety of the space. Michael insisted that he could do it with

the iPad camera. He grabbed an iPad from the cart, walked over to the far back corner of the YSC and shot this panoramic photo. Although this photo does not include the typical number of participants at the YSC, I choose to include it because it highlights the *inscription*, or the “the presentation of meaning in the material world,” of the YSC (Scollon & Scollon, 2003, p.129), thus providing an opportunity to analyze and describe the counter discourses in place in the physical design of the YSC.

The physical design of the YSC, the material objects and resources available to staff, and the norms and rules of interaction with the physical space and material objects represent many things about the community of practice at the YSC. The design of the YSC allowed for a lived experience of space to happen. Most chairs, tables, and white boards were on wheels. On this particular day, the white board had been moved to the couch area in the left portion of the photo because the crew meeting in the couches area needed it. The other crew (meeting over by the back computers, located on the right side of the photo) moved the chairs into a circle format. Even the physical furniture had the ability to move in this space. In addition, there were a large number of desktop computers, laptop computers, and iPads for youth to check out and use. Five of the desktop computers lined the back wall. Six other desktop computers located on the right-side wall near the main entrance doors were intentionally set up away from the typical communal crew meeting locations in the YSC. Normally, YSC adult and youth staff not on the clock used these computers for personal entertainment and recreational purposes. For youth, choice became a significant feature. There was a kitchen, regularly stocked with snacks, and for larger YSC events, it was stocked with food for breakfast and lunch. On this particular day, there were pizza boxes lined up on the kitchen table to provide

lunch for middle school students who were there for an event happening outside of the YSC space.

The different crews in the space could choose to work in multiple areas. Moreover, youth used and expressed themselves in languages of their choosing; languages they constantly negotiated, modified, and switched to fit new contexts. There was minimal policing of language by adults at the YSC. AAVE, Hmong, Spanish, and other youth culture discourses were used and embodied. This kind of ‘throwntogetherness’ (Massey, 2005) afforded youth the opportunity to participate, resist, disrupt, and navigate space through bodily and verbal movement.

As illustrated in the opening vignette of this chapter, people and objects moved at the YSC all the time. This freedom to move was purposeful and embedded within the design of the space, while such movement also helped shape how time was defined at the YSC. Massey writes that time is defined as the “series of succession” and space as the “series of simultaneity” (p.143). Social space is produced and constituted through our coexistence with others in moments of space. Often times, within the YSC, time did not seem to be organized by the linear Western experience (i.e. deadlines), but instead by intersecting moments where the youth and adults interacted with each other over what held meaning to them. For instance, in work meetings, there was always room for movement within the tasks or activities of the day, and it was assumed that people would interact socially with others during the day rather than being expected to work independently to finish a project by a set deadline. There seemed to be room for youth to just be. In fact, often youth would refer to the YSC space feeling like “a family.” At the YSC, temporality was relational, meaning cultivating relationships was normally

prioritized over capitalist systems of time in which time equals money. This countered how YSC staff felt they had to be in other SM spaces that promoted Western and capitalist ways of movement. The kinds of social justice projects youth were expected to produce also shaped the culture of YSC.

Movement in social justice community projects. When literacy practices are disconnected from the daily-lived experiences of youth, they run the risk of losing power and a relationship to real life outcomes such as civic engagement. The Design Team is a great example of how the Western tools of science and technology were used to engage youth in real life outcomes: designing the YSC physical space. Pedagogically, the YSC blended STEM learning and youth participatory action research. Youth were engaged over multiple years as learners, teachers, and leaders as they refine tools needed for participation in community work and education. This framework placed young people at the center of applying STEM literacy tools to address critical community issues and needs that mattered to them. It was powerful for YSC youth to see that these traditional scientific tools could be used to create social change.

Through their civic technology project, the TC members used critical digital literacies and socio-spatial qualitative research methods to uncover and identify the community issue they wanted to address. They used these tools to advance their cause and this sparked their own civic actions—another example of how the YSC youth situated their work within a larger movement of social justice.

Overall, the YSC is a space that disrupted the very Western Museum Discourses that it was nested in everyday, and this had significant agentic meaning for YSC youth. Unlike the main lobby space of the SM, where ropes, a security guard, and admission

tickets regulated and controlled bodies in space and people's interaction with scientific tools, the YSC, as described by TC member Michael, was "open." More specifically, the social construction of space at the YSC disrupted the Western notions of temporality that typically flatten the simultaneity and co-existence of space by valuing openness and relationships over time. I argue that this social construction of space at the YSC shaped the civic literacy practices of the TC members and their individual identity enactments. The counter Discourse of the Movement was produced by Brenda's actions, the website narrative about the YSC, the histories of the YSC space, and the work of youth within these spaces. This is explored further in the next chapter, and has important implications for the civic literacies and civic identity of the young people at the YSC and for marginalized youth in general.

Conclusion

Through my analysis in this chapter, it is plain to see that the YSC was a semiotic aggregate where a complicated mix of "semiotic actions" collectively formed a "composite meaning" (Scollon & Scollon, 2003, p. 167). The two larger narratives in place at the YSC—the Western Museum Discourse and the Discourse of the Movement shaped (and were shaped by) the social practices of the youth and adults. They were indexed in the website images, mission statements, the design of material places within the museum, how youth and adults moved their bodies and expressed emotion, and in the ways people at the YSC utilized Western tools of science and technology to engage in social justice oriented community projects. The term "discursive" helps to explore the multiple trajectories and recursive ways that larger discourses were constructed and constituted within the production of space and in turn, significantly shaped the TC

members' civic technology project and their civic identities as they navigated the cultural terrain of the YSC.

Chapter Five: Constructing Civic Literacies at the Youth Science Center

“Space is the product of interrelations; as constituted through interactions, from the immensity of the global to the intimately tiny.” (Massey, 2005, p.8)

An Ordinary Tech Crew Moment

Michael left his laptop on the table and headed over to one of the desk computers on the back wall. Michael plopped down into a computer lab chair with wheels and slid it over to an open computer. I slipped into one of the chairs next to him. Michael and I logged into the Tech Crew’s (TC) Google drive folder, and we began to review interview transcripts. Marcos, a Youth Science Center (YSC) project intern with the Midway Crew, sat at one of the computers next to Michael and me.

Marcos was a 22-years-old YSC project intern. He had a warm smile, hearty laugh, and a strong commitment to social justice work. He identified as a Latino male. Throughout my time at the YSC, I came to know Marcos as a YSC regular. He frequented the YSC to use the computers and socialize with others. On this particular day, Marcos was hanging out watching videos on the computer. His work shift with the Midway Crew began in a few hours. Marcos was slouched down in the computer chair with a large pair of black headphones propped up sideways over his ears. He rolled his chair back and forth while his eyes gazed at the computer screen. Michael sat silently reading through the TC’s interview transcripts and highlighting points of interest in yellow. I gazed back at Marcos and noticed that he was watching a video on Youtube with the astrophysicist Neil DeGrasse Tyson. I slid my chair closer to Marcos. We began to talk about Tyson and the new Cosmos television series he hosted. Marcos and I shared our lingering

thoughts about the wonder and expansiveness of the universe that the show evoked for both of us (National Geographic Channel, 2016).

Michael, overhearing our conversation, chimed in that he hadn't seen the show or heard about the astrophysicist, Neil DeGrasse Tyson. In response, Marcos pushed his body away from the computer ledge. A huge grin spread across his face. I sat quiet as he described the Cosmos series to Michael. His voice got louder and his hand gestures more rapid. When he talked about Tyson being a Black man from the Bronx who had aspirations to be an astrophysicist and then met Carl Sagan who became a mentor to him in the field, Marcos' hand gestures got so big that he knocked his headphones off his ear with his right hand. Marcos asked if I had seen the recent clip of Tyson circulating on Facebook entitled "Neil deGrasse Tyson said what He Thinks about Race--Now that He's Made it, and Almost Nobody Noticed" (Upworthy, 2014)⁹. I shook my head no. Marcos logged into his Facebook account and pulled up the video clip. He waved Michael over, "You gotta see this, bruh, it connects to our work here." "Alright," Michael responded. He glided his chair over and I leaned forward towards the two of them (Field Notes, July 30, 2014).

In the 2009 video clip from the Center for Inquiry's annual conference, Tyson, along with three other panel members, were asked the question, "On the Larry Summers statement, what's up with chicks in science?" This question referred to recent comments made by Lawrence Summers, the former President Emeritus of Harvard University and

⁹ The clip of Tyson was from a 2009 video clip from the Center for Inquiry's annual conference. This video clip resurfaced in the spring of 2014 in response to Tyson's recent fame as the host of the new *Cosmos* series and I believe is representative of the racial justice discourse that was beginning to emerge within national mainstream media in response to the killing of Trayvon Martin, the acquittal of George Zimmerman, and the initiation of the Black Lives Matter movement.

secretary for International Affairs. Summers had recently made a comment that genetic difference could explain why there were fewer girls in science (Upworthy, 2014).

Following the audience member's question, Tyson abruptly sat up in his chair, leaned forward, pulled the microphone sitting on the table towards him, and answered, "I do."

He proceeded:

I have never been female. But I have been black my whole life. And so, let me perhaps offer some insight from that perspective. Because there are many similar social issues related to access to equal opportunity that we find in the black community, as well as the community of women...in a white-male-dominated society. I've known that I wanted to do astrophysics since I was nine years old. . . So, I got to see how the world around me reacted to my expression of these ambitions. And all I can say is, the fact that I wanted to be a scientist and astrophysicist was, hands down, the path of most resistance through the forces of society. Any time I expressed this interest my teacher would say, "Don't you want to be an athlete?" I looked to become something that was outside the paradigms of expectation of the people in power...So, my life experience tells me that when you don't find blacks in the sciences, when you don't find women in the sciences, I know that these forces are real, and I had to survive them in order to get where I am today. So before we start talking about genetic differences, you gotta come up with a system where there's equal opportunity. Then, we can have that conversation. (Upworthy, 2014)

The clip ended. Michael nodded his head, leaned back into his chair and quietly repeated, "Yeah, Yeah." I slid my chair back a bit and chimed in "Yep." Marcos turned

towards Michael and me. He grasped the end of the table with both hands. He leaned his body forward and exclaimed, “That’s IT. He is speaking to the YSC mission!” (Field Notes, July 30, 2014).

Civic Literacies as Acts of Listening, Embodiment, and Critical Literacy

The interaction between Marcos, Michael, and me provides insight into how young people are enacting civic literacies in present day informal learning settings. The above vignette constructed from my field notes captures the participatory meaning-making practices that I observed as an ethnographer at the YSC. Further, it illustrates the three themes of civic literacy construction that I identified through my analysis: Civic Literacies Enacted Through Acts of Listening, Civic Literacies Enacted Through Embodied and Multimodal Practices; and Civic Literacies Enacted through Critical Engagement. As detailed in figure 5 below, Michael and I constructed civic literacies by listening *in* to Marcos; that is, we both showed genuine interest in what Marcos had to say and engaged in conversation with him about Tyson’s identity as a Black astrophysicist regardless of the fact that it took us away from coding for the TC’s project. I borrow the term “listening in” from Thomas NewKirk and Patricia McClure’s (1992) book, *Listening In: Children Talk about Books (and other things)*. NewKirk, a literacy university researcher, spent a year visiting McClure’s first and second grade classroom to observe students’ discussions about literature. NewKirk found that “off-topic” talk that did not relate directly to the book being discussed in class still proved to be a crucial element of the student’s literary response, collaboration, and participation. NewKirk and McClure’s book was brought to my attention by my advisor during a conversation we had about the amount of time given to sharing stories and “checking in” with each other at the

beginning of every TC work meeting (Lewis, Personal Communication, June 8, 2015). In this chapter, I use the term, “listening in” to categorize the ways in which the telling of stories and moreover the act of deeply listening to stories was foregrounded within the pedagogy and practices of the TC’s civic technology project. Thus, it was integral to their collaboration, engagement, and construction of civic literacies. Additionally, Marcos’ use of an informal English register in the example above (i.e. referring to Michael as “bruh”) exemplifies the code-meshing practices (Young, 2009) that were integral to the discourse patterns used by YSC youth and adults. Marcos’ code-meshing practice signifies the plurality of language use in the space.

The three of us constructed civic literacies through acts of embodiment (i.e. Marcos expressing excitement and passion through hand gestures and grabbing the edge of the table and the three of us moving our bodies in the chairs as we talked). Further, Marcos’ assertion that Tyson’s critique about how hegemonic forces in the STEM fields constrained his own experiences as a Black astrophysicist is illustrative of how YSC youth and adults embodied the YSC mission and upheld that their work in the STEM field challenged the status quo. Lastly, Marcos’ actions as a mentor to Michael in this example illustrated the problem posing pedagogical approach taken by YSC project interns and adult staff (Freire, 1970). This example highlights how consciousness-raising conversations and critical literacy engagement consistently crossed over into digitally mediated spaces, which added to the ease of movement in the space and a layering of literacy practices (Abrams & Russo, 2016). In sum, all of the civic literacy practices described above shaped and were shaped by the permeability of space at the YSC. These civic literacy practices will be explored in this chapter.

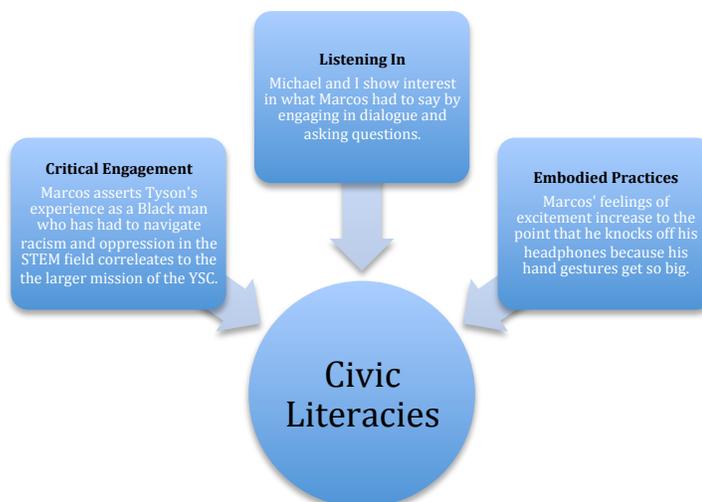


Figure 5: Civic Literacies at the Youth Science Center. This figure illustrates the civic literacy practices taken up by Marcos, Michael, and myself.

Permeability of Space

In this chapter, I examine how the TC members enacted civic literacies. Further, I explicate that their civic literacies were mediated by the permeability of the social space at the YSC. By permeability, I mean to say that the social space at the YSC allowed for an ease of movement between different discourses and identities. The youth and adults at the YSC lived out a “continual interplay of agency, structure and context” (Lather, p.101) or what Derrida calls a “becoming space” (1991, p. 27). I draw on Massey’s (2005) second proposition of social space as “produced through interrelations” (p.9) to analyze the TC members’ negotiation and navigation within the “becoming space” of the YSC.

First, I discuss and define key terms used in this chapter. This lays the groundwork for my analysis of the three themes of civic literacy construction that I identified: Civic Literacies Enacted Through Acts of Listening; Civic Literacies Enacted Through Embodied and Multimodal Practices; and Civic Literacies Enacted through

Critical Literacies. This chapter addresses the research question: How were the TC member's constructing civic literacies?

Conceptualizing Literacies as Emergent and Spatial Acts

For Massey (2005), space is created through mutual or reciprocal relations of discourses, signs, systems, and identities in place. My investigation in Chapter 4 of the signs and symbols located at the YSC through geosemiotic analysis (Scollon & Scollon, 2003) offered me a window into the social space construction within the material world of the YSC through its "discourses, signs, and structures" (p.2). The spatial history and social space constructions of the Science Museum (SM) and YSC considered thus far provide some understanding of how the larger narratives of the Western museum and transgressive discourses in place were entangled within the TC members' identities as employees and civic actors.

As I write about the civic literacy enactments of the TC members in this chapter, I perceive literacy practice as not only "projected toward some textual end point," but also as an activity (Leander & Boldt, 2013, p.4). Thus, the civic literacy practices I analyze in this chapter include the ways in which TC members followed "the emergence of activity" (Leander & Boldt, 2013, p.4) through their bodies, feelings, and interrelations with people and objects in space. To do this, I draw on Bakhtin's (1981) theorization of dialogism (any action taken at any given moment is always linked to previous and future actions) and Bourdieu's definition of practice as "an action with a history" (as cited in Jones & Norris, 2005, p.98). Thus, all of the TC members' literacy practices were located within their own raced, classed, and gendered histories of lived experiences (their habitus) with each other and in the world. I perceive of the civic literacies enacted by TC

members as not only social and cultural, and imbued with power, but, further, as spatial. The permeability of the YSC as a “becoming space” inspired and fostered critical and civic literacy practices that transformed the social space. I see this permeability as the greatest potentiality to transform civic literacy practices and pedagogies. Below, I discuss the TC’s civic literacy practice of “listening in” (NewKirk & McClure, 1992).

Civic Literacy Enacted Through “Listening In”

The social construction of space as alive, dynamic, and produced through the interrelations of the TC members became evident to me at the beginning of the study. One recurring relational practice that I began to write about earlier on was the foregrounding of stories within a community building activity entitled “Highs and Lows,” that took place at the beginning of every TC work session. During this activity, Anh and the youth emphasized listening to each other’s stories of the day and then using that information to modify activities and/or create new research tools during their work sessions. As the study went on, I noticed that this practice of listening was also enacted by crew members during the interview phases of their human centered design (HCD) process. In this section, I first discuss the activity “Highs and Lows.” Next, I describe elements of their interview methods and the ways they modified the HCD in attempts to *listen in* more. This section ends with a discussion on how the act of listening in represented one way that TC members constructed civic literacies and, moreover, added to the permeability of the social space.

Listening In During “Highs and Lows”

Usually, the three-hour crew meetings entailed four main activities: A check in/announcement period, followed by group or individual work time (which typically

took up the bulk of the three-hour period), a 15-minute break, and, lastly, a closing activity where they reflected about the day's work and made decisions about next steps for the following meeting.

As a critical ethnographer, I attempted to capture in my field notes details about the TC members, including documenting things I noticed about their identities, roles, and histories. In that first month, a significant amount of information I gleaned about the TC members' histories and identities happened during the community building activity "Highs and Lows." "Highs and Lows" involved crew members sharing a "high" and a "low" from their day or week and then responding to a "question of the day" that was chosen from a collection of hand-written questions located on torn slips of paper stored in an empty Talenti gelato container. The questions in the Talenti container got scribbled down at sporadic times throughout this project and covered a range of topics. Example questions include: "If someone made a movie of your life would it be a drama, a comedy, a romantic comedy, action film, or science fiction?" and "What is your favorite fruit to eat in summer?" (Field Notes, July 8 & July 16, 2014).

All the crews at the YSC began their work meetings with this activity. Yusef, the YSC high-school program manager, described it as "an important community building event" and "a time for youth "to ground their work in the stories of their lives" and "get anything off their chest that may be a distraction to them during work" (Audio Recording, August 8, 2014). Yusef believed that this activity was central to the collective work of the crews. YSC adult staff placed much value on what they referred to as "building community and being in community with each other," and this value was indexed through the foregrounding of this activity.

The crew members had choice over how they participated in this activity. They could choose to pass; only share a “High” moment from their day, not a “Low”; talk for 30 seconds; or talk for 10 minutes. During this time, crew members’ bodies were typically relaxed. For instance, slouching down in the chair, resting their head down on the table, or if sitting in the couch area, having their feet on top of the coffee table or hugging one of the couch pillows while they sat. Crew members ate, messed around on their cell phones, and initiated small talk with other youth sitting close to them. It was acceptable for youth to ask questions or share something from their own lives that connected to the speaker’s high or low. During one of the first few sessions, Ubah shared about a high and low from her day that revolved around transportation issues she encountered while traveling to work. That morning, Ubah had gotten to the bus stop at the stated time the bus was supposed to have come but the bus never showed up. This exasperated Ubah, and she shared, “This lady doesn’t know the right time to come, she comes like two minutes early, five minutes early, five minutes late! Like, I can’t! I am not going to wake up thirty minutes early, just for . . . she makes me SO mad, I am going to report her!” (Audio Recording, July 6, 2014). Ubah’s anger, indexed through her tone, volume, and reference to the bus driver as “this lady,” is illustrative of how emotion expressed through language and bodies was a regular and ordinary occurrence. During the “Highs and Lows” activity, patterns of talk most often resembled a social conversation between friends. Crew members took multiple turns speaking to and over one another. AAVE, Hmong, and other youth culture languages were used and embodied. For example, there were multiple overlapping utterances as Ubah told the above story—

marking other crew members' care and empathy for her and marking their engagement in what she had to say.

In response to Ubah's comment described above, Heaven and Helina both verbally responded to Ubah, using overlapping utterances, exclaiming "Awww, Dang" and asking follow up questions like, "Is this a city bus?" and "Was the bus crowded?" They expressed care and built on their relationship with Ubah through their responses. Michael also shared about a negative experience he recently had while riding the city bus (Field Notes, July 6, 2014). Social space was produced and constituted through the TC members' coexistence with each other during this activity.

Scollon and Scollon (2003) suggest that "the sense of time" is a semiotic resource "out of which we construct the entities of the interaction order" (p.47). Beginning with the premise that time and space are always interacting with each other, the TC members' relaxed body postures, use of informal language, and the varying amount of time allocation (this activity lasted anywhere from 20-45 minutes) indexed their sense of time as relaxed and their sense of space as lived and social. There were times, especially on days where I knew we had a lot of content to cover, that this relaxed sense of time was hard for my own teacher identity. It was difficult not to intervene, shut down conversation, and move things along in a more traditional systematic way. The sense of time that happened during "Highs and Lows" challenged traditional Western school and work assumptions about how to get work done. The movement within the TC members' communicative practices and the leeway of time allotment given during this activity privileged the social construction of space, thus foregrounding the "pincushions of

stories” brought into the construction of space within the TC (Massey, 2005, p.9). As Phil articulated,

Beginning with “Highs and Lows” opens up the environment more and um, helps with my familiarity with everyone on the crew. It builds a bond, like, so, I can relate to them on a more personal level, which then, makes work more smooth and adjustable...Adjustable in the sense that if say, Helina went to a concert last weekend and she mentions that in her highs, I can use the artist she saw as an example later in the day. (Audio Recording, August 8, 2015)

Phil described how this activity created a particular open and social environment, which produced an interaction order (Goffman, 1983) that placed value on being adjustable and permeable. Further, it is evident that Phil viewed this activity as relevant and instrumental to their work. Stanton Wortham (2001) asserts “telling a story about oneself can sometimes transform that self” (p. xi). This activity, intentionally foregrounded at the beginning of every YSC crew meeting, “opened up” the space and “created a bond,” that allowed for unanticipated, dynamic, and adjustable transformations of self to happen to crew members at the YSC.

Listening In-to Interviews: “How Do You Study Humans If You’re Not Talking To Them?”

Helina posed the above question during a TC group discussion about data collection methods. It was the beginning of July and the crew was deliberating what data they needed to collect in order to build a civic technology tool that addressed their community issue: lack of job resources for teens (Field Notes, July 8, 2014). Helina posed this question in response to a comment Anh made about the interview process.

Helina made the remark in an off-hand manner and to no one in particular. Helina's comment spoke to what kinds of research methods Helina placed value on.

At this meeting, the TC members strategized who to talk to, what to ask them, and what pieces of information they needed to gather. During the month of July, the TC members conducted 10 interviews with adult employees that worked for local youth community-based organizations or schools. Crew members spent time out in the field conducting interviews with youth in their communities. The crewmembers learned more about the interviewees and the complexity of their community issues by using open-ended interview questions to engage in conversation. In their first round of interviewing, they realized that they often only made it through two out of ten questions on the interview protocol they designed. Thus, their strategy changed to beginning with a couple of open-ended questions and letting the interviewee guide the process from there. They believed this method provided space for the teen participants they interviewed to open up, or, as Helina explained, "it [interviewing] became about getting a whole story out." Malik told me that by "asking a lot of whys," factors the TC members hadn't considered before were illuminated. For example, many teens they interviewed couldn't keep jobs because the skills they had didn't match the skills needed, and some teens didn't know where to look for jobs (Audio Recording, November 22, 2014). Listening in to people's stories and letting the details of that story guide the interview became the focus of the TC members' HCD interview process. Further, by way of listening in, the crew members renegotiated relational and social power for themselves and their research participants, thus re-authoring their identities as community-engaged qualitative researchers. Malik shared the following with me during an interview:

So, I think probably one of best digital literacy skills I learned was the ability to conduct research at a higher level because, you know, I've had class projects and stuff and... you do a little research project on Abraham Lincoln, so you Google Abraham Lincoln and then write about it...whereas this research was different in the sense that we didn't know exactly what we were looking for. We were looking for stories and facts and then what we did was we made sense of these stories and facts and we made sense of the resources that were out there to kind of create our own understanding. The ability or learning the ability to do research this way is much different than how the educational system teaches you and making it relevant to things that I already care about in life, I thought was pretty sweet.

(Interview, November 22, 2014)

The crew members' approach to preparing for and entering into interviews took into account "the life experience, the history, and the language practice" of their research participants (Freire & Macedo, 1987, p. 146). Throughout the HCD process, the TC members spent many hours collecting interview data and then more hours analyzing the content. In sum, the act of listening in deepened their practices and understanding of the issue and reframed their focus for the production process of their civic technology tool. By and large, the emphasis on listening in subsequently shifted the project to be youth-centered and youth-led, thus positioning the crew members as experts of the HCD method and their issue. In the remaining two sections of this chapter, I discuss the crew members' civic literacy practices through their enactment of embodied, multimodal, and critical engagement practices. To do this, I hone in on the actions taken by crew members during a particular TC work session. I chose to highlight this meeting because it is

representative of how the “mundane details” (Emerson, Fretz, & Shaw, 2011) of the TC’s everyday work sessions included embodied, multimodal, and critical literacy practices. I begin by describing the work session.

Civic Literacies Enacted Through Embodied and Multimodal Practices

During my time at the YSC, I came to believe that meaning for the TC members dwelled in their elusive, continual, and sometimes momentary communicative practices. Despite this elusiveness, there were some routine practices that were part of the work sessions that are important to understand. At this particular work session, Phil, Malik, Kalia, Michael, and Anh sat at the large wooden table located near the back wall of the YSC. Collectively, the group reviewed a Google document they created during the previous session. The four TC members had Apple laptop computers opened up in front of them, and each participant added to the Google document as the session progressed. Anh facilitated this session. Kalia and Michael sat side by side, next to Anh. Phil and Malik worked across the table. Michael was the note recorder. At the beginning of the crew meeting the name of the working Google document was “September 3, 4-7 pm” (Artifact, September 3, 2014). By the end of the 30-minute session, Michael renamed it as, “Joaly WeW3RK K33pin IT 3 HUNNA till next year” (Artifact, September 3, 2014). It was a common occurrence for the name of Google document files to reflect jokes and conversations that happened over the course of crew meetings. Kalia and Malik used their cell phones during the work session, and their cell phones were always visible even if not in use.

It was two weeks away from the Center’s Demo Day event. At this event, the crew had to give a 10-minute PowerPoint “pitch” on their civic technology project and

showcase their *What's Werk?* two-minute video trailer. Typically, the TC members met twice a week. However, previous to this meeting, they had already met three times. At this point of the project, Anh was stressed by the tight timeline. She referred to this phase of the civic technology project as “really hard work” (Field Notes, August 28th, 2014). The meeting had three guiding questions: 1) What will the format of their show be (number of longshots vs. shortcuts)? 2) Do they want to reach out to any of the local non-profit organizations that they interviewed for possible collaboration and/or guest appearances on the trailer? 3) What topics are they going to address within their six episodes of the series? (Field Notes, September 3, 2014). The questions needed to be discussed and decided upon before the crew could start the production of their video trailer. Heaven, Ubah, Helina and myself were not present at this session. I asked Anh to record the meeting for me, as I didn't want to miss it. In the next section, I analyze the embodied and multimodal practices that Kalia, Malik, and Phil enacted in the meeting.

At the YSC, youth had freedom to negotiate their feelings using their bodies in generative and bold ways. Bodies moved often, and this movement was communicative, fleeting, and lived. In this first section, I describe how Malik and Phil expressed their feelings through movement and musical play via their bodies. Drawing on Jay Lemke's (2009) definition of affect as “how feelings interact with meanings as we live our lives across places and times, being and becoming the persons we are moment to moment across longer timescales” (p. 64), I describe how Malik's and Phil's bursts of musical creativity during the crew meeting were productive, lived in the moment, and parts of their storied identities of the past and the future.

Civic Literacies Enacted Through Embodied Musical Creation

Phil and Malik sat by each other during the work session. Around four minutes into the meeting, Malik and Phil started to create music. Malik began by sliding his chair slowly back and forth. Then, he snapped his fingers (see Figures 6,7, and 8 below). In response, Phil started to move his chair back and forth and initiated a round of beats that fell into a rhythm with Malik's snaps. Next, Phil adlibed about Malik's juice flavor (see juice bottles on the table in the photos below). After over a minute of making music, Malik stopped and collapsed into the table, laughing voraciously. Phil and Kalia began to giggle with Malik. Their laughter noted the emotive moment happening. Their laughter, freedom of body movement, and the music were "markers of attitude or feeling" (Gee, 2011, p.10) that lasted for the next 42 seconds.

Anh made no attempts to interrupt the music. The fact that the music episode lasted over a period of three minutes suggests that this type of interaction held meaning within the group. Anh responded in a warm and calm manner to the music. Furthermore, she took Malik's lead on when to continue forward with the task at hand, which circulated the power dynamics within the group. She did not engage in making the music, but she also did not use her authority as adult facilitator to squash it. Instead, Malik ended the musical interlude by interjecting, "...sorry. No, I think Phil's idea is pretty solid" (Video Recording, September 3, 2014). Malik's use of the word "sorry," implied that he perceived his actions, although full of meaning (and enjoyment and engagement), as unrelated to their discussion. Next, Anh proposed to Phil and Malik that they should do the soundtrack for the video trailer, thus suggesting that she had no beef with the emergence of their music and the banter that followed. Furthermore, Anh's

recommendation that Phil and Malik make the theme song for the *What's Werk?* video trailer positioned Malik's and Phil's embodied practices as assets to the TC's project.



Figures 6, 7, and 8: Photo of Malik and Phil. This figure illustrates Malik's and Phil's embodied actions during the crew session.

In some educational and work settings, Malik's and Phil's musical bursts may be assumed as out of place or dislocated. However, I believe that their musical performance was an instrumental part of their process and one way that they constructed civic literacies that were both emergent and connected to a textual outcome (their civic technology tool). If one chooses to view space as flat, static, and something we pass on, over, and through, Malik's and Phil's actions could be perceived as not relative, important, or even as invisible within the TC's work session. However, if space is seen as dynamic and like a "pincushion of a million stories," (Massey, 2005, p.8) then these actions become quite important and provide a window into their storied identities and the civic technology project's process.

For instance, Malik identified as a percussionist, and outbursts of snaps and beats from him happened frequently during crew meetings. Malik created music with and through his body as he thought, processed, and deliberated with other youth. I have numerous jottings that include statements such as "Malik's constant tapping of his knees under the table is making the table shake" or "Malik is lip synching and doing a "1-2-3 rhythmic count" type of dance as he types on the computer" (Field Notes, July 8 and

August 17, 2014). Music and movement were important to Malik's history of participation not only within the crew but also in his life. They were vital to how he showed emotion and found agency at times in his personal life. He shared with me during an interview:

So, I think one other thing I did to um, to escape when I was feeling down about my mom, is I played music. I started piano in 1st grade and then in middle school my piano teacher got me to play steel drums and then the next year she pretty much forced me to play like bass drum in the band, and then I took up bass, like electric bass and guitar and in 10th grade, I played drums as part of the School Honor Band. (Interview, October 8, 2015)

The time period that Malik referenced in the quote above took place during a transient time of his family's life. Malik got introduced to playing the piano at a homeless shelter he lived at with his mom and brother. Music and percussion were important to Malik. Not only as a vehicle for him to express emotions through, but also, his identity as a musician held social capital at school.

Moreover, in some public settings, the actions taken by Malik and Phil, as young Black men, could have substantial impact in their lives. In her research on multimodal play, Lalitha Vasudevan (2015) reminds us that we live in a nation where young people's play "is not only coming under increased scrutiny, but the consequences of misread play are sometimes fatal" (p. 2). Throughout the analysis and writing of this dissertation, the names of Black and Brown youth who were victims of police shootings saturated news headlines and social media newsfeeds. This pattern has been recognized and examined throughout academic research and mainstream press for decades (Blow, 2014; Ferguson,

2001; Vasudevan, 2015; Youdell, 2003). As Vasudevan (2015) asserts, “Adolescents’ embodied practices, such as their choice of clothing, styles of interaction and postures, and the places they occupy, can place them in a position of being viewed as looking suspicious” (p. 4). For young people of color in the United States, the reading of their social and cultural practices as “suspicious” starts long before they become teenagers. Hence, in other work and school settings, the interpretations of Malik’s and Phil’s body movements could be perceived in dangerous and deficit ways. Consequently, their freedom to move and create musically at the YSC mattered in deep ways.

As shown above, the TC members constructed civic literacies through embodied ways of being. They not only got their work done but also constructed a dynamic, engaging and productive *space*. Over time and space at the YSC, Malik’s and Phil’s dialogic actions became recognized as a social practice within the crew. These social practices were not only illustrative of the crew members’ actions during their work session, but also illuminated how their actions were recursively intersecting with the larger discourses in place at the YSC and their own habitus. In the next section, I turn to the ways in which youth constructed civic literacies through their enactment of youth generated critical engagement.

Civic Literacies Enacted Through Youth Generated Critical Engagement

As illustrated in the section above, TC member’s interactions were often spontaneous and unpredicted. These interactions played a significant role in the TC members’ formation as individuals and as a collective. In this section, I describe how the TC members enacted civic literacies through youth generated critical engagement. I use Karen Wohlwend and Cynthia Lewis’ (2011) definition of critical engagement as “a

process that is both analytical and playful, resistant, and emotional” (p.189). Thus, youth generated critical engagement is immersive, embodied, and critical all at once. Below, I analyze an unpredictable moment where Kalia engaged the group in a critical discussion about an article on her Facebook newsfeed. The following transcript captures this interaction:

- Kalia:** You guys want to know something interesting? On Facebook, I was just looking through, like the um...
- Phil:** The news feed?
- Kalia:** Like the wall, and like, one of the episodes that popped out was this uh, Hispanic guy for a job, his name was Jose, something, but then when he could not find a job...
- Malik:** Oh yeah, I saw that.
- Michael:** [Interrupts, Kalia] He changed his name to Joe.
- Kalia:** Yeah, he changed his name to Joe...and he sent the same exact resume and everything, and the people actually replied back to his Joe name.
- Malik:** Maybe [laughing] they just had Joes in their families?
- Phil:** Yeah right, [laughing and agreeing with Malik] maybe Joe is a family name they felt special about.
- Anh:** That is dumb. I think it is racist.
- Michael:** That, is what I was going to say.
- Malik:** [Laughing] I don't know anything else it could be but racist.

Phil: I would not change my name for all that. (Video Recording, September 3, 2014)

In this moment, the crew members are grappling with storylines of who they are and who they are supposed to be. During this discussion they are attempting to figure out things that maybe they would not have been able to analyze in a more structured space. This is a moment where they are cutting through normalizing discourses around college and career readiness skills that it is assumed one needs to learn in order to get and hold a job. Throughout this interaction, the TC youth produced another spatial cut “through the myriad stories” (Massey, 2005, p.164) that they were living within this moment. Massey (2005) suggests “space is the dimension that presents us with the existence of the other” (p.131). Kalia’s decision to share this article that showed up on her facebook newsfeed during the meeting is representative of how crew members sporadically layered literacy practices during their work sessions and, as a result, created a permeable space that held room for critical conversations to happen about race and identity. Abrams and Russo (2015) define layering literacy practices as the myriad ways digital and non-digital practices, texts, and spaces work interdependently to support meaning making. Jose’s experience complicated the TC’s members’ collective understanding of what youth need to do in order to get a job. It challenged what they had been told by the adults they interviewed from local youth job resource organizations in their project thus transforming the meaning-making practices that happened at this moment.

Specifically, for Michael this interaction meant something significant. At this point, he was in his first week of taking courses at a local community college. Recently, he had moved out of his mom’s house and into an apartment of his own. Before this

exchange happened, Michael sat quietly taking notes for most of the work session. This day was Michael's first "official" day in his new role as project assistant. This positioning impacted the roles he took on (such as note-taker, a role he had not performed before). Michael, Malik, and Phil typically fooled around with each other and had a continuous banter back and forth. However, at this meeting, Michael did not engage in joking around with them. Michael had read the article before Kalia brought it up. When Kalia began to tell the other crew members about it, Michael interjected to tell the story; for instance, he blurted out, "He changed his name to Joe." When Malik and Phil respond to Kalia through joking. Michael remained quiet the rest of the exchange until after Anh cut into Phil's and Malik's joking around by asserting, "That is racist." Michael then chimes in, "That is what I was going to say." Michael's new status as intern positioned him a leadership role. In this case, his new role shifted the ways he interacted in the social space and during this exchange.

Another key point, at this time in his own life, Michael was struggling financially to pay for school, rent, and work. Earlier in the summer, he realized he needed a second job to make ends meet and ended up having to get a job at McDonalds. Working at McDonalds embarrassed him, and he chose to refer to his other job as a "restaurant job," not naming McDonalds as the place he worked (Field Notes, August 28, 2014). Under these circumstances, Jose's story was relevant to Michael's reality, as he struggled to find a job that connected to his personal and professional interests but still paid the bills.

In some ways, what the TC members were learning at the YSC got legitimated. Michael interviewed for the position as TC project assistant and got the job. He enacted the correct technical skills to get a job, and he did this through having a network of

support at the YSC. However, that network and his new position did not provide enough support for him to stay afloat financially. Thus, in this critical literate moment, Michael was figuring out how larger racism issues intersected with the greater storyline that the TC members were learning about what was needed to succeed in their future careers and education. This interaction disrupts the linear progression. Michael was trying to figure out who he was as a Black man just out of high school, coupled with the very real reality of having to pay rent and living in an apartment with a roommate for the first time. Further, Malik and Phil joking around undermined the deep racism that Michael was feeling. He was figuring out what their work means in relation to each other and to the dominant culture. During an interview I conducted with Michael about a month later, he stated the following:

Maggie: Do you think that race, ethnicity or culture, and gender are talked about at the YSC?

Michael: All the time. It definitely makes you think about why things are the way they are and question it instead of just going along with it.

Maggie: Can you think of an example of how that has helped you or where you thought about “this is why things are the way they are” and things you questioned?

Michael: Recently, I thought white privilege was agreed by everybody that it is a thing. But I just heard an interview with Bill O’Reilly where he said white privilege wasn’t a thing. It just blew my mind. I was like “How is that not possible?” It definitely made me think, that

here, at the YSC, they get you talking about race. They're definitely helping us out here.

Maggie: Does that feel empowering to you?

Michael: Definitely, yeah. Knowledge is power, and I know more now. I think, too, white privilege is how systems were built in our country based on race and based on power. I can't believe people like Bill O'Reilly doesn't believe white people don't get certain privileges...If my name was Jamal and I put that on an application, I might not get the job because my name was Jamal– not because the people who are reviewing my application are bad. Maybe they just had bad experiences of Black people. I don't know. Sometimes I try not to think about it, but the YSC usually forces you to think about it. (Interview, October 10, 2014)

Here, Michael refers to the main topic of the article that Kalia shared with the group. He brings it up as an example of how the YSC “forces” him to think about race. Michael connected the conversation they had about racial bias to his own understandings of white privilege and what that meant. I infer that he understood the racial bias described happening in a system that privileges white people.

Conclusion

The ways in which crew members enacted civic literacies through embodied and critical literacies are powerful representations of how the civic technology project was youth-centered. Engagement afforded participants with symbolic capital in regards to cultural and knowledge production (Bourdieu, 1977). Through embodied and critical

literacies, the TC members became authors of themselves as civic actors in meaningful and agentic ways. The permeability of social space at the YSC shaped their production of their collective and individual civic and educational narratives. The civic identities of Malik and Helina are explored in the next chapter.

Chapter 6: The Spatializing of Civic Identities

“Space is always under construction; it is always in the process of being made.

It is never finished, never closed.” (Massey, 2005, p.9)

After pulling up the Tech Crew’s (TC) Google Drive slide presentation, Michael glances back at the screen behind him--making sure the title slide is projected onto it. He stands behind the wooden podium off to the side; Helina, Malik, Phil, and Kalia stand in a line to his right. Michael scans the audience with his eyes before he begins to talk. The audience members, most of whom are white adults, sit at wooden tables that face the screen and are set up around the carpeted conference room. The Demo Day public presentation is held at the foundation that co-sponsored the civic technology project with the Center. A mix of community members, represented by non-profit organization directors, technology developers, communication and marketing specialists, designers, non-profit entrepreneurs, and business employees, make up the audience. “Demo Day” is the main event. The TC members have been working hard to prepare for today. As Anh put it, they have been “busting their butts to make [it] happen” (Facebook message, September 15, 2014). A selection panel for the next round of funding, made up of professionals and experts in strategic communications and advocacy, civic tech, technology design and development, and social entrepreneurship, are also in the audience. The stated goals of Demo Day, as outlined by the Center, are: (a) to share the prototypes and findings of Phase 1 teams; (b) to create space for networking and community-building; and (c) to build awareness of civic technology, the people developing it, and the issues it can address (Artifact, August 6, 2014). The TC members have 13 minutes to perform.

Wearing a bright red button-down dress shirt with black trousers and a black leather tie, Michael begins the presentation by introducing the group and the TC's mission statement. He appears confident, and his clothing matches the description of "professional attire" that audience members and others in the crowd have on. The Youth Science Center (YSC) crewmembers seem to strive for a professional identity through their 13 minutes of presenting. These professional identities are new performances for them and ones they practiced numerous times over the previous week.

There is a lot on the line. Demo Day is not just about "sharing the findings and their prototype," as specified by the Center staff, but rather carries even greater weight because in this performance they are tasked with making a pitch attempting to persuade the selection panelists to fund their project for an additional phase. Poised and confident, Michael begins: "Hello, we are Tech Crew, our statement is to bring visibility to community issues and empower youth through technology. Hello, my name is Michael." Helina takes the microphone from Michael and introduces herself as "Mary," her English name that she goes by at school. I didn't know Helina had another name until two days prior. When I inquired about this, she told me that "Mary" is her "school" name. When I asked why she doesn't use this name at the YSC, she said, "Cause it's like family, Maggie!" (Field Notes, September 16, 2014).

"Mary" starts out by describing the community issue that the TC chose to address and the background of their study. She describes their community issue as "the lack of communication between organizations that provide job resources for teens and the teens themselves." She asserts that the TC members "know from personal experience that teens want interest driven experiences that will give them the skills to pursue a career in the

future.” She only refers to the TC members as “teens” and does not address or name race, gender, or class. She explains that they gathered information from interviews and discovered that “opportunities exist, but teens have trouble finding and securing these opportunities.” She lists the conclusions drawn as to why this is, including, “teens need training to pursue these opportunities, such as creating a resume, or how to act during an interview.” Mary’s speech ends with the concluding statement, “Teens want paid jobs that lead to future careers but some of these positions require a certain degree, skill or experience” (Video Recording, September 16, 2014).

Mary is nervous as she hands the microphone quickly to Malik. Malik is confident. He wears a black suit with shirt and tie underneath. He casually puts his hand in his pants pocket displaying a relaxed body posture. Malik describes the TC's process through the civic technology project. He talks about how they used the "human-centered design process to go out and conduct interviews with teens and adults." He shares it was "hard to find jobs that provide professional experience.” He asserts, "They [teens] need anything that can help them with their career pathway—workshops, training, networking events." He interacts with the audience by using call and response remarks such as, "you guys get where I am going with this, right?" and makes jokes: "we used 'you-book' and 'face-tube,' whatever the 'kids' are using." The audience responds warmly to Malik. Malik references the libraries visited by the TC—locating their work in specific marginalized communities in the metro area. Similar to Mary, Malik refers to their research participants as "teens" and "adults" and does not acknowledge or talk about sociopolitical factors (e.g. race, gender, class) that they named as essential elements of their work during crew meetings and that are central to both the TC’s and the YSC’s

mission.

When Malik finishes speaking, Michael opens up their video trailer on the computer. The white letters of their title “What’s Werk?” fade into a black screen as Phil’s voice, mimicking the style of Don LaFontaine, the famous voice actor from movie trailers, announces, “In a world where teens and jobs just can’t find each other(.) there is one hero who served as that bridge.” The trailer cuts quickly to multiple slides of the crewmembers practicing job interview skills while the What’s Werk? theme song, produced by Phil and Malik, plays in the background. The song is composed of beats with a couple of voice-overs. The only spoken word stanza repeats, “What’s Werk?, What’s Werk?, I don’t know.” This stanza is repeated four times. The two-minute video continues followed by a question and answer period with members of the audience (Video Recording, September 16, 2014).

Reimagining the Civic: Spatializing Youth Civic Identities

This presentation and the TC member’s video trailer “What’s Werk?” tell one story about what teens need to do to learn and participate in a 21st-century workforce. Further, it tells one story about the TC members' civic agency and the ways in which they took action as civic actors in this project for themselves and other teens in their communities. I believe analyzing this presentation and the content of their civic technology tool as products of their civic identities could result in reifying a problematic and limited perspective about who the TC members were and the work they did during this project. One could view/position them as only engaging the popular 21st-century skills discourse, thus assuming that this discourse is to be celebrated as a silver bullet. However, this positioning is only a partial telling of their story. Reading their civic

identity as only the identities they produced within their civic technology tool ignores the complexity of how the social and discursive space (as described in both chapters 4 and 5) at the YSC shaped such civic identities. The TC's Demo Day presentation and the video trailer they produced were key to this project and, as an outcome, afforded the crew members with more funding, an entrepreneurial and designer skill set, and a plethora of local networking resources to continue doing this work. However, what falls short in this popular analysis is the ways in which the youth negotiated every day, sometimes minute-by-minute, interactions to create social space and movement, thus renegotiating their civic identities in critical ways. Their continuous construction of social space, working at the YSC, and their research process were integral to the final product and final presentation described above. Throughout the civic technology project, the crewmembers enacted their visions of justice for themselves and what they called their community (young women and other youth of color in the local metro area). Simultaneously, they enacted their visions of individualism and success as entrepreneurs. These discursive identities coalesced and worked both together and at times in contradictory ways.

Within my analysis of TC members' civic identities, I found that their project grew together in dynamic and complicated ways. It nourished the youths' sense of connection to and responsibility for their community, alongside their sense of belonging within the civic technology community as young entrepreneurs. The signs foregrounded by the culture of the YSC, the social space construction within the TC and the Center's civic technology project sent messages to the crew members about what kinds of meaning-making and performed civic identities were of value in a variety of settings throughout this project. It is within these contradictions that I began to analyze how they

were making sense of their civic identities and what it meant to them. It is this analysis that brought me to Massey's theories of space; I found there is insight to be seen within the contradictions and acts of negotiation that the TC members took up, experienced, and made sense of throughout this project. These contradictions and acts of negotiation are explored in this chapter.

In chapter four, I discussed two larger Discourses in place at the Science Museum (SM) and the YSC: The Western Museum Discourse and the Discourse of the Movement¹⁰. In chapter five, I analyzed how the TC member's used their bodies, their emotions, and the permeability of the space to negotiate their civic literacy practices.

In this chapter, I examine the civic identities of Malik and Helina. As addressed in Chapter 2, I perceived identity as always in movement and constituted within and through the interactions with others and cultural tools. Identities are constructed within specific places and at specific moments. In other words, identities are lived in specific "contexts"—intersections of temporal, relational, and spatial relationships (Moje, 2004). Defining identities in this way is counter to dominant developmental understandings of civic identity that permeate the field of Civic Learning and Civic Action. I draw on Nasir and Kirscher's (2003) and Rubin's (2007) understandings of *civic identity* as a critical sociocultural process, fluid "sense of connection to and participation in a civic community" (Rubin, 2007, p.450). This conception shifts the ideological notion of "civic" away from a static or universal understanding and towards a sociocultural positioning of

¹⁰ It is important to note once again that these two discourses were not fixed, and are representative of the multiple discursive discourses that were in place within the civic technology project. My intention is to not dichotomize these two larger narratives into two distinct separate categories or binaries of good/bad, right/wrong, productive/unproductive, etc.

identities in action. Further, I view the identity construction of the Tech Crew members and the ways they utilize language and literacy at the Youth Science Center to be fluid, discursive, and both producing of power and reproduced in relations of power (Foucault, 1980).

Within this analysis, I use Massey's (2005) third proposition of space as "always under construction, and always in the process of being made" (p.9) to discuss how their civic identities were multiple within the social space of the YSC and throughout their participation in the civic technology project. I describe three themes of civic identity formation that I identified: Civic Identities within a Both/And Standpoint; Civic Identity Formation within Sites of "Throwntogetherness"; and Civic Identity Enacted through Digital Media. This chapter addresses the following research question: What does civic identity mean to the TC members?

Civic identity meant many things to the TC members. My query into this issue is multiple, and I approach answering it through three sections that align with the three themes listed above. In the first section, I discuss how Malik came to understand himself as both an entrepreneur and a community activist within the project. I use Massey's (2005) notion of social space as "always open and under construction" (p.9) to describe how he made sense of his individual progress along the college and career readiness pathway and within his emerging critical consciousness and burgeoning sense of commitment to doing "good" for the community. Secondly, I use Massey's (2005) notion of places as sites of "throwntogetherness" (p.152) to analyze how Helina's role as a filmmaker grew out of a moment of "throwntogetherness" that allowed for the re-negotiation of Helina's identity and sparked her interest in digital media production.

Third, I describe how Anh's mentorship and critical media literacy became essential to Helina's civic identity formation during her production of a documentary, "Women of Color." This chapter ends with a discussion about how space as always under construction and open at the YSC nourished their sense of belonging within multiple communities of practices: the YSC, the civic technology initiative, and as leaders within their home communities.

Surfacing Civic Identities within a Both/And Standpoint

To keep space "open" as Massey suggests, I choose to highlight the voices of Helina and Malik as I write and interpret parts of their civic identities. I draw from interview transcripts, field notes, and audio recordings to describe their surfacing and discursive civic identity formations. I take heed that my interpretation of Helina's and Malik's experiences is not a full representation of their experiences or who they are because my retelling of their story and positioning of their identities is always "infused with my identity, interpretations, experiences, and politics" (Ngo, 2010, p.19). Further, I do not believe that Helina's and Malik's words "speak for themselves"; instead they are "interpretations in need of an interpretation" (Scott, 1992, p.37 as cited in Ngo, 2010, p.19). My written accounts of Helina and Malik are incomplete and partial—and yet within these contradictions, I found value within their stories as they figured out who they were as *both* entrepreneurs and community activists and why this work mattered to them. Humans are never completely knowable, and this is what makes our negotiation of our identities so meaningful.

Below, I analyze how Malik's civic identity was shaped by his both/and positioning as a member of the TC. Through their participation in this project, the crew

members were positioned by both the Western Museum Discourse and the YSC's Discourse of "The Movement." Thus, the intersections of their language use and digital media production were wrapped up in contextual factors that influenced their identities at different moments. Malik skillfully constructed civic notions of himself as an individual working towards success on his "career pathway" and wove this within his surfacing civic identity as a young critically conscious Black man. I focus on both/and standpoint theory in this section because it helped me understand how the TC members made sense of their civic identities and how their civic identities coalesced and spoke back to broader discourses around race, class, and gender. Through this civic technology project, the TC members developed a consciousness of their duality as both a standard museum employee and a community-engaged activist. While at the same time, intersecting axes of identity (i.e. Black, male, working class, teenager) positioned them as "outsiders/within" their job at the museum (Collins, 1981). This both/and positioning complicated the multidimensional ways in which they took up civic literacies, participated in political activities, and constructed their civic identity. I open this section with a brief review of the concept of both/and standpoint theory, and I detail how both/and standpoint theory overlaps with Massey's notion of social space as always open and under construction.

Both/And Standpoint Theory

Standpoint Theory (Hill-Collins, 2000) upholds that an individual's perspectives are always shaped by their social, political, and cultural locations. Thus, identity markers such as race, class, and gender influence understanding and knowledge production. In effect, through their lived experience, youth coming from marginalized social locations bring forth a "bifurcated consciousness," that is the capacity to perceive things both from

the standpoint of the dominant and from the standpoint of the oppressed, and therefore to reasonably evaluate both perspectives (Collins, 2000; Smith, 1974). For instance, throughout his time at the YSC and within this project, Malik grappled with multiple identities such as being Black, working class, a successful student, college-bound, employee of Target, a musician, as someone in a transitory living situation, and as a community-engaged researcher, to name a few of the identities he claimed during this project. All of these identities were always under construction and shaped within and by the social space of the YSC. Within this space, Malik made sense of his “outsider within” position, which shaped his civic agency, civic identity, and in turn the social space construction of the TC.

Malik as young entrepreneur. In this section, I turn to parts of Malik's story as a member of the TC to describe how his civic identity was formed through his both/and standpoint. During the Demo Day presentation, Malik positioned himself as a member and expert within the civic technology initiative community. This was apparent through his dress, his confidence, his relaxed but professional demeanor, and the way he worked the room of adults with his particular use of humor that targeted this audience. Malik prepared for this audience. The crew had spent the prior two weeks working collectively and individually to organize their speeches and slides for the presentation. Anh and I had worked with them through this process, offering advice on how to “pitch” their tool to the Center audience, knowing that a good amount of funding was on the line. The current funding that the TC received from the Center was running out. Anh expressed concern about this to me and although she hadn’t talked a great deal with the youth about it, they were aware that they needed funding to continue this work throughout the school year.

Along with other crew members, during their presentation, Malik told a story and simultaneously made a pitch about the TC's work and himself as a civic technology leader. Malik's performance and their civic technology tool was well received by the adult audience members. A few weeks after the presentation, Malik reflected on it with me and Phil. He articulated:

I didn't even know I was good at talking to random people or public speaking in a professional sense. I've done presentations for school and that type a stuff ...but when it comes down to talking to these important "Center God Overlords" it was, kinda cool, just to know that people felt, like, what we said was powerful. (Audio Recording, October 2, 2014)

Although Malik's use of the phrase, "Center God Overlords" marks his affinity towards joking around during conversations with me and Phil, it is emblematic of how Malik perceived the adults on the Center's selection panel as important and powerful. His use of the word "God" signifies his perception of the selection panel as a group of adults that were in higher-level positions, and this power dynamic contributed to his response. Malik felt successful in their eyes. The selection panel was made up of local business and non-profit adult leaders, and it was evident from their response to the TC's presentation and Malik's words that they felt he had learned the "21st century skills" needed to participate in this project, and that learning the skills, impressing the adults, and competing for funding was powerful for him.

Malik's performance and the selection panel's response are indicative of the direction that many youth development programs in the US have been heading over the past few decades. A great deal of importance has been put on programs to provide

opportunities for young people to learn the "work-ready skills" that corporate and industry leaders are calling upon for future work placement (Blum-Ross & Livingstone, 2016; Couldry, 2010; Levy & Murman, 2006). Within this 21st-century skills framework, programs are designed so youth can learn the "communication, problem-solving, and leadership skills" needed to be "effective" 21st-century employees (Lombana-Bermudez, 2016, p.4). Not only did the TC demonstrate a mastery of sorts of these 21st-century skills during their presentation, but they also presented and highlighted an array of "how to" instructions for other teens in their video trailer on where and how to develop these "work-ready skills" needed for employment and collegiate success. This push for youth, specifically marginalized young people, to develop "21st century skills" was an integral element of the TC's civic technology project. Moreover, his performance was tied to competition for money. As evident in Malik's excitement and response, he believed that his mastery of "skills" was of value—to these adults and his future. In response to his above comment about Demo Day, I inquired:

Maggie: How did you know that, Malik?

Malik: Know what?

Maggie: That it was powerful or..*that you did a good job?*

Malik: A lot of the reactions..People were like, “Wow, it’s so great you guys are doing this.”..*These people that’ve been doing what they do for years now – I’ve been here for six months, seven months – and people have been doing what they do for years..They’ll come over to me and be like, “Yeah, I really enjoyed your presentation..Here’s*

my information; maybe we could do a collaboration or something?

They value my skills. (Audio Recording, October 2, 2014)

What's powerful for me as a researcher in Malik's response is how he shifted his language between a formal and informal English register (as highlighted in italics). When Malik referenced the comments made to him by adults on the selection panel he used a formal register. As he made sense of his interpretation of their comments, he used an informal, comfortable register. This subtle shift in language is representative of the ways that Malik honed in on his both/and standpoint in both conscious and unconscious ways as he negotiated his identity throughout this project. It also illustrates how negotiation of language and bodies was an ordinary practice at the YSC.

Malik's response indicates that he recognized these connections as significant, and the adult's responses at Demo Day struck him. Their perception of the TC's work as relevant and pertinent to their work proved to Malik that he was a part of this civic technology and entrepreneurial community and that the skills he performed and learned through the project held value. The Demo Day event was a self-actualizing moment for Malik and changed his perception of himself and what skills he brought to the table. Some times before and after this presentation, I heard Malik refer to himself as an "entrepreneur" and as "financially literate" to adults at the YSC and during TC group discussions. During one of the group reflection discussions about the civic technology project, he bragged to others about going to a local job networking event for business leaders in the metro area—a job fair he heard about from a participant at Demo Day (Field Notes, November 22, 2014). Additionally, the knowledge, networking, education, and job opportunities that arose from the TC's civic technology project influenced Malik's

civic agency during and after this presentation. Later on in the conversation Malik was having with me and Phil, he shared about a professional event in school where an adult recognized him for his work with the TC. This recognition added to Malik's confidence as a young entrepreneur. He shared:

During school..we had these professionals come in from all over River City to talk to our finance classes at the same time..*and we had meet-and-greets and stuff*, the usual stuff that Tech Crew has been doing for a long time but was new to everybody else..*and you know, I was just rolling with it*. So, I'm talking to these professionals..and this random white lady walked up to me – you know, like, I'm trying to talk to this black man about some program that he's starting and she walks up to me and taps me on the shoulder..and she recognizes me. She's like, "Aren't you from that one video..something with work?" I was like, "yeah." She's like, "Oh, I'm with Job Corps [a youth job organization] and we were talking about your music on the video." *And I was like*, "I made that, me and my friend." It was a great feeling. *Then, she's like*, "Oh, yeah, weren't you in the interview part, too?" So, not only does she recognize me for the music, but she recognizes me for my part in it, you know, she notices my face and can relate that to something that I did..that I'm trying to make an impact with. (Audio Recording, October 3, 2014)

Malik's confidence and vision of himself as an entrepreneur influenced other parts of his life. The TC work made him visible to a community that he hadn't previously been visible to. Malik believed being a part of this community was tangible, and the fact that he was positioned by the adults at the Center and YSC as a part of this core group of local

entrepreneurs who addressed community issues within their technology and design work shaped his future aspirations of becoming a community-oriented economist and successful college student.

This first section focused on Malik's identity as a young entrepreneur. I now turn to another part of Malik's experience with the YSC: his emerging civic identity as a young community activist. I describe how Malik spoke back to larger narratives of 21st century skills and Western work-ready skills at the same time he was successfully learning and performing them. Malik's ability to succeed impacted his perceptions of what change he could do within a system that was not made for him.

Malik as young community activist. The TC members came to understand and perceive their civic identity in relation to the community at the YSC. For Malik, he perceived himself to be part of the community at the YSC, and this community extended into larger communities. Within and across the larger YSC programming and the TC's project, Malik took up confident and affirming civic identities. He felt a sense of belonging as a member of the YSC, and this spurred a sense of responsibility he had for himself, other youth and adult staff, and their work. This feeling of belonging enhanced his commitment to the technology work he did out in the community and deepened his relationships with the other adults and youth of color working at the SM. His identities were produced through the ways in which space was collectively constructed at the YSC and throughout this project.

Malik was intelligent and curious. Malik came into the TC with a drive to make money and at the end of this project with future aspiration to use his skills and knowledge to create social change. Along with the development of a 21st century work-ready skill

set, Malik cultivated a consciousness about his social location in the world. Malik attributed an increase in his consciousness-raising to his work at the YSC. Malik first heard about an opening at the TC through a friend at high school. At that time, he had been applying to retail shops around the area. His friend told him about the YSC and shared that the TC was looking for new hires. Similar to other TC members, Malik expressed that he joined the TC to get a job and have “fun,” not necessarily because of the technology and community engagement component. He explained to me during an interview:

You know, at first I was kind of like you know...it sounds like it would be a good idea..I’ll make some money and have some fun with some people...*and then as we began to dig deep* we explored like race and we explored um...you know gender indifference..and you know, like, I just began to realize that the world..is a lot more than what I’m being taught it is in schools and what I’m seeing on my way to and from school..*and I think that’s* kind of the reason, I decided I wanted to be, like a serious Tech Crew member and stick around for awhile. (Interview, October 14, 2014)

Malik's words at the beginning of this statement allude to his initial purpose of joining the TC: to make money and to have fun. This job initially appealed to him because he was told it would be fun—which was different than working at Target or Best Buy, his original plan. Malik was unaware of the social justice oriented teaching that happened at the YSC. However, the social justice oriented framework of the civic technology project provided opportunities for Malik to "dig deep," and this held meaning for Malik that went way beyond just having "fun." For Malik, the "digging deep" happened through

conferences that the TC attended including the Allied Media Conference and a local social justice education fair. The social justice education fair coincided every fall with a YSC two-day event that explored identity and issues in STEM. The fall this interview took place, the president of the National Association for the Advancement of Colored People (NAACP) and a local leader of the Black Lives Matter Movement came to talk to the staff at the YSC, and the TC presented their project at the local social justice fair (Field Notes, October 17, 2014).

Another way that "digging deep" happened for Malik was through informal conversations about race and injustice with adults and youth in space at the YSC. As an ethnographer at the YSC, I observed Malik and others "digging deep" into issues of injustice at multiple times and in numerous ways including joking and in response to posts on social media newsfeeds. The lived realities of the majority of YSC youth and adults surfaced and got played out in space at the YSC through their bodies, language, jokes, relationships, and use of digital media. These social practices were powerful for Malik and, as he alluded to in the above quote, made him want to "stick around" and be a "serious" TC member.

Through this project, Malik began to recognize his place within this continuous process. Massey (2005) asks us to *shift* from "an imagination of a textuality *at which one looks*, towards recognizing one's place *within* continuous and multiple processes of emergence" (p.154). Although the presentation and their video trailer could be viewed as a "text" at which one looks, it was through the practices and processes in space at the YSC leading up to the production and presentation that Malik recognized his place within the civic technology community outside of the YSC and took up social practices where

his identities converged. When I asked Malik to describe what he learned from the civic technology project he answered:

Through the Tech Crew, through the civic technology project, what I've learned is that I'm a black, you know, I'm a black man living in the United States, you know, I'm poor, you know, I go to um...not the best of schools, but I have a story to tell. (Interview, October 14, 2014)

Malik's statement, "I have a story to tell," signifies the ways in which Malik's both/and standpoint was valued and seen as an asset by Anh and other crew members. His listing off of the identity markers "black," "poor, and " a student at "not the best of schools" points to the larger deficit assumptions that Malik constantly negotiated as he figured out what it meant *to him* to be positioned in the United States as black, poor, and a student at "not the best of schools."

Malik excelled at school. He held a 4.0, was in his school's IB program, and performed well on standardized tests. Despite this success, the underlying assumptions that shaped his social location influenced his perceptions of who he was and what that meant. In her framework for culturally relevant pedagogy, Gloria Ladson-Billings (1995) demands that education must support a critical consciousness that prepares youth for civic action and also provide opportunity for academic success. At the YSC, Malik's social capital and lived experiences held worth alongside his development of entrepreneurial skills; they were perceived as assets. This emerging critical consciousness was in opposition to the "subtractive schooling" (Valenzuela, 1999) framework he had been taught to believe from school and the media. Malik continued:

Malik: I've learned that um...even if I'm not Barak Obama, I can help my peers, you know, I have insight to share. I have opinions about the way things are. *I openly challenge the educational system*, like I see injustice and I know that I want to change it and I know that I can change it, and so I'm working to change it and I think um...*the biggest way that this* [civic technology project] has impacted my civic identity is realizing those two points and um...being able to accept that this is where I...this is where I want to be, not where they [the government] want me to be. This is where I should be.

Maggie: *And okay, tell me a bit more about* where they want you to be...either you're Barak Obama or you're...

Malik: Not a part of the system...

Maggie: Right.

Malik: Or I'm in jail or a statistic.

Maggie: Okay...

Malik: Where as I want to be me. I want to...I want to be, you know, just...despite my situation I want to be able to make a difference...this is what I am doing and it's not what they want me to...it's not what they want me to be, but it's okay. This is better than what they want me to be. You know what I mean? *And I think becoming conscious* of that is one of um..one of the biggest takeaways. (Interview, October 14, 2014)

Both/And Standpoint Theory asserts that young people at the margins hold particular knowledge about social phenomenon. In this instance, Malik's knowledge shaped by his social location in the world was seen, heard, and built upon through his work at the YSC. Through participation in the TC's civic technology project, Malik's perception of his civic identity was nourished and cultivated in critical ways. In this last section, I discuss how his emerging civic identity was woven within his relationships with his family and one way this showed up in space at the YSC-specifically through a physical artifact.

Space Convergence

Malik's civic identity and what fueled his desire to achieve as a young entrepreneur and a young community activist was deeply tied to the reality of his life and relationship with his mother, grandmother, and brother. Throughout this project Malik shared with me that his drive to succeed economically and as an agent of change drew from his aspirations to provide for his family, to create future opportunities for his brother, and to build on the values his mother had instilled in him. Too often, in mass media and other types of messaging, young people from marginalized communities are positioned as constantly "overcoming" or "rising above" the injustices/hindrances that surround them (Rodriquez & Brown, 2009). My intention is not to position Malik or members of his family in a deficit way or create the illusion of a simple story of him working to "get out" of the community where he comes from. Life is always much more complicated than that. My intention is to dig deeper into how parts of Malik's engagement in the TC's work and sense of doing good was wrapped up in the present context of his life and relationship with his mom, his grandmother, and his brother. A part

of Malik's story was to get out of poverty and to escape what he described during an interview with me as the "emptiness" he sometimes felt at home.

Over the course of this project Malik went back and forth between his mom's house, his grandmother's house, and a friend's house multiple times. Malik had strong and complicated relationships with both his mom and his grandmother. The times that he moved from his mom's or grandmother's house typically were initiated because of a disagreement, and the decision for him to leave was usually made by one of the adults, not Malik. At the time of this study, Malik's younger brother was in the state juvenile correction center, serving a sentence for gun possession. Malik corresponded with his brother often, sending books and letters to the correctional center. He was frequently in communication with his mom; even when he wasn't living with her, they would text or talk on the phone. Malik shared with me that "we [Malik and his mom] hang out and we chill and we have a bunch of fun, and we maintain some type of relationship" (Interview, October 14, 2014). For a good portion of this study, his mom worked at a little Italian deli around the corner from the SM, and Malik frequently went there during work breaks to grab a slice of pizza for him and others. The conviction Malik felt to do good for and by his mom carried forth into his work with the TC, alongside his conviction to be academically successful, make money, and at times get out of his current home situation. Both of these identities, Malik as student and Malik as a son, played a significant role in Malik's civic identity formation during this project.

In late summer 2014, over the course of a three-week period when Malik was living with his mom, he brought a particular book she shared with him to every crew meeting. The book was *Rich Dad Poor Dad: What The Rich Teach Their Kids About*

Money That the Poor and Middle Class Do Not! by Robert Kiyosaki and Sharon Lecter.

The first day he brought the book, he shared about it at a High/Low session. He was excited to share and proud of the book. He illustrated this by volunteering to share first, talking quickly and smiling (Field Notes, August 18, 2014). His "high" for the week was receiving this book as a gift from his mom. He elaborated on a discussion they had about financial literacy and their families' economic future. Malik conveyed to his mom that he was learning to be financially literate through his work with the TC. He explained to his mom that the crew had to budget their money for the civic technology project, and through this process he had picked up skills on budget management (Field Notes, August 18, 2014).

After this meeting, he continued to bring the book to crew sessions—he took it out of his backpack and set it out on the big wooden table where crew members typically met. Knowing that the book was from Malik's mom, the fact that he shared about the book during a High/Low session, and the fact that Malik not only kept the book close to him but also displayed it at crew meetings helped me determine the importance of this book to Malik. Although a deeper analysis of the content of the book and the underlying ideologies of the authors could be warranted, my point in including it as an artifact here is that it represented a trajectory in the multiplicity of Malik's life, thus adding to the dynamics of his understandings of himself which in turn contributed to the social space construction at the YSC. As a researcher familiar with Massey's (2005) concept about "space as never finished and never closed," (p.8) the presence of Malik's book in the TC space enforced for me that artifacts were moving in and out of space all the time, without necessarily any precise definition or recognition. This book, an artifact from Malik's

history, entered into the TC space and represented deep ties that he held to his mother and his strong desire to succeed academically and economically. However, this book could and probably did go unnoticed by many people in the space. Additionally, it marked parts of Malik's histories that were powerfully entangled within his pursuit to achieve and the ways in which he performed and felt valued by the adults at Demo Day.

For Malik, this book served as a tangible sign for himself and others that linked to his life experiences outside of the YSC as well as within. The book brought into the social space by Malik served as a physical object that signaled the historical, social, cultural, and economic marginalization based on class and race that Malik and his family carried as well as the anticipation of his future rooted within those same realities. In her work on the sociality of emotions, Sarah Ahmed (2004, 2010) writes about the ways that emotions operate/circulate in and through people, objects, and spaces. The focus then becomes not what emotions *are* but what they *do*. In this instance, the book became an object that Malik used to express his affective experiences. Ahmed (2010) contends that people "turn towards objects at the very point of making" (p. 29). In this case, Malik was designing a future for himself and his family. In this way, the book was an object that signaled the making of his future success and happiness.

Viewing the TC member's Demo Day presentation and the *What's Werk?* video trailer as the most important [or only] textual outcome or as the primary text to analyze the civic identity of Malik does not take into account the emotive meaning that circulated within and through the object of the book. Malik's civic identity was mediated by his intense desire to understand the complexity of growing up Black and working class in the US, which complicated and shaped his identity as a successful, young entrepreneur.

Further, it was mediated by his relationship with his mom—and his conviction to fight to make things better for her economically and to understand more about their relationship and how that was wrapped up within their social locations. Malik's decision to bring this book to the crew meeting could represent his desire to be close to his mom and to know more about her standpoint and how it connects to his standpoint as a young entrepreneur on this project. Bringing the book, a marker of where he came from, into the social space of the TC was about the crew members achieving success within the civic technology project, and it was also about his sense of self.

This action illuminates the ways in which discourses coalesced and shaped Malik's understandings of civic identity through his engagement with Western scientific tools (e.g. technology and financial literacy) to complete the TC's community-based science work. Malik's varying civic identities emerged at multiple places throughout this process. His identity enactments and the way he came to understand himself said many things about how he was figuring out who he was in relationship to his family, community, his future career pathway, and his individual and collective standpoint as a raced, gendered, and classed citizen. All of these layers were an intricate part of his both/and standpoint and emerging civic identity. In the next section, I describe Helina's civic identity enactment through digital media production.

Helina, Civic Identity, and Digital Media Production

This section investigates the relationship between digital media production, civic literacies, and civic identity. Drawing on qualitative data, I explore Helina's civic identity formation through her role as a filmmaker for the *What's Werk?* video trailer and as a documentarian during an annual YSC event, *Project Me*. I use Massey's (2005) notion of

places as sites of “throwntogetherness” (p.152) to analyze how Helina’s role as a filmmaker grew out of a moment of “throwntogetherness” that allowed for the re-negotiation of Helina’s identity and sparked her interest in digital media production. Secondly, I describe how Anh’s mentorship and critical media literacy was a part of her civic identity formation during her production of a documentary, “Women of Color.” Below, I begin with Massey’s definition of “throwntogetherness” and describe how I use it as an analytical frame to tell parts of Helina’s story.

Throwntogetherness

Massey (2005) conceives of places as sites of "throwntogetherness" (p.152). That is, places are sites where local, global, counter, and normalizing discourses converge along with bodies, languages, and physical artifacts to create social space. Viewing sites of "throwntogetherness" as unbounded places where constant practice and negotiation take place between people, discourses, and objects helped me make sense of the YSC. In her description of "throwntogetherness," Massey emphasizes that the volatile nature of places and people produce a continuing need to negotiate something new regularly. The transgressive culture of the YSC, the traditional Western culture of the SM, and the interactions between these places/discourses shaped (and were shaped by) the ways in which the TC members navigated and made collective decisions about their civic technology project. Youth's civic identities were cultivated through the "throwntogetherness" of interactions between people, objects, discourses, and physical space in the YSC. Because of the constant renegotiations inspired by this project, Helina cultivated an interest in digital media production and social justice. Helina's identity as a filmmaker is discussed in the second section.

TC's Consensus Decision-Making Process

The constant tension between crew members' personal schedules and TC work sessions was an ongoing element of negotiation throughout this project and a dimension of the "throwntogetherness" of the TC's space. During the summer of 2014, multiple TC members took time away from the YSC to work at summer camps, take a shift at another job, or tend to family obligations. Crew members' absences, in combination with the civic technology project's deadlines, frequently influenced consensus decision-making processes. On numerous occasions, decisions were made solely by the timeline—regardless of who was present and who was not. Additionally, because of the TC's monthly commitment to facilitate technology workshops for teens at local library sites, tasks for the civic technology project were routinely put off. At times, this created a sense of apathy amongst the crew and frustration on Anh's part. In one instance, during a data coding session in August, the youth present were resistant to discuss or share ideas about themes and patterns they noticed. After a few minutes of Anh attempting to engage them through questions and casually joking around, she became exasperated and declared to the group:

Let's not tune out during this. I know this is a lot of information, but you need to be here and trying to understand the information. If it doesn't make sense to you, if there's stuff that you remember that's not up here, let's put it up here, because we're trying to move forward. The problem with this is that we did these interviews, and then we had a bunch of stuff, and that sucks. We shouldn't have timed it that way, but here's where we're at, so we're trying to do our best to really be here, and really get all the information in there. If it doesn't make sense,

let's chime in and say it now. If it does, then great, but let's hear from you. (Field Notes, August 11, 2014)

In the quote above, Anh was reacting to the "throwntogetherness" of the space. Not as chaotic or a problem, necessarily, but as a condition of the complex lives of the youth and their work. She was encouraging them to "make sense" of the situation they were in and "do our best to really be here," that is, to engage with bodies, time, and space, and to use the resources to create and take action. Anh's comments are illustrative of the renegotiating that happened. Often times, after one of her pep talks or lectures, like the one excerpted above, the youth became more engaged with the activity they were working on and accomplished the highlighted task of the daily work sessions. Further, Anh also created opportunities for TC members to participate or make up work online, which added another dynamic to the TC's civic technology project (Artifact, July, 2014).

As a researcher familiar with Massey's (2005) conception of place as an "ever-shifting constellation of trajectories that poses the question of our throwntogetherness" (p.116), I began to contemplate how crew member's engagement impacted the negotiation, production, and textual outcomes that occurred throughout the TC's civic technology project. This awareness led to the observation of how crew members' absences significantly impacted the consensus decision-making processes and thus their production of the civic technology tool. Attendance--the physical or virtual presence of bodies in space and time--became a determining factor of the "throwntogetherness" of the TC. Attendance created both tensions and possibilities for the group as they renegotiated their work together with space, time, and bodies available at any given experience/moment. During a consensus decision-making process that took place in late

August, Helina's absence opened up an opportunity for her to take on the role of a filmmaker for the *What's Werk?* trailer.

Helina's Absence

Helina took a month leave of absence from the TC to travel with her mother, father, and two of her three sisters to Debre Zeit, Ethiopia, the city where both of her parents grew up and her two older sisters were born. This trip was Helina's and her younger sister's first visit to Debre Zeit. Right before Helina left for Ethiopia, the crew finished prototyping their interactive video game and video trailer at local library sites. All of the data got uploaded to their shared Google Drive folder in video, audio, and word files (Field Notes, July 29, 2014). During the analysis phase of their project, Anh expected all members not present at the TC work session to review the data and give feedback. For Helina, this proved to be problematic, as access to Wi-Fi over the course of her trip was unpredictable. Because of this, she did not have much say in which prototype they chose. Further, she did not have a choice in the role she would play in creating the civic technology tool on her return.

The crew members decided on their roles for the production phase of their *What's Werk?* video trailer at a work session in late August. Phil, Malik, Michael, Kalia, Anh, and I were present. Before deciding on their roles, they wrote draft scripts for the three scenes of the trailer. Malik and Phil collaborated on writing the script for the interview scene; Michael worked on the communicating with employers skit; and Kalia diligently created new lyrics to the movie *Frozen's* theme song, *Let it Go*, for a skit on time management (Field Notes, August 28, 2014). Anh bounced from group to group through their workshop session. At the end of the work session, Anh led them through a hurried

consensus making process in which Phil and Malik chose to produce the soundtrack for the series and act in two of the three scenes. Kalia chose to act out the role of the interviewer and perform a song about time management. Michael, who held prior experience editing, chose to edit the trailer and act in one of the scenes. Youth assumed that Anh would film the production; however, during this process, Anh proposed to the group that Helina would shoot the video, and Anh and Michael would provide support along the way (Field Notes, August 28, 2014). Although intentional on Anh's part to assign Helina a role, her decision to have Helina take on filming the trailer was not planned. However, this decision marked the beginning of Helina being positioned as a filmmaker.

It was this moment of negotiation in social space when Helina's absence became pivotal to her future civic identity and her personal interest in digital media production. When Helina returned from Ethiopia, she found that Anh had volunteered her to film the video trailer. At this time, Helina held no aspiration to be a filmmaker. Helina was hesitant to take on this role, but as she remarked, Anh and Michael “convinced” her (Interview, October 1, 2014). Over the course of the production phase, Anh and Michael mentored her through the filming and editing process. By the end of the production phase, Helina was viewed as a filmmaker by the other crew members. For example, during a focus group interview, Kalia remarked, “You did great filming, Helina. You were, like, the filmer”; and during an individual interview with Michael, in response to a question about the different roles each person held during the production, the first person and role he named was Helina as the filmmaker (Interview, October 14, 2014).

Barbara Comber (2013) asserts that Massey's conception of *throwntogetherness* "does not resort to a theory of chaos where nothing can be done; rather, there is the sense that something must be done. Negotiation is not feared as a problem but rather seen as an opportunity" (p. 363). The messy and generative *throwntogetherness* at the YSC allowed for both tensions and possibilities for the group as they renegotiated their work together with space, time, and bodies existing at any given moment. In this instance, Helina's absence resulted in an opportunity for her to run the video camera during the *What's Werk?* production, which led to her emerging identity as a community activist and documentarian, as described more in depth in the following section.

Critical Media Literacy Practices During the *Project Me* YSC Event

Helina utilized digital tools and critical qualitative research methods from the TC's work to engage in taking civic action around an important topic affecting her: the identities of young women of color. Helina's understandings of community and the social justice movement that she claimed an affiliation with influenced this digital media production during *Project Me*, an annual YSC event that took place during spring break, 2015. This weeklong institute brought together all YSC youth and adult staff, along with a handful of local artists, to collectively explore an issue related to both science and social justice. During the spring of 2015, the issue examined during *Project Me* was race. Over the course of the week, young people at the YSC worked with a resident artist in small groups to explore the social construction of race, the science of human variation, and the everyday experience of race (Artifact, April, 2015). During an interview conducted by YSC youth, Yusef, the YSC high school manager described *Project Me*, 2015:

We try to get at the power of expression, the power of using art as a way to express science and critical issues in the community and this year we are focusing on race. They learned the myths about race, and the science behind why people look different. And then they learn about history, the history around the ways race has been used in society. The third piece is for them to reflect on and think critically with their own lived experience of race. (Artifact, April, 2015)

Throughout the week, YSC youth learned about race through discussion, creative multimodal activities, theater, and dance. For the last three days of the institute, youth explored their racialized identities through an art medium of their choice. All of the resident artists were adults of color from the community. Helina chose to work with digital media for her production of a documentary, "Women of Color." Relying on adult mentorship, ingenuity, and her own resourcefulness with the digital tools, Helina examined her identity along with the identities of three of her peers in her film. Soep and Chavez (2010) contend, "Young people form some of their most nuanced, persistent, and consequential relationship to texts and narrative . . . deeply inside interactive contexts" (p. 23). It was inside the highly interactive social space of the *Project Me* institute that Helina's significant relationship to civic action through digital media production grew.

Helina and the Participatory Culture of *Project Me*

At *Project Me*, youth engaged in a variety of consciousness-raising activities around race and identity. As part of the digital media group, Helina participated in journal writing, critical analysis of racial stereotypes in the media, critical collaborative dialogue, and video production. She built upon the video production skills she learned through her work with the TC such as how to establish a shot, the composition theory rule of thirds,

and how to use b-roll shots to support the statement she wanted to make in her film (Interview, June 12, 2015). By problematizing mainstream notions of the history and science of race, Helina, alongside other YSC youth in the digital media group, challenged the status quo by foregrounding her own lived experiences that she brought with her to *Project Me*.

Throughout the weeklong institute, daily activities were persistently designed to position youth as experts and knowledge producers alongside adult artists and YSC staff. Inspired by Paulo Freire's (1970) problem-posing educational approach, YSC adults positioned young people as "critical co-investigators" (p. 81) who collectively engaged in critical thinking and production. This co-investigation took place in physical and virtual spaces. For instance, YSC adults created an online space for youth to explore what they were learning about race during the day by setting up a Google document, entitled "Race News," that linked to the YSC's Facebook page. Reflective comments such as "The first day of Project ME has gone well. We have begun to introduce ourselves with the artists and really dive in depth about race" and "Project ME has taught me that people of the same race can be further apart genetically than people of different races. Race is created to oppress certain groups of people and is a social construct and not a biological idea" (YSC Artifact, April, 2015) are representative of responses shared in this digital mediated space.

Through daily activities and adult mentorship, Helina engaged in thoughtful, critical media literacy work during the production of her documentary on the identities of young women of color. When I asked her why she chose this topic, she replied, "Everyone that knows me knows how much of a feminist I am. I knew that I wanted to

make a video based on women and the topic of race. Because we focus on women of color and breaking stereotypes in scientific fields and jobs [at the YSC], it fit perfectly, you know?” (Interview, June 2015). Over the course of the *Project Me* week, using the software iMovie, Helina produced her first documentary. Outside of her work with the TC, this was her first digital media production. She selected three of her peers at the YSC to interview for the film. She developed four interview questions that she asked each participant. Her film is described in the following section.

Helina’s film: “Women of Color.” The establishing shot of the film consists of white letters spelling out the title, “Women of Color,” fading into an orange screen as the song “Get it Together,” by R&B singer-songwriter India Arie, plays in the background. Helina strategically chose this song. When I asked her about this choice during an interview, she commented,

It goes perfectly with embracement of not just people, but of women, you know? She's a really good activist, in her own way. The whole point of the song is to embrace, and that was the whole point of my video. It started off with a regular question. While leading up towards the middle, the questions got deeper with stereotypes and harder topics of what being a woman of color means. (Interview, June 14, 2015)

Next, the camera quickly cuts to a sequence of three close-up shots highlighting the three interviewees showcased in the documentary. Ong, Sierra, and Pa share their name, age, where they were born, and their ethnicity. After the introduction, the India Arie song, which plays throughout the film, gets louder and the question, “Do you love the skin you’re in?” materializes on an orange screen. This slide transitions into a series of

responses from Ong, Sierra, and Pa. For example, the second shot zooms in on Sierra. She is wearing a black t-shirt displaying an image of the R& B singer Beyonce. A smile spreads across her face as she boasts, “I love the skin I am in! Cause.nobody else can rock Sierra’s skin like Sierra can rock her own skin, so, yeah.”

The transition to the next part of the film includes an increase in volume of the song, as the third question appears on the screen, “How do you define a Woman of Color?” Immediately, India Arie’s soulful voice sings, “Get it Together...You got to heal your body, you got to heal your heart.” Subsequently, a series of b-rolls with voice-overs featuring the three interviewees make up the next part of film. First, there is a medium shot of Ong and Helina conversing. Ong is sitting on the floor with her legs spread out in front of her and Helina is crouched down with a notebook listening to her. Next, there is a long shot of Ong doing martial arts with the *Project Me* dance group. Throughout these two scenes, Ong’s voice is heard. She explains, “Being a woman of color is different being in this country, Hmong people aren't really the main ethnicity, and that is hard. But I really like being a woman of color.”

The third question to flash across the screen is, “As a woman of color how have media stereotypes affected your life?” The b-roll shots continue, and the first scene includes Sierra writing in a spiral notebook, standing next to a large glass window in the stairwell of the SM that overlooks the river. Simultaneously, she remarks, "On reality TV shows you are going to see Black women, talking loud...popping their gum..doing all these stereotypes that like, portray our image. That is NOT who I am." Then, the camera cuts to a close-up of Ong who adds, "People think Asians are smart or they know kung fu, but they are ignorant; they don't know that much about us.”

The final section of the film begins with the fourth interview question, “How do you celebrate your identity?” A series of responses from the three young women follow this question. The last slide is a close-up of Sierra. She proclaims, “I celebrate my identity by telling other Black girls that their identity is not who the media portrays them to be. We all have to learn to love ourselves and the way we look and take pride in that—instead of destroying it.” As Sierra speaks the last line, the music kicks in again, and India Arie sings, “You can fly, fly, fly, you can live or you can die, life is a choice you make, you can live or you can take.” Finally, the film fades to the rolling credits.

Civic identity enacted through digital media production. The ways in which youths' identities are formed and their subjectivities are conveyed through multimodal production is well documented in the literature (Ito et al., 2013; Pahl, 2011; Soep, 2010). Jewitt and Kress (cited in Pahl, 2011) maintain that in the instance when a “meaning-maker chooses the ‘best fit’ for the representation, modal choice is then linked with identity” (p. 3). Therefore, the modal choices that Helina made represent, to an extent, her civic identity in relation to the social space of the YSC and the counter Discourse of the Movement.

Helina used music, images, and the interview skills she learned from the TC’s civic technology project to create a rich counternarrative to mainstream narratives about young women of color. Her digital film combined traditional documentary interviews with creative b-roll shots and music. Additionally, Helina used parts of the human-centered design method specifically in both the planning and delivery of her interview questions. She viewed the Human Centered Design Method (HCD) as a reliable research tool. She articulated the following to me during an interview: “Yeah, one thing that Anh

pushed that really impacted us [TC members] is that to get really strong research, it's best to almost be social in a way...by getting actual answers from people themselves”

(Interview, June 12, 2015). For Helina, enacting civic literacies meant using specific tools from this research methodology that worked for her.

For instance, during the TC's project, one of the undergirding assumptions of the HCD process was centered on bringing a variety of voices to the design table. Furthermore, the emphasis on talking to “extreme” users created opportunities to hear the stories of people who were often silenced or left out of the critical conversations and preliminary design plans. In the case of the TC, this included young people from marginalized communities whose voices were frequently silenced in the larger discourses of college and career readiness. Creating a tool for someone who's lived experiences were considered “extreme” positions that person's story in the center of the process and ultimately, as Helina contested, “is what makes the project human-centered” (Audio Recording, November 22, 2014).

Interviews were at the core of Helina's documentary production process. Helina put emphasis on hearing from her three peers in real-time and in the social space of *Project Me*. The stories of the teens interviewed guided Helina's process. She learned more about the interviewees and the complexity of their identities as young women of color by using open-ended interview questions to engage in conversation. This method provided space for the teens Helina interviewed to open up, or as she explained, “it became about getting parts of their whole story out.” She listened to the youth's stories and let the details of their story guide the production process (Interview, June 14, 2015). Helina built upon the interviewing skills she learned during the TC's civic technology

project. She explained, “It was the Human Centered Design method that was really focused on the people and their stories and that is what I tried to aim for with the documentary video” (Interview, June 14, 2015).

Helina as a member of YSC community. The space of the YSC afforded Helina care and support as a novice community researcher and technology designer. At the same time, there was a larger community¹¹ and social justice movement that she claimed an affiliation with and felt a desire to care and work for. Her membership in both of these communities influenced her understandings of her social location, her identity, and her role as a member of the TC. Further, her understandings were enriched and framed by the social-spatial interrelations at the YSC. Tania Mitchell (2015) asserts, “Sense-making is inherently social, shaped and reshaped by one’s interactions with others and the perspectives they exchange” (p. 21). Helina’s civic identity was constantly “shaped and reshaped” by the moment-to-moment social space interrelations and negotiations with others, objects, and discourses within the YSC, or what Massey (2005) refers to as the “throwntogetherness” of space.

Helina came to understand and perceive of her emerging civic identity in relation to the community at the YSC. Participating in *Project Me* enhanced Helina's sense of membership within the YSC community. This feeling of belonging enriched her commitment to the technology work the TC did out in the community and deepened her relationships with other adults and youth of color working at the SM. This was evident in

¹¹ Literacy scholars have critiqued and interrogated this term, (see Moje, 2000 for further discussion), cautioning against using it in a static or fixed manner. I agree with this critique; however, in this chapter, my emphasis is not on historicizing the term or historically tracing it throughout the literature. Instead, I focus on Helina's and other YSC staff members' interpretation of community. The community can mean many things. For the majority of TC members "the community" meant the working class/majority communities of color that bordered the downtown area where the SM was located.

both her words and actions. During a focus group interview, Helina shared,

Here in the YSC, it's different. It's the complete opposite [than traditional work places]. Anh and all the other adults are looking at your negatives but turning them into positives. They're looking at your positives and making an even greater positive--and they're making you change. They know that we're here for a reason. And they're looking at us because they have that understanding that we're the ones who are gonna be taking over their places at some point. Of course, they're gonna look after us. And I think that's honestly the biggest impact that any adult can make on a student or on a youth. (Focus Group, July 12, 2014)

Helina felt genuinely supported by the adult staff at the YSC. This is evident in her use of the descriptive words "even greater," "positives," and "biggest." For Helina, the support and care of the YSC adult staff went beyond a traditional managerial role, and this support spurred her sense of commitment to the movement.

Conclusion

In the vignette at the beginning of this chapter, it is evident from the TC members' language use, gestures, expressions, and bodily postures that they are performing well to be recognized as members of this workforce/entrepreneurial community. Gee (2014) claims that people use language to gain understanding and act to be recognized socially by members of a community. In the moments described, the TC youth were asked to explain their work formally in the presence of adults who represent powerful positions. The crew members negotiated their language and their bodies, thus performing civic identities to fit the Demo Day scenario.

Subsequently, in this chapter, I argue that the multiplicity of the social space and the "simultaneity of stories" that happened in moments at the YSC were equally as important as their performance at Demo Day and the civic technology tool they ultimately produced. The crewmembers attempted to walk within both the discourse of the movement (which was produced through movement in their bodies and within the social justice issues they addressed in the community) and the Western Museum discourse. These larger discourses added another layer to their civic identities and, as discussed in this chapter, played out for Helina and Malik in multiple ways. For Helina and Malik, civic identity meant that they were members of the SM community and the communities that the SM served. It meant that they were community-engaged researchers and technology designers. It meant they were artists and scientists. It meant that they were a part of something greater than them—they were working towards a better world for themselves and their families. In the context of the YSC, it meant that they got to live out alternative ways of being a good employer and a community activist. They were leaders within a community of local entrepreneurs who presented at Demo Day and young activists who presented and organized at the local Social Justice Education fair. This is explored further in the next chapter.

Chapter Seven: Conclusion

“For the future to be open, space must be open, too.”
(Massey, 2005, p. 12)

*S/O [Shout Out] to the Science Museum, would you all be surprised to know that’s where
my activism was cultivated and nourished?*

–Fathimi, YSC Alum



Figure 9: Placard for RACE exhibit. This figure is a placard that was put up at the beginning of the RACE exhibit after the shooting of a local African-American man by a police officer (Artifact, 2016).

A Facebook post containing the quote and image above showed up on my newsfeed. Fathimi, an YSC project intern that I worked with on the Ethnography Crew posted it. This placard was put up near an exhibit showing on the main floor of the Science museum (SM). The exhibit, “*RACE: Are We So Different?*” (American

Anthropological Society, 2016), explored the complex story of race through a historical, scientific, and sociocultural lens. SM administration put the placard up following the death of an African-American man, who was shot and killed by a police officer not far from the location of the SM.

Fathimi's statement, "S/O [Shout Out] to the Science Museum. Would y'all be surprised to know that's where my activism was cultivated and nourished?" not only underscored the ways in which she believed the YSC nourished her individual civic identity as a community activist, but also is one representation of how the culture and social justice commitments of the YSC got integrated into the larger space of the museum as a whole. This decision to put up the placard was read by youth and adults as a sign of respect towards their communities and a commitment on the end of the SM's administration to work against the systemic racism that they lived everyday.

Within three days of the placard going up, there was a torrent of criticism from the public. Comments were posted on the SM Facebook page and people called to complain. The SM administration decided to take the placard down. According to a museum spokesperson, the choice to remove it was due to multiple complaints that the museum was "taking sides" (Zapata, July, 2016). Moreover, the majority of objections came from people who "aligned with or were sympathetic to law-enforcement agencies" (Zapata, July, 2016). In response to the placard's removal, Fathimi, a participant in the local racial justice movement started a public campaign on social media in efforts to get the SM to put the placard back up. Despite her efforts, the placard stayed down.

This story is representative of the inherent tensions between the normalizing and transgressive discourses in place at the SM and the YSC. Further, it exemplifies how

power; from a poststructuralist perspective, operated within this space. In this way, power was not only repressive but also productive. While the SM administration caved in and took the sign down, their actions of putting the placard up shifted power in the social space of the SM. The flurry of community response to the placard opened up spaces of dialogue that previously had not existed on social media sites, in a newspaper article, and between SM staff. Further, Fathimi used some of the knowledge, tools, and strategies she learned about community engagement and organizing from her time at the YSC to start the public campaign. Her actions were agentive and transgressed some of the power dynamics that played out in real time during the course of this event. Taking down the placard, could not take away the knowledge she learned while working as an employee at the SM, in the midst of the profound grief and anger that she felt in regards to the killing of an African-American man by a police officer.

For Foucault (1978) power is not an entity that people possess; instead it is something we enact. Moreover, power is not bound within the systematic institutions that individuals operate within. Power is constantly in flux, it is discursive, and like the particles of air we inhale and exhale, power moves in and through us-- it is found everywhere (Foucault, 1978). It is circulating through and within the discourses, knowledge and “regimes of truth” (Foucault, 1991) that humans act within. Viewing power in this way—power is not only oppressive but it is generative (Foucault, 1978). In the instance above, if one chooses to view power as a productive entity that cannot be bound, then the difference between power and dominance/authority becomes clear (Moje, 2000). Although, the SM took the placard down, Fathimi exerted power in her response, which, I argue, was productive. She used particular tools she learned from her time at the

YSC, in some extent, to take civic action and build towards a non-master's house (Lourde, 1984).

The SM administration's action to put up the sign disrupted normalizing narratives of justice and white supremacy in our nation. The succeeding actions to take the placard down reinscribed those same narratives. This example is central to my argument that the SM was many things including a Western museum space. Yet, it was also a place (although different and contrary to the realities of the YSC youths' marginalized lives) where youth were able to in surprising and generative ways learn the tools of STEM and participatory community engaged research methods in efforts to take meaningful civic action that fell outside of traditional notions of what STEM learning and civic engagement meant. As a result, they worked towards transformation in their communities and within their own sense of who they were as young civic actors. Consequently, the youth and adults at the YSC created a lived social space. For instance, Marcos, one of the YSC project interns created a workshop for YSC youth entitled, "The Power of STEM in Social Justice Work." The description of the workshop went on to say, "When doing Social Justice work of any kind, it might not be apparent to you that you are using STEM tools to develop, coordinate, and do that work." In the workshop, he led youth through activities where they had to name the various STEM tools used by the different crews at the YSC and how they were used in critical and grassroots ways (YSC Artifact, July, 2015).

Perhaps, in the instance above, the process was just as important as the final results (i.e. the placard stayed down). If one focuses on the process of using the tools of STEM and qualitative research to not just learn the codes of power (Delpit, 1988) but

also to challenge them and create a “becoming space” (Derrida, 1991) that in turn, I believe, makes room for hope. Presently, I cling to this feeling of hope within social action verse outcome, even more so now, as I sit here in the wake of the 2016 election results contemplating the implications from this study in a time of massive acts of overt bigotry and discrimination against my family and the majority of YSC youth and adults that I have come to perceive as friends, colleagues, and a part of my community. I attempt to stay grounded in the moment by the words of Ernest Morrell, that “writing itself can be a revolutionary act” (Personal Communication, April, 2015) however the eruption of hate speech in my local and national community over the last few days is held deep within my body and I struggle with what it means for me to resist bigotry and employ action, kindness, and love with those in both my personal and professional communities. At this moment, my hope is that the findings and implications shared in this closing chapter, however small, can help shift power in productive ways as I attempt to conclude this dissertation.

Purpose of the Study

The purpose of this critical ethnographic study was to explore the meaning and enactment of civic literacy among members of the TC, particularly related to their civic action through digital literacies/tool production. This study explored the assets of marginalized youth's sociocultural backgrounds and their agency, combating the often deficit-oriented approach that researchers have when studying civic education. Further, it expanded on previous work in the field of Civic Learning and Civic Action (CLCA) by moving beyond a predetermined definition of “civic knowledge” and “civic engagement” for marginalized youth. Additionally, it serves as an example of community-engaged

scholarship, and the findings from this project inform future civic technology projects for both the local urban civic technology initiative and the YSC.

This study used the methodology of critical ethnography to gather qualitative data including field notes taken from observations of the TC work sessions and other YSC activities (e.g. staff retreats, new crew member orientation), audio and video recordings of TC work sessions, youth and adult interviews, a collection of artifacts (e.g. youth produced films, Facebook posts, photos, TC meeting notes), and YSC and SM official documents. Participants in the study included the eight members of the TC and other adults and youth at the YSC. The data were coded, analyzed, and organized first by the three research questions and then into categories and subcategories guided by Massey's (2005, p.8) three propositions of social spatial theory, as described in Chapter 2 and 3. I brought a specific critical theoretical lens to the analysis process that shaped what categories emerged from the data as well as my interpretation of the findings. My coding practices informed how I theorized and made meaning in this study. While there were distinct components of my analysis method depicted in Chapter 3, it was a fluid and iterative process.

I sought to understand how the TC members constructed and constituted themselves as civic actors through their production of identity and social space, as well as the roles that technology, the pedagogy of the YSC, and larger discourses played within this process. Three research questions drove my work: 1) How do the multiple pedagogies and Discourses of the SM and the YSC shape the social space? 2) How are the TC members enacting civic literacies? 3) What does civic identity mean to the TC members?

The previous data chapters discussed the findings of this study by organizing the data into categories that aligned with Massey's (2005, p.8) propositions of social space and the research questions. Through the discussion in Chapters Four, Five, and Six, I constructed a narrative in attempts to "tell the story of the research" (Bloomberg & Volpe, 2012) from my time as a critical ethnographer at the YSC. The purpose of this chapter is to provide interpretative insights into these findings. I begin by revisiting my research questions. I summarize my findings and discuss the implications for each question taking into consideration the literature in CLCA and Digital Media Literacy. The implications of my findings expand on the understanding of what civic identity means to marginalized youth, moving beyond a predetermined definition of "civic knowledge" and "civic engagement." The chapter concludes with implications for using social spatial theory in research that seeks to understand youth civic identities and civic literacy practices.

Revisiting the Research Questions

How do the multiple pedagogies and discourses of the SM and the YSC shape the space?

In Chapter Four, I sought to understand how the various pedagogies and discourses of the SM and the YSC formed the social space. The analysis in this chapter was framed by Massey's (2005) proposition of space as "a sphere of multiplicity" (p. 9). In conjunction with Massey's socio-spatial theory, I used geo semiotics (Scollon & Scollon, 2003) to analyze how larger discourses circulated within and through the interrelations of people, actions, and objects in the SM. Findings from this chapter suggest that the multiple trajectories and recursive ways that larger discourses were

constructed and constituted within the production of space in the YSC significantly shaped the TC members' civic technology project and their civic identities as they navigated the cultural terrain of the YSC and the SM at large.

Implications for youth organizations that seek to promote cultural and policy change. Changes in policy, culture, and practice happened over time and influenced the social construction of space at the YSC. These changes affected both the design and movement that occurred within this space. In interesting and often conflicting ways, the Western Museum Discourse and the Discourse of the Movement¹² were constantly shaping (and shaped by) the socio-spatial and civic literacies that adults and youth performed and produced. The Discourse of the Movement garnered more power in the space of the YSC, where space itself was conceived as generative and collective, allowing for both tensions and possibilities to emerge. In turn, the permeability of the social space of the YSC influenced the civic identity and civic agency of the TC youth. The young people situated themselves as not only part of the community of the YSC but also as civic actors within a larger social movement. The relational and social justice values foregrounded within the Discourse of the Movement produced a transgressive community, but also, more importantly, a *collective* of people working for and with each other to resist the structural inequalities around them through an abundance of micro and macro processes.

¹² Again, these two discourses were not fixed and are representative of multiple discursive discourses that were in place at the Youth Science Center. My intention is not to dichotomize these two larger narratives into two distinct separate categories or within a binary paradigm (e.g. dominant/counter, good/bad). Instead, my purpose is to analyze the ways in which the social space of the YSC interrupted the normalizing narratives of the Science Museum as a historical Western and white space.

According to Google dictionaries, *collective* means "representing many individuals" and "gathered together" (Google, 2016). The ways in which the Discourse of the Movement shaped the social space of the YSC created an opportunity for youth and adults at the YSC to form a collective where they took civic action and represented the voices and needs of those in their communities. Throughout this project, there was a collective "we" the "community" that the TC members did their work for and a collective "we" at the YSC that they were a part of. When asked questions about their work, the TC youth referred to the YSC as a family, a "we," a "pathway" where the adults took "care of them." It was a place, as Phil remarked, where "people took the time to break things down and pull out some form of happiness" (Focus Group Interview, July 14, 2014). Within and across the larger YSC programming and the TC's project, the crew members took up confident and affirming civic identities. They felt a sense of membership at the YSC, and this spurred a sense of responsibility that youth had for each other, the adult staff, and their work. Helina described her participation in the movement in this way:

Basically, what I mean by "the movement" is being as one and being here for the same cause. For this movement, it is to get jobs that will lead to future careers that will benefit us and youth in our communities. It is not just to take care of us, but to take care of the world. There are so many examples here. The movement is going to start with the youth and our community, but it will move to the whole world. It is such a big issue; we are the ones who are going to take care of this world. There are so many people who say you work at the science museum, what are you a janitor? Because a 15-year-old can't be a part of a technology crew? I

am actually taking care of my future, you know what I mean? (Focus Group Interview, October 8, 2014)

Helina's words highlight how the youth's sense of membership within a larger social movement enhanced their commitment to the technology work they did out in the community and deepened their relationships with adults and youth of color working at the SM. Their identities were produced through the ways in which they constructed space together at the YSC and throughout this project.

Massey (2005) contends that "a politics of place would not be simply a politics of 'community' but would involve processes of 'negotiation' that would confront the fact of difference via 'the range of means through which accommodation, anyway always provisional, may be reached or not'" (p. 154). The essence of the TC's work as a *collective* created a politics of "receptivity" that involved processes of negotiation that made visible alternative ways of civic engagement, STEM education, and working within and towards difference. Conceptualizing space as relational, multiple, and in the process makes room for the abundance of stories and complexities to emerge within the participatory political practices of young people.

Before Brenda became director of the YSC in 2008, a select group of SM and YSC staff decided upon the strategic plan and mission statement, voted on the plan, documented it on paper, and then attempted to put it into practice. Although reports stated that "community input was gathered" (YSC Artifact, 2014) during the initial process, when Brenda got to the YSC, she realized that only a small number of community residents and parents had shown up at the community input sessions. Thus, she and others at the YSC worked diligently to put the strategic plan and mission statement into action

and create transformative structural change (e.g. changing the job descriptions, attending community organizing meetings on behalf of the YSC, and creating a parent advisory board). Ultimately, putting the social justice and community-centric ideas that were a part of the strategic plan into action went against the grain of the Western Museum Discourse. It was messy, full of tension, and resisted by multiple people within the SM at numerous times. However, navigating how to do this in real and discursive ways shaped the “throwntogetherness” (Massey, 2005) of place at the YSC in useful ways. Massey (2005) suggests that “the key, though, is that there are no portable rules because of the uniqueness of place: ‘the negotiation will always be an invention; there will be need for judgment, learning, improvisation’” (p. 162). The YSC took up a networked approach and worked closely with the university center, the public library system, and other youth development organizations in the area. Further, they created a robust pathways program that supported youth across their middle school, high school and post-secondary years in attempts to create a sustainable system of support for youth. They also worked internally to change policy so that more adults of color and adults with community organizing backgrounds could get hired. These choices added to the diversifying of adult staff in regards to ethnicity, race, and gender over the course of the last eight years alongside a reframing of the YSC pedagogy. The data discussed and analyzed in Chapter Four illustrate how youth civic engagement organizations can engage in rigorous negotiations of judgment, learning, and instances of improvisation in efforts to shift power and create policy and structural change that supports marginalized youth within larger educational institutions.

How are the TC members constructing civic literacies?

In Chapter Five, I addressed the research question above. I used Massey's (2005) second proposition of space "as constructed through interrelations" (p. 9) to examine the crew members' civic literacy practices during their work sessions. I analyzed how crew members' acts of negotiation mediated their civic identities and the production of social space. Further, I explored how the permeability of space at the YSC afforded the TC members opportunities to utilize their lived experiences, emotions, critical engagement as civic literacy resources. I found that the ways in which crew members enacted civic literacies through embodied and critical literacies to be representations of how the civic technology project was engaging, youth-centered, and agentive for the youth. Engagement afforded participants with symbolic capital in regards to cultural and knowledge production (Bourdieu, 1977). Through embodied and critical literacies, the TC members became authors of themselves as civic actors in meaningful and agentive ways. The permeability of social space at the YSC shaped the production of their civic technology tool and their collective and individual civic and educational narratives.

Implications for youth organizations that seek to promote civic literacies. The findings from this chapter reveal how the TC's work within the social space of the YSC contributes to the efforts of educators and scholars in the field of civic learning and civic action that are re-envisioning alongside young people what it means to promote and enact civic literacies. Further, it addresses the gap between the literature of civic learning and civic action, digital media literacy and critical literacy. It serves as an example of how community-based organizations can employ pedagogical and human design based methods that strike a balance between planning and facilitating civic literacy activities that teach youth the technical skills needed to take civic action, and simultaneously create

a permeable social space that allows for unanticipated and emergent youth generated critical and embodied civic literacy practices.

In the case of the TC youth, their civic literacies were multilayered. Their enactment of civic literacies explicitly connected to qualitative research and digital media literacy skills such as designing interview protocols, analyzing data, and video production. Additionally, the permeability of social space at the YSC allowed for an ease of movement between different discourses and identities. The youth and adults at the YSC lived out a "continual interplay of agency, structure, and context" (Lather, p.101) or what Derrida calls a "becoming space" (1991, p. 27). Literacy scholar Vasudevan (2015) contends that "pedagogical nimbleness" (p.10) on behalf of educators, helps to facilitate spaces that allow for multimodal and embodied literacies to surface. She contends, "to look at being and becoming is to consider any given moment for both what it is but also from whence it came in to where it is leading" (p.11). Malik and Phil's emotive expressions through their movement and musical play via their bodies help to conceptualize the "becoming space" (Derrida, 1991, p. 27) that existed at the YSC. This "becoming space" allowed for "relationships, questions, literacies, narratives, and forms of being/becoming" to take root (Vasudevan, 2015, p.9). What's more, Malik and Phil's emotive musical expressions led to their production of the soundtrack for the *What's Werk?* video trailer. Thus, their bursts of artistic creativity during the crew meeting lived on into the future not only as parts of the storied identities of their past and future selves but also within this artifact.

What does civic identity mean to the TC members?

In Chapter Six, I addressed the final research question: What does civic identity mean to the TC members? In this chapter, I discussed the civic identities of TC members Helina and Malik. I used Massey's (2005) third proposition of space as "always under construction, and always in the process of being made" (p. 8) to discuss the multiplicity of their civic identities within the social space of the YSC and throughout their participation in the civic technology project. Via Helina's and Malik's stories, I described three themes of civic identity formation: civic identities within a both/and standpoint; civic identity formation within sites of "throwntogetherness"; and civic identities enacted through digital media. This chapter ended with a discussion about space as always under construction and open at the YSC, which I argued nourished Helina's and Malik's sense of belonging within multiple communities of practices: the YSC, the civic technology initiative, and as members of their home communities.

Implications for youth organizations that seek to leverage the both/and standpoint of youth participants. Through this civic technology project, the TC members developed a consciousness of their duality as both a standard museum employee and a member of marginalized communities. Helina, Malik, and the other TC member's experiences as participants in the civic technology project provide important insight into how youth civic engagement organizations can leverage the assets of marginalized youth's sociocultural backgrounds. More specifically, the findings illuminate how youth coming from marginalized social locations bring forth a "bifurcated consciousness," that is the capacity to perceive things both from the standpoint of the dominant and from the viewpoint of the oppressed, and therefore to reasonably evaluate both perspectives (Collins, 2000; Smith, 1974). For instance, in the TC's civic technology

project, Malik adeptly constructed civic notions of himself as a young economist and merged this within his surfacing civic identity as a young critically conscious Black man. Using both/and standpoint theory in this chapter, helped me understand how the TC members made sense of their civic identities and how their civic identities coalesced and spoke back to broader discourses around race, class, and gender. As some scholars in the field of CLCA have demonstrated (Kirshner, 2015; Rubin, 2007) the social location of marginalized youth and adults offer understanding that may be different from "those who traditionally 'own' conversations" about civic knowledge, civic action, and digital technology production" (Garcia, Mirra, Morrell, Martinez, & Scroza, 2016, p. 164). Anh, relied on her own, as well as the TC youth's standpoint, throughout the human-centered design process. In turn, local leaders in the civic technology initiative, such as Erica (the director of the civic technology project), began to recognize the significance of their work and specifically noted the importance of their voices within the local civic technology and design community. Erica shared the following with the TC members during a reflection meeting, "You all have really pushed the way that civic technology is developed into a different place, and we're [the Center] going to be doing some writing and some communicating out about how you did it and what came out of it and so your perspective is really important in helping to fill out that story" (Audio Recording, November 22, 2014).

In sum, I believe that it is the perspective of youth from marginalized communities that will help educators and researchers in the field of CLCA to understand more the nuances of marginalized youth's civic participation. The paths that the TC members navigated as employees of the SM and in their personal lives reveal the harsh

reality of the evolving socioeconomic and opportunity divides in the United States. Because of (and despite) this, staff at the YSC worked hard to collectively create a social space that taught youth the technical skills of STEM and work-readiness skills, engaged young people in consciousness-raising activities, and took action alongside youth within community-engaged research projects. In Malik's case, through his experiences at the YSC, he not only gained design and entrepreneurial skills, but also became civically engaged in meaningful ways.

CLCA researchers Garcia et al. (2015) declare that “it is urgent that spaces be created that build critical literacy practices with youth, as these can provide a critical counternarrative that challenges dehumanizing policies and practices that disenfranchise the youths’ communities” (p. 165). I believe that by drawing on the wisdom that emerged from the both/and standpoint of YSC youth, the adult staff enacted a pedagogy that promoted civic learning and civic action through critical literacy engagement. Youth at the YSC were able to make sense of their social location and the unjust conditions in their community all the while learning the technical skills needed to take civic action, which opened up space for them to become important agents of social change.

Implications for Research that Seeks to Understand

Youth Civic Identities and Literacies

Civic identity and civic literacies are somewhat separate in scope yet always interrelated. By making connections between social space construction, civic agency, identity, and literacy throughout this dissertation, I endeavored to make more meaningful and relevant the discussion of the effects of social space construction on youth’s civic identity and civic literacy practices. Although, Massey’s social spatial theory provided

me with concepts that illuminated the TC youth's civic literacy practices in the YSC space, in a lot of ways, this study only begins to scrape the surface of how social-spatial theories can be applied to literacy research and particularly in this case, civic literacy research. However, I believe using Massey's theories on social space as a theoretical lens allowed me to dig below the surface and understand in much more complex and nuanced ways how the TC member's civic literacies as enacted through acts of listening in, embodied and multimodal practices, and through youth generated critical engagement cultivated both their civic identities and constructed social space. Further, conceptualizing social space as a lived experience enhanced my understanding of how the YSC as a youth community based organization was organized—in all its complexity—to support youth and their civic identities and practices in ways that serve them, their families, and their communities, rather than the communities that oppress them.

Conclusion

In this dissertation, I provided an alternative narrative to dominant ideologies of civic identity and investigated what civic identity meant to the TC youth. The findings from this dissertation, the relationships I have built with youth and adults at the YSC, and the multiple facets of collective work that emerged by way of this project are imperfect and unfinished, but I believe they are steps towards resistance and social justice. Further, and perhaps, most importantly, the permeability of the YSC as a “becoming space” inspired and fostered critical civic literacy practices that transformed the social space and civic identities of the TC youth. I see this permeability as the greatest potentiality to transform civic literacy practices and pedagogies in non-formal digital media learning settings.

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Appendix A: Transcription Conventions

General Transcription Meaning ¹³	Meaning
Participant (i.e. Maggie, Phil)	used to mark the beginning of the turn of the interviewer
Ellipsis (. . .)	time lapses between transcription excerpts
Brackets in body of text []	my own comment or to explain something that the interviewer/interviewee didn't fully say or might be doing related to discourse (e.g., gestures)
Double period (..)	slight pause by speaker
<u>Stress & intonation contour</u>	underlined words represent major pitch movement where the focus of the intonation contour is physically marked by a combination of increased loudness, increased length, and by changing the pitch of one's voice

¹³ Adapted from Tracey Pyscher's (2015, p.47) and Gee's (2014) transcription conventions (p. 127-147).

Appendix B: Open Codes for Research Questions

Research Question	Open Codes	Examples
RQ1: How do the multiple pedagogies and Discourses of the SM and the YSC shape the social space?¹⁴	Movement of bodies Movement of furniture and objects Movement between virtual and physical contexts Plurality of language use Talk/jokes about race Talk/Jokes about gender Critical Literacy Multimodal production Multi-tasking with digital tools Youth hanging out at the YSC before/after their work shifts Layering literacy practices Intergenerational space Pedagogies of resemblance	Over a 20-minute period, Phil moved back and forth between sitting and standing 11 times. All chairs, white boards, and tables were on wheels. Youth and adults used digital tools freely during work time. AAVE, Hmong, Spanish, and other youth culture discourses were used. Michael came in early to use computers before work. Phil stayed after to use the recording studio. Lack of women in STEM. Heaven saying “Women Power” to Ubah when she complimented her on a task.
RQ2: How are the TC members enacting socio-spatial civic literacies?	Care shown between youth and adult participants Laughter Banter Playing with music Use of YSC digital tools for professional and personal reasons Emotions mediated through bodies and objects Codemeshing Expressions of affinity Youth positioned as qualitative researchers Youth positioned as tech designers, grant writers, music producers, videographers	“Cause adults are basically looking at your negatives. But here in the YSC, it’s different. Anh is looking at your positives and they’re making you change.” –Helina Joking happens 5 times within 12 minutes of a crew session. Michael taking meeting notes on Google drive, on Instagram on his phone, and choosing background music during TC meeting. Malik’s book. Phil and Malik dancing during breaks. Phil flipping chair over and over during work meeting.

<p>RQ3: What does civic identity mean to the TC members?</p>	<p>Critical Consciousness/Activist Stance, Counter narratives of race, gender, and class Entrepreneurial Stance/Market-Based Economy Part of a “movement” Carrying along a community as they achieve success Part of a capitalist “global system/economy” Learning how communities and individuals (teens of color) can work within a “global system” “We” centered “I” centered Imagining a better world for “us” (kids/adults of color/low income families) Imagining individual success and upward mobility within the system</p>	<p>Youth voicing they are part of a “movement”</p> <p>Helina using video production skills learned through civic tech tool to produce video for/about young women of color in her community.</p> <p>Malik becoming an entrepreneur/designer of a “civic tech tool,” emphasis on the tech skills and what that means for individual upward mobility and him becoming “financially literate.”</p> <p>Both/And standpoint</p>
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Table 2: Open Codes for Research Questions

Appendix C: Sample Focal Youth Interview Protocol

This interview will focus on your role and practices as member of the Teen Tech Crew. It should last approximately 60 minutes. As I mentioned previously, I will be recording this interview so that I can devote full attention to what you are saying. If you would like the recorder turned off at any point in the interview, please let me know and I will turn it off. I am the only person who will have access to the voice recording, and I will destroy the recording at the end of this study. I want to emphasize that your participation in this interview and this study is completely voluntary, without risks, and that you may withdraw from the study at any time without penalty. If you do choose to withdraw, data collected with your assistance will not be used. If you do not have any questions at this time, I'd like for us to begin the interview.

1. If you could just come up with a word that describes the TC what would it be and why?
2. How did you become interested in the TC?
 - a. How did you hear about it?
 - b. What lived experiences in your life have influenced your choices to be here?
3. Describe the hiring process for the TC
 - a. What was the application process like?
 - b. What was the interview process like?
 - c. How did you prepare for the interview?
 - d. Is this the first job you ever applied for?
4. Describe your current position as a TC member
 - a. Tell me about the work you did this spring leading up to the civic technology project.

- b. What strengths do you bring to this position?
 - c. Tell me about how the TC members work collaboratively on projects
 - d. Tell me about how the TC members work individually on projects
5. The mission statement of the TC is: “To bring visibility to community issues and empower youth through technology.” Describe how the TC members came up with this mission statement.
- a. Tell me more about what it means to empower youth through technolog
 - b. Tell me more about what it means to bring visibility to community issues
 - c. How is this mission statement relevant to the current civic technology project of the TC?
 - d. How would you define the word “community”?
6. I have heard both the TC manager and the YSC Program Manager talk about the crews using the tools of STEM for social justice work in the community. What do you think about this?
- a. What social justice work is the TC taking up in the community?
 - b. Do you think this is important? Why?
7. Describe your current civic technology project?
- a. How did you decide on the community issue to address?
 - b. Tell me more about the Human Centered Research Design Method.
 - c. What role does the TC manager play in this process?
8. What skills are necessary to participate in the civic technology project?
- a. How did you learn these skills?
 - b. How are TC members learning from each other in this process?

c. What digital technology tools are you using in this process? How did you learn to use these tools?

9. In your own words what is a civic technology tool?

10. Describe the friendships or relationships among TC members.

11. Describe the relationships between TC members and adults at the YSC.

12. The mission statement of the YSC is to empower young women and young people of color to change the world through science. In your opinion, how is the work of the TC empowering young people to do this?

a. Do you feel empowered within your work with the TC? Why or why not?

b. Do you think other young people in your community feel empowered by your work? Why or why not?

c. How would you describe diversity at the YSC? How does it connect to the mission statement? How does it affect you work with the TC? Does it matter to you?

d. Do you think race, ethnicity, or gender is talked about at the YSC? Why or why not?

e. Do you think it is important to talk about race, ethnicity, or gender at the YSC?

13. Did you participate in the Youth Science Day? If so, tell me more about this event.

a. Why is this event important?

b. How does this event connect to the mission statement of the YSC?

c. How does this event connect to the mission statement of the TC?

Appendix D: Sample Adult Interview Protocol

This interview will focus on your role and practices as crew manager of the Tech Crew. It should last approximately 60 minutes. As I mentioned previously, I will be recording this interview so that I can devote full attention to what you are saying. If you would like the recorder turned off at any point in the interview, please let me know and I will turn it off. I am the only person who will have access to the voice recording, and I will destroy the recording at the end of this study. I want to emphasize that your participation in this interview and this study is completely voluntary, without risks, and that you may withdraw from the study at any time without penalty. If you do choose to withdraw, data collected with your assistance will not be used. If you do not have any questions at this time, I'd like for us to begin the interview.

1. If you could just come up with a word that describes the teen tech crew, what would it be and why?
2. Tell me more about how you became interested in applying for the position you hold right now?
 - a. What lived experiences in your life have influenced your choices to be here?
 - b. What expertise do you bring to this work?
 - c. What is your background in the field of education and digital media production?
 - d. What is your experience participating as a youth worker in out of school settings?
3. Describe your current position at the YSC?
 - a. What does a typical day look like?

- b. What strengths do you bring to this position?
 - c. Who do you work most intimately with?
 - d. How do the youth (i.e. the Teen Tech Crew members) influence your position and work?
 - e. How much of your time is allotted to the TTC work?
4. The mission statement of the TC is: “To bring visibility to community issues and empower youth through technology.” Describe how the TC members came up with this mission statement.
- a. How do TC members engage in with this mission statement?
 - b. How did TC members contribute to the process of creating the mission statement?
 - c. How did you engage in the process of creating the mission statement?
 - d. Tell me more about what it means to empower youth through technology
5. How is this mission statement relevant to the civic technology project?
6. I have heard you talk about the TC crew’s using technology towards social justice action in the community. Tell me more about this.
- a. What social justice work is the TC taking up in the community?
 - b. Do you think this is important? Why?
7. Describe the current civic technology project?
- a. How did the TC decide on the community issue to address?
 - b. Tell me more about the Human Centered Research Design Method.

- c. What role do the TC manager play in this process?
 - d. Do you consider this project to be youth-led? Why or why not?
8. The civic technology project is production-centered (i.e. TC members actively participate in the creation, design, and production of the civic-tech tool) what skills do you think the teens are gaining through this process?
- a. How did the TC members learn these skills?
 - b. How are TC members learning from each other in this process?
 - c. What digital technology tools are TC using in this process?
 - d. How did they learn to use these tools?
9. What skills and expertise do you bring to the project?
- a. How do you share these skills and expertise with TC members?
 - b. Where did you learn these skills?
10. Describe the relationships between TC members and adults at the YSC.
- a. Describe your role as “adult mentor” with the TC members.
 - b. Describe your role as “boss” with the TC members.
 - c. Describe any shared interests or passions that you have with TC members.
11. The mission statement of the YSC is to empower young women and young people of color to change the world through science. In your opinion, how is the work of the TC empowering young people to do this?
- a. Do you feel empowered within your work with the TC? Why or why not?
 - b. Do you think other young people in your community feel empowered by your work? Why or why not?
 - c. How would you describe diversity at the YSC? How does it connect to the

mission statement? How does it affect you work with the TC? Does it matter to you?

d. Do you think race, ethnicity, or gender is talked about at the YSC? Why or why not?

e. Do you think it is important to talk about race, ethnicity, or gender at the YSC?