UNIVERSITY OF CALIFORNIA,
IRVINE

Disciplining Play: Education and Youth Culture in the Twenty-First Century

DISSERTATION

submitted in partial satisfaction of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

in Sociology

by

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Dissertation Committee:
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2016

DEDICATION

To

my family and friends

in recognition of their worth

A Man may make a Remark –
In itself – a quiet thing
That may furnish the Fuse unto a Spark
In dormant nature – lain –

Let us divide – with skill –
Let us discourse – with care –
Powder exists in Charcoal –
Before it exists in Fire -

Emily Dickinson
"A Man may make a Remark"

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ACKNOWLEDGMENTS

I embarked on this project with a set of assumptions about the relationship between teachers and their students. Youth culture exists in large part due to the fact that adults treat children's interests as marginal to the more "real" and fully developed truths of the adult world. As Jacques Rancière once articulated in *The Ignorant Schoolmaster*, teachers are among the longest arms of this ideology.

The faculty who welcomed me into their classrooms helped me realize that adult ignorance was a vastly insufficient explanation. Their candid reflections on the experience of teaching made clear to me just how complicated the relationship between teachers and their students is. They provided me with a new vantage point on theories of youth culture and education. I also left the field with a newfound admiration for the profession of teaching, a difficult and underappreciated path that my respondents all chose because they shared a deep commitment to helping young people.

I also thank the youth whom I interviewed for this study. They challenged my assumptions about the uniform experience of youth culture. But they also confirmed what I have known all along – that children are creative, smart, and thoughtful people no matter their life circumstances. Their potential is ultimately what motivates my work.

My dissertation committee, Cynthia Feliciano, Francesca Polletta, Ann Hironaka, and Mizuko Ito, provided inspiration and support long before I asked them to convene for this thesis. I will no doubt continue to turn to their work for years to come when I need models for theoretical synthesis, research design, and writing. My thinking and research approach has been profoundly shaped by their mentorship over the course of graduate school.

I must also additionally thank Mizuko Ito for including me as a researcher with with the Connected Learning Research Network throughout the duration of my graduate career. Through this work I gained invaluable academic and professional training, met brilliant scholars of digital youth culture and learning, and received generous financial support that sustained my enrollment.

This project has benefitted considerably from the thoughtful feedback provided by my friends and colleagues in the social sciences. Thanks to Britni Adams, Jacob Avery, Melissa Brough, Luka Carfagna, Jessica Kizer, Ksenia Korobkova, Crystle Martin, Paul James Morgan, Kelly Nielsen, Lisa Nunn, Andrew Penner, Cassidy Puckett, Amber Tierney, and Amanda Wortman. I extend a special thanks to the members of "Cynthia's Clubhouse," a dissertation writing group that Mariam Ashtiani, Edelina Burciaga, Yader Lanuza, and myself referred to endearingly. My work has improved substantially as a result of the in-depth feedback I have received from this group.

Lastly, I owe my persistence through both this project and graduate school to my family, Anne and Jenny Herron, Peter, Jenna, Eva Marie, and Mildred Rafalow. I would not be here were it not for their unyielding support.

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PUBLICATIONS

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ABSTRACT OF THE DISSERTATION

Disciplining Play: Education and Youth Culture in the Twenty-First Century

By

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Doctor of Philosophy in Sociology

University of California, Irvine, 2016

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This dissertation examines how schools exacerbate inequality in the digital era. Existing educational research argues that one reason social stratification persists is that privileged children develop valued cultural competencies as a result of class-based differences in parenting. However, we are at a point in history when children, regardless of social origin, develop competencies with digital technologies through online play with peers. Does this mean less privileged children are no longer disadvantaged in their use of digital technology at school?

I use comparative ethnographic data collected in three middle schools to show how teachers treat students' online play. Contrary to Bourdieuian perspectives of social reproduction that emphasize the role of parenting in providing students vital resources for educational success, I document the role played by teachers in determining whether kids' digital play is an educational asset or not.

This disciplinary process occurred through teachers' messages to children about the value of the skills they developed in play online with peers. I find that at a school for mostly

wealthy and White children, teachers actively encouraged, if not required, students to communicate online, use social media, and share video game creations as a part of school success. At a school for mostly middle-class and Asian-American children, teachers reprimanded and sanctioned students for the exact same types of activities in favor of traditional learning activities like exams. Lastly, at a school for mostly working class and Latino youth, teachers communicated that online play was irrelevant to achievement, instead emphasizing the development of basic digital skills for twenty-first century vocational work. School-level approaches to kids' digital play differently enabled the use of digital youth culture for educational success.

A likely consequence of this variability in how teachers discipline play is that children were differently prepared for their next steps as students. Only privileged students received training to geek out and mess around with digital tools as part of a learning agenda. Schools provided early training grounds for kids to see learning as either a space to create and share or, instead, simply as only an activity where students were consumers of teachers' lessons.

INTRODUCTION

Schools have long been positioned as producing the next generation of innovators, makers, and tinkerers. Education reformers routinely cite the importance of cultivating children into pioneers who will lead the nation as we compete globally in commerce, industry, and science (National Commission on Excellence in Education 1983; Tyack 1990). But innovation looks different today than it did even twenty years ago, before digital technologies unsettled many sectors of industry and filtered into the everyday lives of people around the globe. Today, educators ask, "What would Steve Jobs do?" (Porter-Magee 2012; Reed 2015; Sander 2011).

Contemporary stories of success often include technology gurus and corporate leaders like Steve Jobs and Steve Wozniak (Apple), Sergey Brin and Larry Page (Google), and Mark Zuckerberg (Facebook). These leaders are thought to have ushered in an era where creativity is the currency needed for students to be successful and transition into a startup-saturated labor market. The metaphor of Steve Jobs' infamous garage is now one that pulses through stories about the twenty-first century capitalist ethos. Despite Apple co-founder Steve Wozniak's public discrediting of the garage's existence, it stands as a representation of the value of creativity and hard work, particularly during one's early adulthood (Fadiciccio 2014). As I find in my research, notions of the garage have trickled into the minds of teachers, too, as they piece together a digitally-inflected *bildungsroman* that both aligns with educational goals and makes clearer a path to success for their students. But the logic of the garage metaphor suggests that talent can be found anywhere, and schools are thus tasked with ensuring that less privileged students can be tinkerers, too, if we have any hope of maintaining our global position as leaders of industry. "Talented

people are slipping through the cracks," said President Obama in an address about the role of schooling in the digital age. "A new generation of innovation depends on a new generation of innovators" (Obama 2009).

The result of this has been a nationwide effort to close gaps in access to technology, also known as the digital divide, in a move to give young people from all pockets of society the opportunity to develop and share their talents. Schools are exponentially ramping up for the digital era with both curricular reforms as well as investments in high-quality hardware and software. Through the assistance of local, state, and federal grants, as well as corporate philanthropy, school districts spend $17 billion annually in instructional technology (Rotella 2013). The exact technologies purchased vary widely by district, but often include high-speed internet access, hardware like computer labs, mobile devices like laptops and tablets, interactive whiteboards, and software like online learning management systems, electronic student portfolio databases, grading tools, educational games, and licenses to file sharing services. Longitudinal studies on the state of the digital divide in education show that these investments are working (NTIA 1995; 1998; 1999; 2000). The biggest disparities in access to necessary hardware and software, both at the school-level and among families, have shrunk dramatically in recent years. For education reformers, the holy grail of one laptop per child is a more likely reality than ever before.

Nevertheless, some worry that access isn't enough. Academics argue that a "digital skills gap" is looming. Studies increasingly report that people exhibit different capabilities with technology that may matter down the road, such as proficiency with typing, programming, or even how to search for valuable information online (Hargittai 2001; Hargittai and Hinnant 2008; Hargittai and Shaw 2014; Freese, Rivas and Hargittai 2006;

van Dijk 2005). Already disadvantaged youth may arrive at school without the digital literacies needed for success. The skills gap, these scholars contend, illustrates how too narrow a definition of the digital divide obscures patterns of differentiated use once these technologies are more available.

A recent school technology rollout, however, suggests that the issue in part may be what skills are counted as valuable for educational achievement. When in 2013, Los Angeles Unified School District (LAUSD) signed a $30 million deal with Apple to buy iPads for its 650,000 students, the district believed it was curtailing a major obstacle for learning. Superintendent John Deasy heralded the move as a civil rights initiative designed to give students, mostly minorities from low-income families, access to a tool needed for success in the twenty-first century (Dobuzinskis 2013). Within a week of the rollout, students found ways to bypass security software so that they could access social media like Facebook and Twitter, and watch videos on YouTube. These hacks made national news. Rather than explicitly use the school-provided iPad for standardized tests and to do homework, students also wanted to use it for fun. As a result, the iPad initiative was deemed a complete failure (an "iFail"). iPads were revoked, a lead technology integrationist at the district resigned, and LAUSD demanded their money back for Apple's inability to protect the purchased hardware from their own students. For the district, fun was a major threat to proper learning.

What's interesting about the LAUSD iPad debacle is that gaps in students' skills were not the issue. Students actually were skilled enough digital tinkerers to bypass software created by sophisticated programmers. And reports suggest, too, that these students were pro-social enough to teach each other how to modify the software so they could play with

their friends online. These activities do not seem much different from Steve Jobs' fabled garage pursuits: young people peeked under the hood of the hardware and worked diligently to modify the platform for their own purposes. Students found creative ways to repurpose the iPad and make it more relevant to them. Why are these students described as "hackers" and not innovators?

The question of who gets to be an innovator seems worthy of exploration. Under pressure from activists, Silicon Valley released reports that show the profoundly unequal distribution of employees in major technology companies. In 2014, Apple, Google, Facebook, and Twitter were 70% male. Less studied are racial-ethnic divides: at Google, for example, only 3% of its workers are Hispanic and 2% are Black (Guynn and Weise 2014). Although these statistics do not show the socioeconomic origins of its workforce, they suggest a problem of representation along lines of gender, race, and likely class. Critics argue that that the primarily White and male Silicon "bubble" is a major problem not only for equality but for capitalism in general (Guynn 2015). If White and male designers' creative visions are limited to their milieu, then the remaining 69% of the United States population is marketed digital innovations that aren't particularly innovative for their life circumstances. Both activists and capitalists would agree, then, that diversity in the tech sector is important.

But where confusion still arises is why so few minorities make it into this high-tech innovation space. Hiring managers in the tech sector cite the same digital skills gap that academics worry about, claiming that there are few talented prospects to fill out their ranks. But as I try to imagine students' pathways to roles as tinkerers I keep thinking back to the "iFail" at LAUSD. These largely working class, Black and Latino youth clearly show

signs of nascent digital skills, perhaps as a consequence of their out-of-school, peer-driven activities with friends online. What do teachers and administrators, many of whom are likely to be less digitally adept than their pupils, think of their students' digital youth culture? Do they see young people's creative tendencies online as valuable for school, or not? If they do, how exactly are teachers able to cultivate students' innovative potential in practice? And where do teachers' notions of students-as-innovators come from?

In order to assess whether and how schools are preparing students for the digital age, we need to take a careful look at day-to-day life in today's technologically-equipped classrooms. We need to assess how teachers at these schools conceive of the value of digital technology for achievement and use them during instruction. Digital divides, while worrisome, are only one roadblock to students' potential, and documenting teachers' perceptions and practices will enhance our understanding of innovators' geneses beyond more simplistic garage theories.

But we also need cases for comparison to try to get at potential obstacles faced by minorities and those living in poverty. Meaning, we need to see if schools with high quality technologies that vary demographically invoke similar or different perceptions of students' digital culture and capacity as innovators. And we need to assess where these classed and racialized perceptions come from without falling into familiar tropes that blame individual teachers for discriminatory beliefs.

In this dissertation, I wrestle with these questions and ultimately make two claims that build on existing scholarship on education, technology, and innovation. Most contemporary theorizing about digital divides focus on the importance of fostering in students key digital skills for success, like online collaboration and computer programming.

If teachers are better able to transmit these skills, scholars argue, then students have a better shot at maximizing their potential in a technologically sophisticated labor market. Schools should capitalize on digital learning technologies, like educational games, and provide opportunities for youth to become "makers" by learning how to make electronic textiles or tinkering with arduino kits.

Without denying the value of these learning experiences, I argue that the way educational institutions cultivate innovators is through their capacity to discipline play. Digital youth culture is rich with new ideas, forms, and styles. But schools set the terms for whether students can mobilize their playful digital pursuits for achievement, and they do so differently by student class and race. Teachers invoke styles that punish or render irrelevant signs of minority and working class students' digital play. By contrast, they actively integrate privileged students' digital youth culture in class for learning. I find, however, that disciplining play is not just how teachers determine whether students' digital forms matter or not for success. It's how adult-run educational institutions, in part, adapt to the digital age. By at once repressing digital forms from minority and working class youth and consuming hip digital youth culture only from privileged students, educational institutions are able to subordinate *and* innovate.

But disciplinary orientations to digital youth culture and play come from a complex mixture of perceptions and expectations within the school setting. This is the second claim I put forth. Teachers certainly bring with them to school beliefs about students that they developed during childhood, during their education, and in other parts of their lives. But schools have their own cultures, too. Just ask any teacher to share some of the "war stories" about their work in different teaching environments. Schools are micropolitical contexts

host to a shared set of expectations that inform how teachers perceive one another and even their own pupils. I find that orientations to students' play emerge from how teachers link together both school-specific norms and the diverse sets of beliefs they bring from their own milieu. For example, teachers trying to get by in a hostile work environment see their peers and their students as threats, and then link these expectations with racialized images of Asian students as hackers rather than model minorities. Teachers at a school that fosters family-like support among faculty and in teaching see their Latino students as benevolent and hard-working immigrants rather than future gang members. The dynamics of school workplaces render "sensible" particular racialized, classed, and gendered imagery that teachers use to construct their students, and drive the very orientations to play that enable or constrain opportunities for student innovation.

Education reformers, practitioners, and families who want the best for their young people are keen to prioritize the closing of digital divides at school in order to maximize students' potential. Adults probably assume that as "digital youth" students will pay more attention in class and learn key digital skills if high quality education technologies are more available. But we know less about how innovation works than we think. It's not just about the skills. Schools organize the sandboxes upon which ideas get circulated, elevated, or shot down. The playful experiences young people pursue online among their peers are differently welcomed by schools and in ways that inform their affinity as creative producers within institutions.

Innovation and Play

Play is a subject of theoretical interest for philosophers, educators, and contemporary technologists. Plato argued that play is the best means by which children

voluntarily learn "law-abiding" mores (Plato 360 B.C.E.). Huizinga, also writing on ancient cultures, saw play as among the purest aesthetic events, a means to express the capacity of the mind and in ways that allow people to leave their mark upon the world (Huizinga 1955). This "mark" on society, as play theorists suggest, is essentially innovation. It's no surprise, then, that play periodically emerges in history as a valued social practice for learning and novelty in business.

Michael Schrage, a lead technologist at the MIT Media Lab, advocates for taking play to the everyday work settings where digital tinkerers inhabit (Schrage 2000). He uses the example of prototyping as a case for the benefits of play in corporate environments. Prototypes, as the basis of new products, are imagined representations for things to make. But he finds that companies share different approaches to prototyping that vary by how they select who gets to play with them to come up with new ideas. When companies take play *seriously*, he argues, they construct prototyping scenarios that consider the value-added of the players and the learning affordances of frequent (and early) failures. Innovation happens when players voluntarily and eagerly participate in drawing up and revising mock-ups of new possibilities.

Scholars of youth culture take play seriously, too. In the largest mixed methods study of its kind, Mizuko Ito and her colleagues document how digital technologies, when located in the hands of young people and the playful pursuits of their youth cultures, can become artifacts for new innovations (Ito et al. 2009). Through digitally mediated play, young people "hang out" with their peers online and "mess around" with digital tools necessary for using these online sites for engagement. For example, youth use image, audio, and video editing software to remix and share their favorite media from popular culture, or

tinker with design and programming embedded in online applications to find new ways to play video games. Those youth who maintain strong interests in a given activity are more prone to "geeking out," or prototyping and developing new cultural forms online that others can benefit from and celebrate.

What I take from play theorists is that play, as a social practice, represents engagement with social structure. It is a process whereby players can go under the hood of the car and see, if even for a moment, what makes society work. Take for example a young person playing *SimCity 2000*, a city-building simulation game. In a study of the game's use for learning, Ito (2009) describes one scene where a youth playing the game tries to save money for his city by cutting all tax revenue from public services, like Fire Departments. Although the youth enjoyed short-term gains in city income, he found himself at a loss when a fire in the corner of his city was uncontainable and, as a result, he suffered more financial losses in the long term. Gameplay presented opportunities to see relationships between social structures, like financial policies and government entities, and outcomes like urban disasters. Players, too, can hit the reset button and start over to imagine a new reality with different structures in place that govern city life. Rarely, in our day-to-day lives, do we have the luxury of a reset button. Games can provide players with sociological foresight.

But scholars also know that play can be constructed in different ways and for different purposes. Play can be used to exert social control. Marx, like play theorists, believed that humans possess creative impulses that bring great potential for connection and understanding (Henricks 2006; Marx, Engels, and Tucker 1978). But he argues that those impulses are often controlled by powerful people who inhibit both equality and

innovation. In his time, Marx saw technology in an age of industrialization, where workers were coerced into seeing the value of technology as a means for material production to capitalist ends. But we can imagine use of digital technologies following a similar logic. Rather than prototype innovations that abet the ails of society, programmers could become a new generation of mindless worker bees to supplement the ends of major tech companies. Instead of providing opportunities for everyone to play, perhaps only a privileged few could become twenty-first century makers and tinkerers. Working class and minority youth may have great creative potential, but they may participate in the innovation process only as rule-followers rather than game-changers. As I will argue, Marxist perspectives hold a lot of truth for the reality of schooling. Play's value varies depending on school context, and with different effects by student class and race.

Play at School

While Marx suggests that creativity and play can be usurped by institutions, sociologist Pierre Bourdieu provides some direction as to how schools might do this in practice (Bourdieu 1983; 1984; Bourdieu and Passeron 1977; Bourdieu and Wacquant 1992). For Bourdieu, institutions constitute social fields, or "arenas" with their own "rules of the game," or expectations for ideal participation, that structure rewards and punishments based on participant behavior. In the educational field, student behaviors that meet these institutional expectations are considered successful deployments of cultural capital, a cultural "currency" that gets rewarded by teachers. Through childrearing, parents transmit these competencies to their children and these children then deploy those competencies in the classroom to get ahead (Calarco 2011; Lareau 2000; 2011; Lareau and Weininger 2003).

Rather than see schools as meritocracies, Bourdieu argues that the game is fixed. He contends that the "rules" of the educational field are controlled and subtly executed by the dominant class of citizens. Cultural competences that are valued by the dominant class are thus expected of students and only provided to privileged youth during their childhood. Minority and poor children come from families of a different milieu than the dominant class, and as such develop different beliefs, practices, and styles that do not meet the "rules" of the educational field. Research shows that these class- and race-based differences result in systematic patterns of stratification in educational achievement. This view would suggest that parents are a key mechanism for social reproduction in the digital age. Privileged parents teach their children digital practices and styles that would then be recognized by schools as cultural capital and rewarded, whereas less privileged parents would teach their children forms of digital expression that are not seen as valued cultural capital and are thus withdrawn from the school learning agenda.

To abet these inequalities, researchers argue that a solution for cultural mobility would be to provide disadvantaged children access to these idealized cultural resources to get ahead (DiMaggio 1982). Following the logic of Bourdieu's theory, education researchers lament that by early childhood privileged children have already developed many key literacies that kids living in disadvantage do not receive. If we could level the playing field by providing children from every family background needed cultural competencies for success, then disadvantaged youth could get ahead.

From a cultural mobility perspective, digital youth culture presents a terrific opportunity. First, research shows that there are major generational differences in technology adoption and digital participation over the last century (Zickhur 2010).

Although this will change as cohorts of youth age, young people are, at present, faster adopters of digital technology than older adults. Parents are not yet the source of students' digital skills. Bourdieu does not fully elaborate on what teachers might do if kids from various class backgrounds all share potentially valuable competencies for schooling. How might teachers not only validate but also benefit from the digital skills youth bring to school?

I will argue that play is one means by which institutions create opportunities for innovation and adapt. Teachers at privileged schools allow their students' digital play to interact with institutional ideals, effectively appropriating hip digital youth culture and updating school for the twenty-first century. Meanwhile, teachers at schools serving less privileged youth curtail such opportunities in favor of institutionally imposed games that subordinate students' creativity. Sociologists of education provide us with some clues as to how teachers do this in practice. Institutions control innovation through their capacity to discipline play.

Disciplining Play

Social reproduction theorists argue that institutions exert powerful control over the creative potential of young people. But these scholars get more granular about how schools might factor in to this process. To do this, they offer a definition of discipline that is somewhat different from more popular notions of finger-waving and ruler-rapping. As a consequence of class-and race-based attitudes towards students, schools differently imagine their students' potential. These shared beliefs among teachers are enacted through discipline. The term refers not simply to the correction of students' bad behavior, but also describes an institutional process that determines appropriate behavior and internalizes

norms in students. In this view, schools (and not just parents) transmit messages to students and in ways that inform classroom practice and even students' self-perceptions of academic worth.

Bowles and Gintis provide the most thorough explanation of how discipline works in school settings (Bowles and Gintis 1975; Giroux and Purpel 1983). Although primarily focused on social class (and not race), they argue that schools differently imagine labor market trajectories of their students. Through discipline, teachers give praise and rewards, like better grades, to students who conform to school-specific ideals. For those who do not, they instead punish the violators with lower grades and other signs of disapproval, like public shame. Here, discipline refers to *both* the rewards and the sanctions. Discipline is the means by which schools deposit, in students, a "built-in supervisor." Schools aid in the production of particular types of student consciousness.

Considerable work documents the various orientations to students that teachers exhibit as a consequence of shared beliefs about students' class and race. For example, schools that serve working class youth only provide guidance for how to obtain working class jobs. Schools serving privileged youth rather provide them with information about elite schools (McDonough 1997). In another example, Mexican-American youth are told their Mexican-influenced culture, including Spanish-language, Spanish-sounding names, and approaches to learning favored by Mexican schools, are useless for achievement in the United States (Valenzuela 1999). I later argue that research on teacher perceptions is more complicated by the fact that beliefs are shaped by organizational constraints. But ultimately social reproduction theorists' original argument still holds. Teachers imagine the potential of their students as they "fit" in a stratified labor market, and subsequently enact those

perceptions through instruction. What's fascinating is how teachers do this in the digital era: teachers told me that they, like many in our society, do not know what the economic future of our country will be during the digital age. They can only speculate. But their speculations linked to older models of the labor market and included who gets to be innovators and game-changers in that economy. Teachers then enacted those perceptions, with good intents, during their pedagogical practices with digital technologies. Through discipline, schools constructed students as particular types of technology users.

I build on social reproduction theories by illustrating how schools manage students' creativity by disciplining play. This study benefitted from a fascinating time when students, regardless of family origin, shared a similar baseline of digital skills as a consequence of digital youth cultural participation. Young people's digital play, like on social media and through video games, could be transformed by teachers into valuable cultural capital for achievement. More than that, teachers could learn from students. Discipline is the process by which teachers determined which students' digital play matters for school or not. Minority and working class students were told their digital play as either irrelevant or threatening to schooling, whereas privileged youth were encouraged, if not required, to play at school for success. As a consequence, students differently reported digital play at school as useless, anxiety inducing, or paramount for their development. And teachers at the privileged school started learning the ropes with digital technology from their students.

Teachers' Perceptions

In the first part of this dissertation I argue that schools differently discipline play in ways that shape students' ability to innovate within institutions. The second claim I make gets at where these disciplinary orientations come from. Although social reproduction

theorists correctly observe the stratified effects of schooling, they do not well substantiate the origins of teachers' imagined labor outcomes for their students. This matters because these perceptions are said to shape pedagogical practice.

Studies of teacher perceptions either locate beliefs within teachers' heads or, instead, as part of a shared culture specific to the school context. These studies, which date back to the 1960s, attempt to measure teachers' attitudes about student achievement and assess whether such beliefs vary by the race, class, and gender of the student (Brophy 1983; Entwisle and Alexander 1993; Wineburg 1987). Work in this line of thinking argues that teachers serving working class Black and Latino youth position their students as academically adrift threats with little chance for success. Black and Latino young men, especially, are racialized by faculty as "bad boys," and are subject to higher disciplinary sanctions than other children and subsequently have poorer educational outcomes (Ferguson 2001). On the other hand, teachers share beliefs about middle- and upper-class Asian-American and White students that position these pupils as intelligent and capable of postgraduate success (Diamond, Randolph and Spillane 2004; Lee 1996; Lee and Zhou 2015). Teachers construct Asian-American students as model minorities, emphasizing cultural assets obtained from their countries of origin. White youth, on the other hand, are not racialized like minority children are; their achievements are seen as individual successes rather than be attributed to race-based stereotypes.

However, much of this work on teacher beliefs lost its potency among education researchers because teacher beliefs are neither static nor all that predictive of student outcomes. Indeed, qualitative work highlights the diversity of racialized, classed, and gendered stereotypes that teachers draw on to construct their students. For example, just

as some studies report that Latino youth are constructed as underachievers and pseudo-criminals, others find that teachers see their students, particularly young Latinas, as hard-working immigrants trying to get ahead (Valenzuela 1999). And although much of the literature characterizes teachers' treatment of Asian-American youth as model minorities, other work suggests that Asian-American youth are perceived as rule-following laborers without creative potential (Duster, Minkus and Samson 1998; Gamoran and Mare 1989; Woo 1994). Recent news stories about cutthroat, overbearing "Tiger mom" parents present a different side to the narrative about the model minority stereotype (Chua 2011). Clearly, teachers' beliefs about students' race, class, and gender and not monolithic as earlier literature on teacher beliefs suggests; faculty draw from a repertoire of available cultural imagery and stereotypes when constructing most of their students. This may partially explain why early work on teacher beliefs was not well predictive of student outcomes.

I have found Swidler's theory of cultural toolkits to better conceptualize teachers' beliefs of students in the present study (Swidler 1986; 1997). Swidler challenges sociologists to think of culture as a repertoire, a "collection of stuff," that includes sets of beliefs, meanings, and worldviews individuals carry with them. In her view, the breadth of tools that are accessible to any given person is acquired from their milieu over the course of their life. Swidler wrestles with the fact that during the course of an interview people can have multiple, sometimes conflicting points of view. Similarly, as I find, teachers exhibit multiple constructions of Asian-American and Latino students as threats and also as achievers. Whiteness, however, remains invisible no matter the school context. Unlike minority students, White students' performances are seen as individual rather than a collective representation of their racial group.

What determines when a tool is applied for minority children? In other words, what determines when a teacher constructs a Latino youth as a hard-working immigrant rather than a future gang member, and why? Toolkit theorists speculate that institutional settings exert this calculus. Although education researchers have not, to date, explored the relationship between toolkits and the school environment, scholars are increasingly studying the importance of organizational culture among faculty to student achievement. To advance this argument, they contend that faculty share among them a set of structures, processes, and behaviors that govern their work with one another and with their students (Kruse and Louis 2009; Moller et al. 2013; Shein 2010). These norms are not necessarily brought by teachers to the school but are rather emerge from the history of the school and are situated in that particular setting. For example, scholars in this area identify how teachers share varying levels of collaborative orientations to their work depending on the school. Some schools promote help and feedback among one another, and others schools are more hostile. Interestingly, this largely quantitative work finds that faculty who share a collaborative orientation to one another exhibit fewer race- and class-based gaps in achievement for their students than do faculty with more hostile orientations.

In this dissertation, I provide needed qualitative analysis to explicate how and why workplace norms among faculty structure their orientations to students along lines of race and class. Interviews with teachers are ideal to extract not only teachers' beliefs about students but also their sources. As I note earlier, I find that teacher beliefs are better understood as cultural toolkits – faculty bring with them to school multiple, often contradictory beliefs about minority children as either threats of achievers. I then use ethnographic accounts to provide empirical support for how workplace norms structure

teachers' cultural toolkit selection for constructing their students. Each school in this study had its own distinct history and politics that accounted for how faculty collectively made sense of their experience in that particular work environment. Faculty described how this shared meaning system oriented them to one another by generation norms for the relationships they develop as colleagues. These norms created a path dependence that made the use of a specific tool to describe students commensurable. It is the mechanism that determines how students' play is disciplined as valuable or not for achievement.

The Study

While at present digital technology may be largely foreign to sociological research, schools are certainly within its purview. Sociologists of education employ the gamut of research methods to document and understand social life in schools, and ethnographic methods are valuable for capturing how structures operate in day-to-day life. When I embarked on this study, I was interested in exploring the relationship between youth culture and schooling in the twenty-first century. By looking at the school ecology, rather than just teachers *or* children, I hoped to capture interactions between people broadly connected to schooling and explore how they shaped the imagined value and uses of digital technology for achievement. My comparative approach also meant moving beyond a small set of classrooms to understand how schools may differently integrate digital technologies for learning.

This dissertation is based on in-depth "naturalistic" observations in three middle schools (two public, one private) that all have comparable, high-quality digital technologies available but vary by student class and race. Heathcliff Academy is a private school serving mostly wealthy and White students. Sheldon Junior High is a public school with mostly

middle-class, Asian-American students. And César Chávez Middle School has mostly working class, Latino students. All three schools were located in suburbs near a large, western city. Middle school is an understudied and yet important experience for students for both psychological and sociological reasons. First, it is portrayed as a critical period for students' identity development and a predictor for later academic trajectories in schools (Kinney 1993). Second, tracking is less likely to structure student experience as it typically occurs later in high school (Gamoran and Mare 1989). And third, middle school is increasingly targeted as a time for teaching key digital skills like online collaboration and production (ITSE 1997). I gained access to these three schools through direct outreach with the principles about participation as part of a larger study of schools and the deployment of digital technology for learning.

It is a lot of work to effectively document school life in three schools at the same time. (For further details about how the study was done, see the appendix.) At the beginning of the 2013-14 school year I began by interviewing as many teachers, administrators and staff as possible at each of the schools, thereafter observing interviewed teachers' classrooms on rotation until the end of the academic year. I typically spent a full day at one school (approximately six hours), and then a full day at another school. I randomized teachers' names to ensure that my observations distributed equally at each school. I ultimately draw from 67 interviews with teachers (reflecting approximately 80% of each school's teacher population), each typically lasting an hour. Most teachers were interviewed a second time by the end of the year to discuss questions that came up during observation.

As part of my fieldwork, I also attended faculty meetings and workshops, parent teacher and after school events, and I also observed faculty lounges and in student lunch areas. During the last few months of the study, I selected one "ideal type" eighth grade classroom at each school where the observed school-level patterns were strongest, and I randomly selected half of the students to interview. This yielded a sample of 40 students. These interviews took place at the school in a room or part of the classroom where the teacher or other students could not hear our conversations. While unable to interview most of the students at the school as I did for teachers and staff, this sampling method allowed me to speak with youth in classes that were best fits for the school-level themes that I identified.

Teachers often expressed to me initial worry that they themselves would not provide the best examples of classroom technology use. In fact, teachers at each school represented a very similar range of technology skill from novice to expert. When I introduced myself to teachers, I said that while I myself am "geeky" I believed that researchers have not well tried to understand teachers' own perspectives on both the opportunities and challenges of technology use in daily life at school. This often "broke the ice" rather quickly: I learned that teachers have many, many opinions about digital technology's usefulness and would often hear stories about technology "fails" and their wish-lists for new products ("…and you can go and tell *that* to Google!").

Teachers required considerably more "work" for me to slip into the background than did students. The potentially most obtrusive moments were during classroom observation, where I would sit in the back of the classroom behind the class. I worried that students might be concerned that someone was watching them, but soon learned that

classroom observations were a routine practice at each of the schools. At Heathcliff and Chávez, students would often come up to me, ask what I was studying, and weigh in on the topic of technology. As I will discuss in greater depth, Sheldon posed more challenges to establishing rapport with students. Teachers at Sheldon would periodically ask me to participate as many adults there do by walking around the room and monitoring students' work on computers. Wherever possible, I avoided this surveillance work and during appropriate moments tried to position myself more as a peer by talking with students to identify shared interests, like video games.

Outline of the Dissertation

My treatment of social reproduction in educational institutions is one that explores how schools can produce different realities for their students, irrespective of young people's digital skills and capacity as creative thinkers and innovators. I look for similarities and differences in why teachers sought to use new technologies for learning and in how they cultivated their students for the future. I focus, in particular, on the challenges teachers face, variously from their students, parents, district officials, and from other teachers. And I examine how students make sense of the messages they receive about their own potential as budding technologists. By following these various circuits of messaging between teachers and students, I illustrate how social forces inform a very early part of the pipeline in the development of future makers and tinkerers.

In Chapter One I provide a descriptive portrait and brief history of the three middle schools in the study. While serving very different student populations, each is similarly equipped with the latest in digital technologies but use them quite differently. In Chapter Two, I explore how schools differently value the digital skills young people bring to school

that they develop through their playful pursuits online among peers. Teachers effectively discipline play, but in contrasting ways. Minority and poor students' digital play is deemed either irrelevant or threatening to school, whereas privileged White students' digital forms are transformed into cultural capital for achievement. What's more is that teachers consume hip digital youth culture only from privileged students, allowing the institution to adapt.

In Chapter Three, I examine where teachers' disciplinary orientations come from, making connections between beliefs teachers bring to school and the norms imposed upon them by their surroundings. These linkages effectively augment schooling, driving the aforementioned disciplinary approaches to student innovation. In Chapter Four, in turn from questions about the sources teaching practices to their effects on students' consciousness. I surface patterns in how students narrate their experiences over the course of middle school, and how these experiences shape whether they see their creative impulses online as valuable for school and in institutional settings more generally.

In Chapter Five, I revisit the general question of the influence that institutions have on the imagined value and subsequent uses of digital technologies. I point to important ways that culture did not appear to structure these uses. Overall, however, I identify important ways that cultural phenomena animate digital technologies for teaching and differently construct students as future innovators. I conclude with possible interventions based on these findings, both for pedagogical practice and in the design of learning technologies, that may increase the chances that young people more equally see and enact their creative worth online and offline. This dissertation makes visible the potential of play through a study of how it surfaces when teachers and students interact at school.

CHAPTER I:
SIMILAR TECHNOLOGIES, DIFFERENT SCHOOLS

It was 7:48am on a Thursday and I was very, very late. Southern California was in rare form; a freak set of thunderstorms had set in and I was caught in a torrential downpour. As anyone who works in schools knows, the bell schedule is an unforgiving reality for students and adults alike – rain or not. Soaked from the waist down, I held my umbrella tightly and ran across the quad at Sheldon Junior High to get to Ms. Finnerty's eighth grade science class. I approached the door of the classroom and, as if for good measure, a lightning bolt cut across the sky.

I turned the doorknob, bracing for looks from the class for interrupting their lesson. To my surprise, no one even batted an eye. I opened the door to find the classroom in chaos. Students were loudly talking to one another, their seats turned around away from their laptops, and many of them were up and out of their chairs and hopping about the class. Ms. Finnerty, usually an expert commander of classroom order, was at a complete loss. After yelling at her students to quiet down with no success, she crumpled into her chair and beckoned for me to come over. "Did you see that lightning bolt outside?" she asked. "It must have hit the district. Internet just went down for the whole school."

Schools are, in many ways, the same places we remember. School bells ring and campus rapidly shifts from ghostly silence to energetic, swift-moving crowds. Teachers share idle gossip in the faculty lounge. Students cluster off during lunchtime and chat variously about homework and peer dramas. But the contemporary ethnographer will notice a number of significant differences from school ethnographies even a decade ago. Digital technologies are everywhere: nearly all students and faculty carry with them mobile

devices, like smartphones, and classrooms are equipped with computers and even interactive whiteboards. In the words of Ms. Finnerty, Internet access is "like oxygen."

Digital technologies are certainly woven into the fabric of each of the three schools in this study, but scholars caution us against assuming that iPads, laptops, and other devices have power in and of themselves over the on-goings of day-to-day life. In fact, although each school has many similar technologies available at their disposal and depend on them for instruction, they imagine their uses in very different ways. This stands in contrast to what some call "technological determinism," or the idea that technologies have a structuring influence by their very existence (Bell and Nourish 2007; Smith and Marx 1998). For example, in the 1980s and 1990s schools rolled out televisions and early computers for teaching (Cuban 1986; 2009). Education researchers and popular media reported on these changes as having an inherent impact on the classroom by their mere presence, regardless of human factors that shaped how they were adopted. This view of technology also exists outside of the education realm, as well. Think to debates about guns or even video games causing violence, or social media causing social isolation. A corresponding academic literature, termed "media effects," advances this approach by conducting experiments to ascertain technology's influence on behavior (Anderson, Gentile, and Buckley 2006; Comstock and Paik 1991; Turkle 2012).

Although even social scientists fall prey to technological determinist thinking, classic social theorists have long argued for a relational approach to understanding technology – long before the advent of digital technologies. Marx advocates for understanding how social relations between managers and laborers inform uses of factory technologies for social control (Marx, Engels, and Tucker 1978). Also reflecting on factory

technology, Weber argues that what distinguishes a modern factory from workshops in the Middle Ages is not necessarily the technical features but rather the social status of the laborers and how profits are organized (Weber 1981). And Durkheim's most pertinent discussion of technology is the totem (Durkheim 1912). Rather than assume totems have independent effects on those in their presence, Durkheim illustrates how people imbue meanings in them that then allow these objects to be used to assert collective moral authority.

This is not to say that digital technologies, like social media platforms, do not affect those who use them. Rather, these theorists challenge researchers to uncover the relationship between social phenomena and the technologies we use in order to predict human behavior. For example, in his work on cyber law, Lawrence Lessig contends that the architecture of the internet, or the code, has the potential to regulate human life – such as requiring passwords to access websites with key information (Lessig 1999). But he finds that other elements factor in to decisions that web developers and programmers make when building their platforms, like the government requiring that code be used to conduct surveillance on users. The law, societal norms, and market forces are all variables that work in tandem with available technology to structure human-computer interaction. As I discuss in this chapter and throughout the dissertation, social forces undergird the patterned yet quite different uses of very similar technologies available at school. These human factors subtly establish webs of meaning associated with the value of digital technology, and subsequently animate their divergent uses.

Portals at Heathcliff Academy

> The iPad is not really a device – it's a portal. What you need is for every student to have a portal into web based solutions. It's their textbook, their agenda, a notebook,

> a research tool, and a camera into their lives. It's all those things. 1-to-1 isn't about just handing someone a computer. It's creating a portal to school.

Reflecting on the school's 1-to-1 iPad rollout, Mr. Crouse, the school technology lab manager, explained to me how ideal uses of technology for education bridge students' lives with school. This "portal" metaphor was prevalent among faculty at Heathcliff, one that positions technological objects as productive windows into students' lives for schooling. The 1-to-1 iPad program first occurred during the year I observed, and was widely supported by parents and most teachers.

During classroom observation, I found that students were actively encouraged to use their iPads for note-taking, calendaring, communications with faculty and their peers, and as a multimedia recorder. For example, a common practice was for students to periodically hold their iPad up to take pictures of notes on the whiteboard or from handouts. Teachers would also regularly create classroom activities that require students to take photos of something at school or at home to be included in their presentation. For example, Ms. Richards assigned her eighth grade science class to take photographs of a substance to illustrate an element from the periodic table. In another example, Ms. Ross' required her art class students to take photos of their creations for their own portfolio. Faculty encouraged students to use their iPads to create and share their own media for schooling.

Heathcliff also required students to use software on their iPads that facilitated frequent links between student's work and the cloud, an online environment where faculty could observe and engage with students' digitally mediated activities. Using a combination of Google Drive and a file management application, teachers created folders and files within Google Drive and distributed them to students. Students would then create their own text,

spreadsheet, or presentation documents and teachers would observe their work in real-time to leave comments. “It’s fabulous because I can see all the great work that they’re doing either in school or at home,” said Ms. Pryce, reflecting on using Drive for her English classes. “They’re used to teachers popping in on their assignments while they’re working from wherever. I think they like knowing we’re around and there to help. And I like knowing they’re doing their work!” Faculty also used cloud-based apps like Google Drive to facilitate group projects with students, where they would work collaboratively on a project, like a writing assignment, together. This approach to iPads fostered regular interactions and a sense of connectedness between students and teachers in day-to-day school life.

During the time of my fieldwork, major academic textbook publishers were transitioning to electronic textbooks that provide interactive, multimodal learning experience for students. Like the other schools in this study, Heathcliff purchased these textbooks for classroom. Faculty at the school did at times struggle with adapting to the e-textbook and learning its various features, but in my observations I found that they would learn with and from students who figured out how to use them. For example, Mrs. Lawson, a sixth grade history teacher, was using an e-textbook to teach students about China and manifest destiny. As I peered over on to students’ iPads, I saw them scrolling through a combination of text descriptions about the history of manifest destiny, animated diagrams illustrating the concept, and even playing narrated videos about the topic. Students also actively used note-taking features within the textbook to annotate parts of the document for later reference. During class, faculty encouraged students to use these multimodal features of the textbook on their iPad for playing games, watching videos, and taking notes – all within the e-book.

Teachers also used interactive whiteboards, or a touch-responsive computerized screen, in ways that support the school's "portal" approach to digital technology. All but one classroom was equipped with an interactive whiteboard. Using special markers, teachers took notes on the board that could be stored as a file and sent to students for reference. For example, Mr. Filippo, a 7th grade social studies teacher, saves his whiteboard markings when lecturing for both his students and his own purposes. "It helps the students keep track of what we talked about," he explained. "And it helps me remember what on earth I talked about then, too!" Teachers regularly invited students up to the interactive whiteboard to solve math problems, play learning games, or give presentations. For example, Ms. Kaufman allowed students to mirror their iPad screens to the whiteboard for classroom activities. During one lesson on using commands in Spanish, she divided the class up into teams and would ask one student from each team to collect answers on their iPad and mirror them to the class. Incidentally, as a student tried to mirror their screen they accidentally shared it to the screen in a neighboring classroom – we could hear laughter through the wall. Students and faculty regularly use digital technologies like interactive whiteboards for collaboration and sharing as part of classroom activities. These technologies are used in ways that create very permeable boundaries between members of the school.

A software application used by all three schools in this study was online grade reporting software. This software is designed to allow teachers to enter students' grades from homework assignments, projects, quizzes, and tests, and also leave comments on the grades, and then distribute them to students and parents in real time. However, only Heathcliff faculty used this software as a portal to actively connect teachers, parents, and

students to real-time reports of students' educational progress. "Look, Matt," said Ms. Lawson, a 6th grade history teacher, as she showed me the program. "I can add Bobby's grade right here and when I click 'submit' it goes live to *everyone*. Parents can even set it so that if their kid's updated grades are below, like, a 'B' then they get an email notification." Although teachers periodically lamented that their students and their families were too grade-oriented, they nonetheless treated technologies like grade reporting software and the interactive whiteboard as portals to connect participants across the school ecology. The real-time grades enabled students to start conversations with faculty about how to improve their work. "It's kinda cool because it shows you the grade and if you are worried about it you can message the teacher," said Cordelia, an 8th grade student at Heathcliff. "I messaged my English teacher after a really bad quiz grade went up. She met with me to go over the quiz, it helped a lot." Platforms like the grading system were used to connect students and their families with teachers over students' performance, creating efficient ways for students to improve their work.

While all three schools in this study used 1-to-1 devices and online software for learning, Heathcliff's use of creative software far surpassed the others. Students had access to the latest Adobe creative suites, including Dreamweaver, Illustrator, and Photoshop, as well as video creation software like iMovie and Final Cut Pro. Mr. Crouse created a series of "maker space" events, or classes and activities designed to promote students' creative production, where students were encouraged to mess around with the software to make something fun. "These kids often have these hobbies and they do them at home," said Mr. Crouse as he explained their approach to digital production. "But we in school are n the business of helping kids find passion for it that they may not have known they had. We use

these tools to help take their interests to the next level." I learned from teachers and students that youth do make lots of things at school, like wire interesting light patterns with arduino kits or even create their own video games using software at school. Faculty enabled students to use software for creative purposes, and validated them for their creations.

In this section, I have illustrated how Heathcliff faculty adopt digital technologies in ways that actively connect members of the school ecology, including teachers, students, and their families. This "portal" approach to technology resonates with how they use iPads, interactive whiteboards, cloud-based applications, and even grading software. Moreover, the school used creative software to encourage youth to become "makers," bridging their own interests with the school setting. These practices stood in contrast to how the other schools imagined the value of technology for school. As I discuss next, faculty at Sheldon Junior High conceived of openly networked spaces online as a means for top-down supervision and scrutiny.

Surveillance at Sheldon Junior High

Mr. O'Gavahan, the principal at Sheldon Junior High, asked that I attend a faculty meeting to be introduced on my first day observing at the school. At Sheldon, faculty meetings were held at desks in the school library, which occupied a central and very public region of the main building on campus. The seating area fit about fifty people at tables and connected to the library computer lab with about thirty computers. However, the "walls" surrounding the seating area and lab were bookshelves about six feet high; the perimeter just above was a substantial walkway all around connecting classrooms and the main entrance of the building. As we convened, staff and students passing by could listen in on

the meeting. Some youth often did during the meetings that I attended, leering over from above and watching the action.

I later learned that the school was structured more broadly to accommodate this "open-door" approach to teaching. Most classrooms did not have doors, and some were missing walls altogether. The exception was the newest building at the far end of campus built around a very open and nicely landscaped quad and boasts eight rooms for eighth grade classes. However, even these rooms were connected in pairs by a ten-foot wide sliding glass door. "It's kind of hard to teach sometimes when anyone can walk in and interrupt your lesson," said Mr. Bagby, a seventh grade social studies teacher. "But it's good because we can all help keep an eye on each others' students." At Sheldon, openness and transparency were synonymous with surveillance. Faculty practices for keeping an eye out for students also informed the types of digital technologies they used and how they used them during teaching.

Although Sheldon did have some iPads available to faculty for teaching, the school rolled out a 1-to-1 Chromebook program for most of its classes. Chromebooks are laptops that have no local hard drive and only operate with an internet connection and through the cloud. Most teachers said that they loved having Chromebooks because they boot up quickly and make student login processes seamless, two issues that slowed down instruction with other types of laptops. But after talking to the more tech-savvy faculty at Sheldon, I learned that cloud-only laptops had an appeal as a surveillance tool. Mr. Kenworth, an art teacher at the school, explained:

> Teachers like to say here that Chromebooks are good because they are fast. But it's more than that. The old laptops had hard drives that made it harder to tell not only when a student does something bad but who it is that's doing it. Chromebooks make everything a student does visible to us online.

Faculty at Sheldon used this monitoring to police students for various types online behavior. I spoke with teachers and administrators who expressed they tried to keep an eye out for texting or chatting with other students, playing games, watching YouTube, or bypassing school online filters to access unapproved content online. Interestingly, each of these types of "bad" online behaviors at Sheldon were considered "good" at Heathcliff.

Sheldon went to great lengths to use their digital platforms to discipline and punish students for their online behavior. For example, Mr. Lenk, a technology instructor at the school, explained how students experience this surveillance as they become accustomed to school:

> The other day there was a kid sending messages to his friend online during my class. The next day I printed out four pages, everything he typed. He was mortified. But at school we are responsible for them. Some server has recorded everything they did…they don't get that. There's a difference between Facebook at home and Facebook at school, and nobody tells them. They learn the hard way.

Many other faculty like Mr. Lenk used cloud-based student data as an opportunity to teach lessons about appropriate behavior online through "the hard way." School wireless access was strictly guarded for this purpose. The school maintained a "whitelist" policy online where they blocked all content on the internet with the exception of specific websites they pre-determined as safe and valuable. I myself tried to obtain access to the school wireless account to do some of my own work, but had to go through a process each visit to obtain a randomized password for a guest account that would last for only twelve hours. I ultimately decided not to use their school wireless because of concerns over school surveillance and my raw data, a matter I discuss more thoroughly in the appendix. But students were not permitted to access the school wireless unless they used it under an account tied to their name.

Unlike Heathcliff, Sheldon made a decision to not purchase any interactive whiteboards for their classrooms. “Our principal decided not to get interactive whiteboards because he didn’t want teachers up at the front of the class all the time,” explained Ms. West, a sixth grade science teacher. “The expectation is that teachers should walk around students’ desks as they do their work to stay on top of what they are up to.” I initially thought the absence of interactive whiteboards was a financial one, but instead learned that they were purposefully not purchased to support greater student surveillance. In the absence of interactive whiteboards, teachers used traditional projectors that can mirror the teacher’s computer. Students rarely came up to the front of the room to present. Instead, faculty used a variety of software for quizzes, tests, and exam-like classroom activities. Teachers did use Google apps, like Google Documents and Spreadsheets, however the main use of these platforms was to create grade-able databases that students fill in from their Chromebooks. In other words, teachers use Chromebooks and cloud technology to replicate traditional tests.

Digital technologies at Sheldon were used in ways that constricted their openly networked design. Whereas at Heathcliff students and teachers used Google Documents for asynchronous and synchronous collaboration and feedback on writing assignments, Sheldon teachers instead restricted its use for low-stakes, participatory engagement. “In Google Docs I can monitor what they’re typing,” said Mr. McNally, an eighth grade science teacher. “I can see who has made every edit, who has contributed every word, who’s being stupid.” Mr. McNally, like other Sheldon teachers, used the real-time application to regulate online writing and other forms of digital production. Mr. Oruche, a sixth grade language arts teacher, accomplished similar types of regulation by requiring students in the same

Google Doc group project to grade each other. “It helps me figure out who is doing good work and who is messing around,” he explained. When not using applications for group projects, teachers actively sought to disable peer communications features within the apps so that only the teacher could transmit messages. Despite the openly networked design of these platforms to promote collaboration and sharing, Sheldon faculty used these digital technologies in ways that disabled the potential of these platforms to promote openly networked communication and collaboration.

Although Sheldon purchased very similar electronic textbooks to those used at Heathcliff, Sheldon faculty went to great lengths to use them only as if they were traditional textbooks. For example, Ms. McDonough, a seventh grade language arts teacher, used an e-textbook to teach a lesson on Harriet Tubman as part of a related writing project. Students each had their Chromebooks open to the textbook. “Remember the two finger rule,” she said to her students. “When I walk around, you should only be using your two fingers to scroll the page to follow along as I read the dissertation.” Ms. McDonough’s “two-finger rule” meant that students should not be typing or using their trackpad to explore other features of the textbook. If students were not scrolling she would ask that they put their hands on their lap. These practices at Sheldon had the effect of capitalizing on certain features of digital technologies that conform to these existing expectations of students, rather than take advantage of innovative, multimodal features like those in contemporary textbooks.

Similar to how faculty used other digital platforms at school, Sheldon teachers used their online grading software in ways that minimized opportunities for engagement between students and their families. “I definitely wait until the very last minute to put

grades online," said Mr. Crump, an eighth grade language arts teacher. "The moment you put a grade up, you'll be getting students and parents calling you demanding why they didn't get an 'A'. That's not how I teach." Most faculty at Sheldon explained that they used this delay tactic on grade reporting to reduce opportunities for discussing grades with students and their families. "I make it crystal clear on my website not to email me to cry about grades," said Ms. Ullman, a seventh grade history teacher. "I give them everything they need in class about deadlines and criteria for doing well on assignments, and that's how it is." While faculty at Heathcliff used grading software to connect with students and their families about classroom assignments, Sheldon teachers took a hands-off approach to discourage similar engagement.

In this section, I have described how Sheldon constructed its digital technology as valuable for surveillance and "traditional" forms of schooling, like quizzes and tests. Sheldon thus offered a stark comparison to Heathcliff, where digital technologies were seen as valuable for learning when they provided connected, participatory settings for multimodal engagement with teachers and peers. Although Sheldon could have purchased technologies like interactive whiteboards, they chose not to. Instead, they favored platforms that enabled greater monitoring of students' online behaviors, like Chromebooks. Sheldon's "open-door" style of teaching with technology thus diverged from Heathcliff's "portal" approach by creating a strict boundary around what constitutes learning with technology. In what follows, I describe the technology landscape at César Chávez Middle School. I find that Chávez has many of the same digital technologies for teaching as Heathcliff, but imagines their value much differently – for teaching rote skills rather than creativity.

Basic Skills at César Chávez Middle School

My first stop during fieldwork at César Chávez was at the school computer lab to attend a technology working group meeting composed of the principal and nine faculty at the school. The group was organized by Ms. Bryant, the school's technology lab manager, and Mr. Erickson, the principal, in an effort to identify their priorities for digital technology and to find ways to support faculty elsewhere at the school. "We need to create a *vision* for technology here," Mr. Erickson said to the group. "Once we have that vision, the funding will follow. But we have to figure it out first." Ms. Gellar, a sixth grade math teacher, furrowed her brow. "We can't think of technology as an elective," she said, with force. "It needs to be *every day*. They need twenty-first century skills to get a job some day." Mr. Weber, an eight grade history teacher, nodded. "And we all know these kids can text and do Instagram," added Ms. Woodside. "But if we want to help them we need to teach them basic skills they'd need to survive high school and hopefuly get a job some day."

As I interviewed faculty and observed day-to-day life at Chávez, I witnessed how a shared discourse around teaching "basic skills" with digital technology informed instruction. Interestingly, Chávez boasted an almost identical panoply of the types of hardware and software available for teaching at Heathcliff. There were several key factors that minimized school-level digital divides for Chávez despite the fact that they served a disadvantaged population. First, the "geekier" teachers at the school actively applied for grants to purchase up-to-date equipment, or brought in their own technology for instruction. Second, the principal and the technology lab manager worked closely with the district to jockey for funding to annually purchase iPad and laptop carts for the school. And third, the district hired an education technology support specialist who hopped between

Chávez and another school to ensure that their technology was regularly operable. But despite the similarities in digital technology access between Heathcliff and Chávez, Chávez faculty saw the value of technology much differently – not for creative expression but to develop rote digital skills for technical job tracks.

The school provided 1-to-1 access for their students, with half their classes using iPads and the other half using Chromebooks. But whereas Heathcliff's "portal" approach to technology facilitated a permeable window between kids' own lives and school, the emphasis on basic skills at Chávez rendered instruction a unidirectional experience. For example, although teachers had interactive whiteboards and devices for students, they often were instructed to consume media rather than create it. Mr. Chase, a seventh grade science teacher, would regularly play cartoons about the basics of physics for his students that they watched idly from their seats. This stood in contrast to whiteboard use at Heathcliff where students were regularly interacting with the screen, either physically or digitally by mirroring their screens. Relatedly, when using laptops or iPads for assignments, Chávez students were encouraged to seek out new media, like images, animations, or videos, however they were not provided opportunities to create these types of media. As I discuss in more depth in other chapters, this is because Chávez faculty did not believe that students' own creative potential online had value for working class jobs. They aw their role as teachers to provide the skills they believe they need to do well, minimizing what students brought with them to school.

"Basic skills" also did not include peer-to-peer communications among students, and Chávez created barriers to students doing so with digital technology. Similarly to Sheldon, Chávez faculty used applications like Google Documents or Spreadsheets and did not

permit chatting with their peers online. But unlike Sheldon, students' online communications were not seen as threatening – rather, they were positioned as *useless*. For example, Ms. Embry, a seventh grade language arts teacher, would use Google Documents for student writing projects. "I tell them not to chat with each other in the document," she explained to me. "It's not exactly the worst thing, it's just not going to help them at all learn how to write. It's a distraction." Teachers typically disabled peer-to-peer chat features in learning software or at the very least minimized the value of these communications for the classroom activities at hand.

Although the hardware at Chávez was similar to that available at Heathcliff, Chávez was noticeably different in that they offered next to none of the creative software platforms that Heathcliff provided. Additionally, whereas at Heathcliff students played or even created their own video games as part of a learning experience, video games were seen as frivolous distractions at Chávez. There were only a few games used in the technology lab, including a game for learning how to type and a programming game called Scratch. However, this software was sanctioned because it fit with the basic skills discourse that idealized typing and programming as valuable outcomes.

Like Sheldon, Chávez used digital technology to monitor their students. In contrast, however, Chávez tracked certain types of student behavior as a means to watch out for their well-being. For example, the school regularly used an online portfolio application that teachers update and share with each other to keep abreast of students' academic development and signs of mental health. "We really care about these kids, and so we make sure to update information in case something comes up," Ms. Ramirez explained to me. "We're not really tracking these kids to punish them when they don't do well on a test, it's

more so we can figure out what works best and also keep an eye out if something seems off at home." Although Chávez did not provide students with agency to communicate among each other, teachers did use digital platforms to collaborate and share in ways they believed were in the best interests of their students. Faculty typically described their students as well-intentioned, good kids. In this vein, there were multiple wireless accounts at the school that were not password-blocked and were rarely monitored. In contrast to Sheldon's "whitelist" policy, Chávez used a "blacklist" policy online where all content, with the exception of specific websites deemed dangerous, was accessible.

The emphasis at Chávez to use digital technologies to teach "basic skills" shaped faculty use of the latest digital technologies for teaching in ways that encouraged the development of skills in typing, programming, online research, and digital production like online writing. If a learning scientist were to conduct a survey at Heathcliff and Chavez, they would find similar closures of digital divides and comparable development of key digital literacies identified by education research. What would be missed, however, was that the focus on basic skills minimized students' development as creative producers within educational institutions. Chávez disabled the value of creative uses of software, like most forms of digital production, including images and video. Faculty also dismissed the value of peer-to-peer communications among students online, as well as video games for learning that were valorized at Heathcliff. As a result, faculty used digital technologies to provide top-down lessons for students that lessened the type of relational learning experienced by youth at Heathcliff.

Situating Digital Technologies at School

Heathcliff Academy, Sheldon Junior High, and César Chávez Middle School were each examples of educational institutions that have closed digital divides at the school-level. They provided a variety of up-to-date digital technologies for learning, and each included some variation of a 1-to-1 device program for their students. An extension of technological determinist perspectives would suggest that putting similar high quality technologies in the hands of teachers and students would structure comparable outcomes in their uses. However, as I illustrate in this chapter, schools differently constructed the value of digital technologies for teaching. As a result, the types of technologies schools acquired and the ways they used them emerged from how the school situated digital technologies for learning.

At Heathcliff, faculty invoked a view of digital technologies as productive "portals" into the lives of young people, and they used iPads, interactive whiteboards, cloud-based software, and even video games to bolster students' creative potential through online collaboration and digital production. Sheldon, however, saw student uses of digital technology as potential threats; instead, they used digital technologies for surveillance and disabled the most innovative features of these platforms, preferring instead to use online software for traditional quizzes and tests. Like Heathcliff, Chávez shared many similar digital technologies for teaching and their students developed comparable skills in typing, programming, and creating online documents. However, Chávez emphasized the need for "basic skills" with digital technology above all else – faculty minimized the value of using digital technologies for peer communications, video games, and creative digital production, facilitating instead a consumption-oriented learning experience.

In the next chapter, I explore how these constructions of technology pair with teachers' specific disciplinary practices with children's online play. Teachers determined whether young people's digital play was valuable or not to school, either staving off or enabling play for achievement.

CHAPTER II:
DISCIPLINING PLAY: DIGITAL YOUTH CULTURE AS CAPITAL AT SCHOOL

In the previous chapter, I suggested that digital divides are more complicated than a matter of simply access to technology. Each participating school in this study had a number of up-to-date digital technologies that many classrooms used for teaching. Despite their access to the latest educational gadgetry, they imagined the value of digital technologies for learning in quite contrasting ways. At Heathcliff Academy, faculty positioned iPads, interactive whiteboards, and even online grading software as portals, or windows, into young people's lives outside of school; at Sheldon Junior High, teachers primarily used digital technologies for surveillance and to discipline and punish children; and at César Chávez Middle School, faculty imagined digital technologies not as tools for creative expression but rather as technical machinery kids must master for vocational tracks. In this chapter, I extend this analysis by showing how these constructions matter for student achievement. I draw connections between kids' digital literacies and learning in the classroom.

Instead of treating digital literacies as skill sets one develops that independently provide advantages, a Bourdieuian perspective would locate students' digital skills in a system of power by conceiving of them as potential deployments of capital within the educational field. For Bourdieu, social fields represent the settings where social positions are negotiated. Social fields are "arenas" with their own established "rules of the game," or expectations for ideal participation, that structure rewards and punishments based on participant behavior (Bourdieu 1977a; 1977b; Bourdieu and Passeron 1990). Student behaviors that meet these field-specific expectations are considered successful

deployments of competencies termed cultural capital. Through childrearing, parents transmit these competencies to their children and children then use those competences in the classroom to get ahead.

Rather than see schools as meritocracies, Bourdieu argues that the game is fixed. He contends that the "rules" of the educational field are controlled and executed by the dominant class. Cultural competences that are valued by the dominant class are thus expected of students and only provided to privileged youth during their childhood. Minority and poor children come from families of a different milieu than the dominant class, and as such develop different beliefs, practices, and styles that do not meet the "rules" of the educational field. Research shows that these class- and race-based differences result in systematic patterns of stratification in educational achievement (Calarco 2011; Carter 2005; Lareau 2000; 2011; Valenzuela 1999). This view would suggest that parents are a key mechanism for social reproduction in the digital age.

But we know that when it comes to competence in the use of digital media, students' peer cultures may also be a key source of skills. Research shows that there are major generational differences in technology adoption and digital participation over the last century (Zickhur 2010). Although this will change as cohorts age, young people are, at present, faster adopters of digital technology than older adults. Popularly referred to as 'digital youth,' today's young people have unprecedented access to, and facility with, digital technologies. Traditionally underserved populations, including Blacks, Latinos, and youth from low-income families, are not far behind the privileged Whites in the rates at which they adopt new technologies (Lenhart 2013; Madden et al. 2013). Critically, young people learn digital skills through playful pursuits with peers.

In a large-scale, comparative ethnographic study of digital youth, Ito and her colleagues find that youth use digital platforms and related interactions not necessarily as a replacement for youth culture but rather as an extension of it (Ito et al. 2009). Through digitally mediated play, young people "hang out" with their peers online and "mess around" with digital tools necessary for using these online sites of engagement. For example, they use image, audio, and video editing software to remix and share their favorite media from popular culture, or tinker with design and programming embedded in applications online to engage in playful pursuits such as video games. This suggests that we may to treat play as the source of cultural capital. This challenges the assumption that children inevitably bring different resources to school as a consequence of unequal childhoods at home. It also suggests a potential inroad for abetting cultural inequality: if children, regardless of their social origin, bring similar cultural resources (in the form of digital know-how from play) to school, children could better educational outcomes.

But, as I ultimately argue, schools may discipline play in different ways. Some schools might welcome young people's digital skills as valued cultural capital. Others might treat play as irrelevant to and a distraction from the real work of learning. Work on school socialization provides leverage for this possibility. Sociologists of education argue that schools have within them micropolitical contexts that inform perceptions of students' potential (Lareau and Horvat 1999; Roscigno and Ainsworth-Darnell 1999). These studies illustrate how teachers' perceptions of students inform their pedagogical practices. Teachers' shared beliefs are enacted through "discipline." The term refers not simply to the correction of students' bad behavior, but also describes an institutional process that determines appropriate behavior and internalizes norms in students (Foucault 1975;

Freire 1986). Discipline is the means by which the threatening potential of students' creativity is controlled. For example, Valenzuela finds that White teachers limit the potential of minority youth by devaluing the cultural forms they bring to school because they are not well aligned with normative expectations (Valenzuela 1999). She finds that signs of students' Mexican-influenced culture, including Spanish language, Spanish-sounding names, and approaches to learning favored by Mexican schools, are deemed useless for achievement at school in the United States.

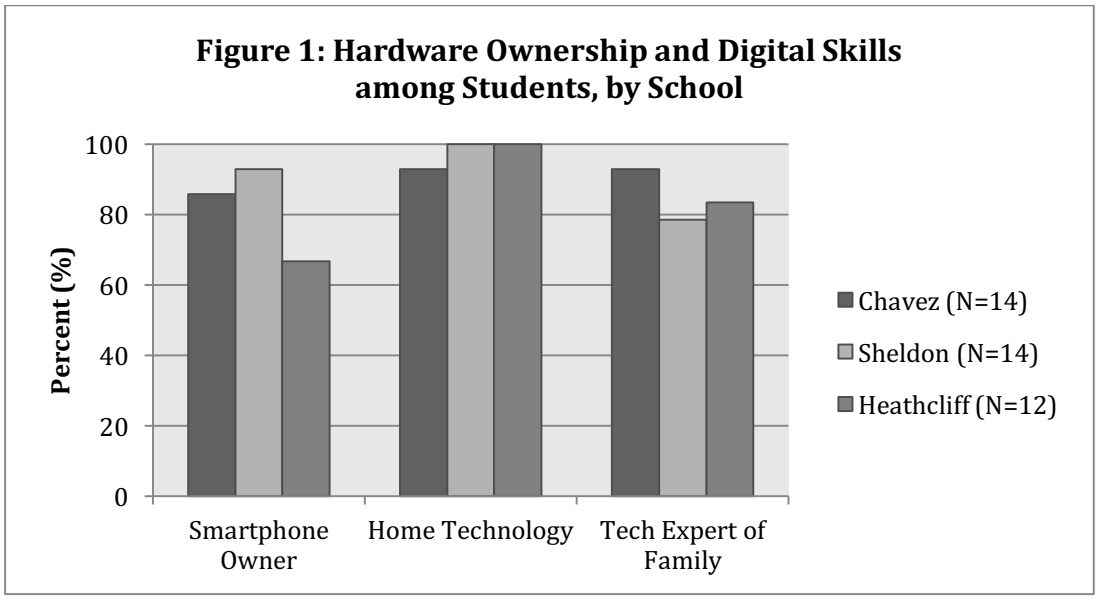
A key focus of this dissertation is to relax and build on the Bourdieuian assumption that parents' childrearing practices are the sole source of the cultural reproduction of inequality in education. I do so by examining the effects that schools' disciplinary approaches have on whether students' digital competence is treated as a skill or a setback. I first explore whether students, regardless of social origin, exhibit signs of the digital youth cultural participation described in recent work. I then investigate the extent to which teachers' beliefs about digital media and instructional practices are patterned by their class- and race-based perceptions of students.

Generational Similarities in Digital Participation

Consistent with existing work on digital youth, the sampled students at Heathcliff Academy, Sheldon Junior High, and César Chávez Middle School shared a similar baseline of both technology access and use of digital platforms. They pursued many of their interests online with peers. Although it may be premature to suggest that each student population was perfectly equal in both home access and use of digital technology as part of their youth culture, I nonetheless found many key similarities. Among all interviewed students, 97.5% had regular access to one or more up-to-date computer or laptop, iPad, or internet-

connected video game system at home. 100% of students had access to cell phones at home and at school, and among those 82.5% owned smartphones like iPhones or Android devices. Although I was not able to conduct representative surveys of the student body at each school, teachers at both schools conducted their own informal surveys of students and reported similar numbers.

Differences in student hardware ownership across schools were also rather small. Figure 1 shows that interviewed students at Chávez and Sheldon actually owned smartphones at higher rates than those at Heathcliff. During interviews, Heathcliff students who did not have smartphones reported that their parents purposefully withheld smartphones from them to minimize the risk of bullying online. There were few reported differences in access to digital technology at home. These statistics are consistent with national survey data that show widespread access to digital technology among youth regardless of family origin. The few upper class students who were not permitted smartphones align with some reports that wealthier families express more worries over digital technology access and their child's privacy (Madden et al. 2013).



Note: "Smartphone Owner" signifies that student owners an internet-connected iPhone or Android device, "Home Technology" refers to student report of digital technology available at home (iPad, computer/laptop, internet-connected video game system), and "Tech Expert of Family" describes students who report being more skills at digital technology use than their parents or guardians.

Interviewed students also expressed that they were primarily the technology experts of the family and did not learn how to use digital technologies from their parents. 85% of all students said they were the tech experts, and slightly more students at Chávez said so than students at other schools (Figure 1). When asked about their digital expertise relative to their families, students often laughed and asserted that their parents knew very little about technology. For example, Daniel (15 years old, Asian), a student at Sheldon, said, "I'm the techie of the family. My dad is good but I'm better." Maggie (13 years old, White), a Heathcliff student, argued that she is better at technology than her mother and father, too: "I know how to use programs that my parents don't even know how to use." And at Chávez, Bailey (14 years old, Latina) said that she and her older brother are both skilled. "He and I are both the tech experts of the family," she said. "We fix computers and programs together." Students at each of the schools are by and large more "techie" than

their parents or guardians, and indicated that they were not taught digital skills from their parents. Instead, they indicated that they developed a number of digital skills through their youth cultures.

Digitally Mediated Play among Peers

Students nearly all developed digital facility through playful pursuits with peers. The kinds of online activities they participated in and skills with digital technology they developed are consistent with existing work on digital youth culture. I found that youth enjoy communication through social media and digital production. In what follows, I provide examples of these activities from students at each school to illustrate the generational similarities in digital youth culture from these samples.

Nearly all sampled students at each school used some kind of social media to share text, image, and video-based communications with their peers. "I use Kik and Instagram on my phone," said Anthony (13 years old, Latino), a student at Chávez. "I talk with my friends and keep up with what they're doing on my phone." Cordelia (14 years old, White), a student at Heathcliff, was an avid social media user: "I use Instagram and Snapchat mostly. I *love* Snapchat, and texting. It's how I stay in touch with my friends." Andrew (13 years old, Latino), a student at Sheldon, also uses Instagram and Snapchat. "I use Instagram and Snapchat almost every day," he said. "Sometimes we record silly videos of ourselves and send them to each other. Students used social media to send messages using a variety of new media, including text, image, and video content that they develop using their phones or other hardware at home. But they also use social applications to set up activities. For example, Anne (15 years old, Asian), another student at Sheldon, used social media to keep up with her friends and coordinate hanging out. "My friends use texting and other apps like

Kik to plan things and hang out in person, too." Consistent with studies of digital youth that find generational differences in digital participation, youth at all three schools used texting and other media-rich communications applications to "hang out" with friends and participate in their peer cultures. These practices also help the development of digital skills like facility with digital platforms and online communication (Loges and Jung 2001).

The second type of digital activity that students at each school pursued with their friends was digital production. Although social media use does, indeed, require that youth develop their ability to communicate across digital platforms, digital production demands considerably more technical knowledge. For example, Maggie (13 years old, White), paired up with a friend of hers at Heathcliff to write collaborative fiction online:

> My friend and I were writing for National Writing Month. We used Google Drive! We did it on Google Docs and did it chapter by chapter. One of us would do one chapter, another would do another. It was weird but it worked…we ended up finishing!

Maggie, with her friend, used digital tools to write stories collaboratively, peer edit, and submit their work to a national competition. Another form of creative production is software development through computer programing. Several youth "jailbroke" their mobile phones to program their own applications. "I jailbreak my iPod, and I tinker with it a bit," said Daniel (15 years old, Asian), a student at Sheldon. "I get into the back-end of the programming. Nobody really knows I do that." Hacking and remaking parts of one's own phone requires knowledge of software programming. Danny (13 years old, Latino), a Chávez student, also hacked some of his video games to accomplish specific goals. "When I want to get money on a game sometimes I will mod it," he said. "You download this APK stuff so the game gets tricked into giving you money. It might help me some day if I want to become a hacker! Ha. Or maybe a programmer, who knows." Students' digital production

activities, including online writing and hacking, are among the most popularly idealized digital skills in research on new literacies.

But digital production does not need to be quite as technical as jailbreaking, and students at each school used image and video editing for creative purposes, as well. Sarah (15 years old, Asian), a student at Sheldon, liked creating and sharing artistic pictures she takes on social media with her friends: "I think social media is super creative. If you want to learn how to do it, that is. I had to figure out how to download the right photo editing apps to get the pictures how I wanted before I shared it on Instagram." Nathan (14 years old, White), a student at Heathcliff, said that he likes to make short videos that he uploads on an app called Vine. "Me and my friends will record each other to make little short stories that we think are funny," he said. "We'll upload them on Vine, which is like an Instagram just for video. We're trying to get more followers but we like what we've made so far." Richard (14 years old, Latino), a student at Chávez, produced music with his friend. Some students also pursued design-oriented games, like Armin (14 years old, Latino), a Sheldon student, who spent a lot of time playing world-creation games. "I like building games like Minecraft where you can build whatever you want," he said. "I feel like I'm developing the architecture for what houses would look like in real life, or even bridges." These digital skills align with scholarship on new literacies, including improvement as computer programmers and designers (Ito et al. 2013; Peppler and Kafai 2007), and editors and producers of media like audio, images, and videos (Black, 2009; Guzzetti and Gamboa 2005; Hull and Nelson 2005).

In this section, I have shown that students in this study share a baseline set of digital skills that they developed mainly through their youth cultures. In what follows, I illustrate

what happens when students brought these digital youth cultural practices into school. Even though teachers themselves were often less skilled with digital technology than their students, teachers disciplined students' digital skills in distinct ways.

Steve Jobs Potentials at Heathcliff Academy

Although teachers at each of the schools typically described themselves as less skilled with technology than their students, teachers perceived the value of students' digital skills differently by school. At Heathcliff, teachers saw students' own interests online as valuable, if not essential, to academic achievement. Mr. Crouse, the school technology lab manager and technology integrationist, said that ideal uses of technology bridge students' lives with school:

> I always use the example of Steve Jobs going to his garage and tinkering around. Why can't the garage be at school? There's value in having school be a place where kids can come in, bring what they know from their own lives, and have their eyes light up with possibility and say, okay, I see maybe something I can do here and I can become passionate about.

In this view, Mr. Crouse saw students' "garages," or the kinds of activities they do outside, as an important part of learning in school settings. Thus, integrating these practices with schooling was the way to cultivate the next Steve Jobs. Remember, too, that teachers at Heathcliff imagined technologies for learning through a "portal" approach. Describing iPad use at school, Mr. Crouse said that iPads are "their textbook, their agenda, a notebook, a research tool, and a camera into their lives…1-to-1 isn't about just handing someone a computer. It's creating a portal to school." Typically, 1-to-1 refers to a kind of education reform where each student is provided with a technology for learning, like a laptop or an iPad, but here Mr. Crouse described the reform rather as a "portal" for engagement. This portal metaphor operated at Heathcliff as a translational device for teachers to actively

recognize and integrate students' digital forms as valuable cultural capital for learning at school.

Other teachers at Heathcliff also adopted this "portal" approach that blurred digital youth culture and school, and repeatedly asserted that their students bring with them to class many useful technology skills. Mrs. Kaufman, a sixth grade Spanish teacher at Heathcliff, said that students picked up iPad use in class very quickly. "It was seamless. I said, 'abran sus libros en el iPad a la pagina cincuenta' (open your books on the iPad to page fifty). The students just did it, no problem. It's like they already know how to do everything because they play around with this stuff with their friends." Mrs. Lawson, a sixth grade History teacher, also acknowledged that their students have technical facilities that come from their youth culture. "These kids are in a technology age, it's just their typical way to communicate. They love iMovie and they come up with amazing videos on their own for class. Most of them are comfortable with that." Teachers described their students as already proficient in uses of technology as a result of their peer-driven participation online. At Heathcliff, faculty seemed to subscribe to the view that the digital skills acquired from hanging out with friends online have potential for learning. Teachers saw connections between students' digital skills and school-based learning.

Heathcliff teachers also described trying to integrate digital youth culture into their instructional philosophies and practices as part of a learning agenda. Ms. Pryce, an 8th grade Language Arts teacher, argued that she and her students mix their different skill sets to create a productive learning experience. "Oh yes, they are tech savvy, just like that term 'digital native,'" she said. "They're raised with these technologies and so they are definitely good at using them at school. But it's my job as the old fogey 'digital immigrant' to take

what they know and help them here." Ms. Pryce used the terms "digital native" and "digital immigrant" to position her students as budding technologists and herself as an integrationist of digital youth culture in school. Mrs. Cramer, a seventh grade Science teacher, commented on how games that students play can be productive for school, too. "They're comfortable with many of the apps and programs they are used to, and that can really help with school. I use a lot of games, like, we have one game a student found to memorize the periodic table. I say why not?" Teachers like Mrs. Cramer saw the value of video games for learning, and she encouraged youth to find ways to blend these practices during science classes. In another example, Heathcliff's art teacher, Ms. Kober, reflected on how students create art projects that get connected through social media. "One of my students had this little surfer guy he made out of clay and was using his phone to create a stop-motion claymation video and then put it on Instagram to share with his friends. They all got a kick out of it. He was doing something creative and wanted to share it, which I think is a big part of doing art." For Ms. Kober, student uses of technology bridged school activities with digital youth culture for a more engaged learning experience. Heathcliff teachers thus had a disciplinary orientation to play that positioned their students' digital youth culture as valuable capital for achievement.

Teachers at Heathcliff demanded that students practice integrating their digital forms and ideas at school, thus carving a path to transforming digital youth culture into capital for learning. For example, as part of their training at the school students were required to have a number of opportunities to "tell their story" through the use of digital technologies before an audience of their peers who then ask them questions. In interviews, teachers joked that when students first start out doing this ritual during their first year

they are so nervous that they, in the words of Mrs. Lawson, "stand up in front of the interactive whiteboard and cry as they talk about their family dog." Over time, however, students developed comfort talking about themselves in class and before their peers and instructors. This was essentially a process of legitimation, as students were required to develop comfort and facility with seeing their own digital practices as relevant and important to the school setting.

In one such class, I observed sixth graders "telling their story" to their peers and instructors. As part of an assignment that integrated Language Arts, art, and technology, students were presenting a project that required them to design a PowerPoint presentation about themselves. They were required to take pictures or video outside of class, with their family or with friends, and creatively integrate this new media into the presentation. "Jessica, you're up!" said Mrs. Kober. A young woman, hands to her side, sheepishly got up out of her seat and scooted up to the front of the room with a USB stick in her hand. She plugged the portable drive into the computer connected to a projector screen in the front of the room, and within moments a slide covered the wall with a picture she took of her family. She added images she found from the internet to the perimeter of the slide, including a photo of cats and a softball. "Hi everyone, I'm Jessica and I this is my Mom, my Dad, and me," she murmured. "Jessica, you're doing great but be sure to speak up," said Ms. Kober. Jessica tapped the screen to move to the next slide, and tried to speak a little louder: "One of my favorite things to do is play softball!" She tapped the screen once more, and images of a baseball and baseball bat appeared and began to animate. The baseball swung and hit the ball, and it flew across the screen. A student raised their hand: "How did you make the ball move like that!?" Jessica smiled. "I figured out that you can have two pictures

on the slide do different things, so I made the baseball picture swing by itself and then made the ball move on its own once it got hit." At Heathcliff students were required to practice creating their own online media and tinkering with the tools to edit and design assignments for class. Heathcliff constructed many learning activities as successful if they blur the lines between students' interests and schooling.

In addition to structuring lessons that facilitated students' own creative production and collaboration at school, Heathcliff also provided students opportunities to integrate their own digital forms into the character and image of the institution. For example, students were giving presentations at the beginning of Ms. Kramer's 8th grade science class for a project about environmental awareness. Jimmy was at the front of the screen presenting a video he produced on the topic. In the video, Jimmy combined multiple forms of media that included his own video recordings of his peers as well as pre-existing video created by the school administration to talk about environmental awareness. As part of his video editing process, he blended together video snippets of a pre-recorded speech by the school principal (downloaded from the school website) with his own recordings of his friends parading around campus picking up waste for recycling. He added to the background music a popular song, and included titles showing the names of the actors that animated across the screen when those people appeared. I later learned that the school decided to make Jimmy's video part of the promotional material for the school since it got more attention than their other formal productions. Teachers at Heathcliff not only transformed their students' digital skills into valued capital for achievement, but they encouraged students to take the reins over *what counted* as achievement. Jimmy's video,

which remixed school and youth culture together to create something new, became a representation of the school

Teachers shared orientations to students' digital play that differ by school, and at Heathcliff teachers disciplined play by integrating students' digital culture into the learning agenda. This outcome differs from classic social reproduction theories in that these privileged students were not simply being trained to maintain the "norms of the enterprise" (Bowles and Gintis 1976). Rather, students were helping shape the norms for learning in the digital age, as evidenced in Jimmy's video example. The less digitally-adept teachers benefitted from students' digital skills by disciplining play in this way, allowing the institution to adapt to the digital age.

Risky Hackers at Sheldon Junior High

Whereas at Heathcliff students' digital forms ere turned into valued capital for achievement, teachers at Sheldon actively policed the boundary between digital youth culture and school. They perceived students' digital forms as serious threats to learning. While race was not a salient marker during interviews or observation among Heathcliff's majority White faculty and student body, race and class were very present at Sheldon. Teachers' orientation to students' digital play came from shared perceptions that their middle-class, Asian-American students were cutthroat overachievers. Those perceptions seem to be associated with a discipline-heavy approach to digital technology that positioned students' digital skills as giving them an unfair advantage over each other. As a consequence, teachers only used digital technologies for high-stakes activities and traditional exams rather than teach digital skills.

Teachers at Sheldon Junior High drew upon class- and race-based stereotypes to construct their students as risky hackers who need discipline. They believed that their students were smart and naturally good with technology because they are Asian, but also posed threats because competitive "Tiger Moms" raised them. Ms. McDonough, a seventh grade language arts teacher, explained:

> The typical student here is pretty high achieving. Mostly Asian and very good at taking tests but not very good independent thinkers. I think they have a lot of fear of doing something wrong because they're raised by these Tiger Moms who will not let them out of the house unless they do well. We have some very gifted kids who are already taking the SATs and scoring high, but they lack some of the humanity kids this age should have because of how they're raised.

Like Ms. McDonough, Mr. McNally expressed frustration that his eighth grade students were raised to be so test-focused. "They're only as good as how they are on a test," he said. "In Asian culture, their livelihoods are about tests. The benchmark in China is about tests. We're creating people who can't think or can't problem solve, but they're good at tests." Teachers also expressed that their students' cutthroat orientation extended into major disciplinary issues. "We've had a bunch of suspensions this year because these Asian kids are so good at using technology that they hack our online system," said Ms. Finnerty, an eighth grade Science teacher. "One student broke into a teacher's website and locked her out. They'll do anything to do well." At Sheldon Junior High, teachers expressed that parents pressured their children to do well in school, but I found no differences in the content of the requests by similarly aggressive parents at Heathcliff. Rather, teachers drew on racialized imagery of Asian students as upwardly mobile and cutthroat students who are intelligent and college-driven but also potential threats. Digital proficiency was seen as what makes Asian students threatening. While research suggests that Asian students are

seen as model minorities because of their orientation to success, I find that digital play here was seen as giving them an unfair advantage.

Teachers at Sheldon not only doubted the value of digital skills that came from students' youth cultures but they also saw those skills as threatening to successful schooling. For example, Ms. Ullman, a seventh grade history teacher, believed that social media was not only frivolous but that it was also a distraction from learning. "Twitter doesn't help them with tests. Facebook doesn't help them with essays. It prevents them from focusing on important tasks in class and on homework," she said. "They can text, but can they type in MLA format? No." Teachers also believed that students' digital play at school would lead to disruptive hacking, as in Ms. Finnerty's comments about student hackers mentioned earlier. At Sheldon, teachers positioned the activities and digital skills developed from their students' youth culture as distractions and risks. Teachers favored traditional institutional standards and practices, including test taking preparation, essay writing, and meeting citation standards, and framed the practices and styles youth brought with them to school as diverging from the overall educational mission.

When teachers at Sheldon reflected on their instructional practices with digital technology, they described their teaching as successful only when they ere able to strictly sanction signs of digital youth culture. For example, Mr. Crump, an eighth grade language arts teacher, expended considerable energy creating lessons with technology that restrict peer to peer communication:

> I use Edmodo, an app that looks like Facebook where I can create a community for my students online to share assignments and grade their work. But I make it so students cannot post to other students' walls. They can't communicate with their peers at all. I put on moderator privileges where I moderate every comment, or delete every comment. If they put up a question about an assignment online, it

> sends me a notification that they've done it and I decide whether it gets published or not. I think it makes them more focused on the task at hand.

At Sheldon, teachers restricted almost all forms of online peer-to-peer communication and collaboration as a way to protect the integrity of schooling. Another teacher, Mr. McNally, said that for his eighth grade Science class he also actively restricted youth from interacting during online assignments. "Facebook and Instagram doesn't help them with school. The school uses of technology are *traditional*," he said. "I would never embrace social media as part of a lesson. I don't want to let go of this control that I have because then I have to monitor more and more of this garbage. I don't want to deal with all of that." Teachers at Sheldon constructed their curriculum in ways that separated digital youth culture from school by conceiving of it as threatening and forcefully withdrawing it from learning. They did not turn kids' digital forms into cultural capital for achievement.

Teachers' perceptions of students' digital forms as risks informed their day-to-day instructional practices with digital technology. Faculty at Sheldon routinely created high-stakes learning activities using digital technology that made students' digital sharing an anxiety-laden experience. For example, Mrs. Trunchbull, an eighth grade science teacher, led her class through a lesson on states of matter. Students each had laptops at their desk, and a projector screen was on at the front of the screen with a list of every student presently in class. Speaking through a Bluetooth microphone hanging from her ear, she projected her voice via speakers positioned around the perimeter of the class. "When a water molecule is in cold water what does it look like?" said Mrs. Trunchbull. "Draw it on your laptops. Use the trackpads. Once you draw it, hit the button to send it to me." Students then lower their heads to their computers to draw. After just under a minute, a drawing of a molecule appears on the screen in front of the classroom with the name "Daria" in bold on

the top. “Daria is IN!” exclaimed Mrs. Trunchbull. Some students “ooh’d” and “ah’d.” “How’d she do that?” asked one of the students.” “She did it because she’s *great*,” retorted Mrs. Trunchbull. She turned her backs to the students and erased Daria’s answer from her computer. “Now draw me a water molecule in *hot* water.” Students returned to their work, and a minute passed. “No responses? You chickens.” Shortly thereafter, another drawing appeared. This time the sketching was not as clear nor was the molecule model finished, and the name “Aaron” is posted in bold at top. “Aaron…” said Mrs. Trunchbull, pausing for a moment. “I don’t even know what to say?” Students all laughed, and Aaron was quiet and looked down at his computer. “Should we print this and put it on the wall so your parents can see it on open house day? Who says eighth graders can’t do art!” In this example, Aaron’s shared online creation was met with ridicule by the class. At Sheldon, education technologies were used in ways that created opportunities for high stakes learning and public humiliation if students answer incorrectly. Moreover, the digital youth cultural activities that were valued at Heathcliff, like video games, social media, and online collaboration, were strictly restricted at Sheldon. Teachers at Sheldon maintained their own legitimacy as authorities in the face of their students, who they saw as digitally skilled threats, by imposing sanctions for online participation that did not meet teachers’ standards. Sheldon faculty disciplined play by communicating to students that their playful pursuits online were threatening to achievement, and thus denied their potential as cultural capital for learning.

Digital Literacies for Labor at César Chávez Middle School

While Sheldon teachers not only policed students’ digital youth culture but also did not teach digital skills, I was surprised to find that Chávez taught many of the same digital

skills with technology that Heathcliff students received. However, Chávez teachers imagined their students as twenty-first century laborers that rely on digital skills for working class jobs. Chávez thus disciplined play by constructing students' digital youth culture as irrelevant just as instructors taught school-sanctioned skills with internet use, design, and programming.

Chávez teachers shared a perception of the later life trajectory of their working class, Latino youth that seemed to inform their expectations for learning with digital technology. Teachers routinely described their students as "hard-working immigrants" from "damaged homes," and their parents as assimilating immigrants who trusted teachers with their children's education. Ms. Duffey, a seventh grade science teacher, argued that students' digital play was not going to help them get a working class job:

> These kids aren't naturally gifted at technology, those skills playing video games don't translate to school. So they have fast phones? So what? The kids we teach, if we are being realistic, they need skills for hands on jobs, like how to fix a new-wave car. If they learn technology it's for that purpose.

At Chávez, teachers constructed their lessons in ways that imparted technology skills they believed are valuable for working class jobs. But teachers' did not imagine working class jobs to be ones of material production. Ms. Gellar, a sixth grade math teacher, elaborated:

> I don't know that these kids are going into managerial positions after school, but they need to know a different set of skills than it used to be in factories. They need basic skills in using computers, research, programming, even making websites. That's the future for these kids.

Teachers at Chávez said that they were helping their students by teaching them many new literacies, like computer use, website navigation and construction, and even programming, because they believed these skills will prepare them for a twenty-first century factory. Teachers did not view poor Latino youth as academic threats, as some literature has

suggested (Bobo 2001). As a consequence, students were indeed taught digital skills. But as I illustrate, this construction motivated a disciplinary orientation to students' digital play that rendered their creative pursuits online as irrelevant.

Teachers at Chávez constructed a division between valued digital skills taught in class and the less useful digital styles young people bring to school. For example, Mr. Weber, an eighth grade history teacher, agreed that his students were "digital natives" in the sense that they use technologies for fun. "They're all, especially the boys, really great at video games," he said. "But if they are going to succeed in high school and at a job they have to be comfortable with keyboarding. They have to be able to do research, and turn in papers, and they don't know how to do that. It's basic skills." In teachers' view, basic skills constitute types of technology use that were school sanctioned. They did not see video gameplay as a potentially valuable pursuit. Other faculty similarly remarked that if students are tech savvy it was only for texting or using social media, not for academics like website navigation or research. Although the earlier analysis of students' digital play revealed that Chávez students did in fact develop digital skills from their play online with friends, teachers curtailed students' digital forms from becoming cultural capital for learning.

Teachers' beliefs about the separation between students' digital youth cultural forms and valued "basic skills" with digital technology filtered into daily classroom instruction. For example, I attended a multi-week series of classes about the value of education taught by Ms. Embry, a seventh grade language arts teacher. By the end of two weeks, students were to create a series of written documents on their iPads that explained their views of the value of education using research citations from the Internet. In each

class students worked independently on their iPads at their desks and Ms. Embry walked around the classroom, hands behind her back, and peered onto students' screens. "I know you guys love to type like how you text, using little emoticons and spelling 'you' with the letter 'u'," she said in one class. "That's fine for your friends but that's not what will get you a good grade here." Rather than integrate features from students' own peer cultures, teachers routinely positioned these digital forms as irrelevant to learning, instead emphasizing other skills.

In another example, Ms. Bryant was teaching a class on computer programming using software called Scratch. Students were permitted to work independently on their computers, using Scratch to complete challenges that teach the basics of logic to animate a cat on the screen. As part of its design, students could remix different types of audio or image files of their choice into a computer program. "You are free to use whatever media you want to complete the challenge," Ms. Bryant instructed. "But remember, at the end of the day I don't care how pretty your Spongebob looks. You only get full points if you solve the problem." Although some assignments at Chávez provided semi-structured opportunities for students to meld their own interests, like digital media from the Spongebob television show, teachers disciplined play by treating those interests as ultimately irrelevant to schooling. Chávez students were thus taught digital skills but, unlike Heathcliff students, were not permitted to develop the creative potential of those skills. Disciplining play in this way reduced the capacity for students to think critically about their own interests and social position in the digital age.

Disciplining Play at School

Digital divides, both at home and at school, are shrinking, and so-called 'digital youth' experience youth culture as digitally mediated. These generational similarities in digital skills among youth could create opportunities, particularly for minority and working class students, to translate their digital youth cultural forms into valuable cultural capital at school. Teachers, especially at schools serving less privileged students, are positioned to integrate the digital play young people bring to school as a meaningful part of the learning experience. As the literature on technology and education suggests, doing so may mitigate existing inequalities.

Yet the social dynamics within these three technology-rich middle schools are better explained by theories of social reproduction. Although students varied considerably by social class and race at each school, students did indeed share similar experiences as digital youth and brought with them to school valuable skills with digital technology, such as online communication and digital production. But students entered schools with different disciplinary orientations to kids' digital play that had the effect of reproducing inequality.

I find that teachers' shared beliefs about students informed their disciplinary orientations to students' digital play that varied by school, and these orientations determined whether the digital skills students brought to school were transformed into valuable cultural capital for achievement. At César Chávez Middle School, teachers saw the digital youth culture of their working-class, Latino students as worthless to the more academic, "basic skills" with technology they instead choose to teach. Students were told that their peer communications, experiences with video games, and interest-driven play with online images and video had no relationship to schooling. These students received

lessons with digital technology but were taught to minimize their creative potential while at school.

Table 1: Disciplinary Orientations to Digital Play and Achievement

School	Teacher Orientation	Instructional Practice
Cesar Chavez Middle (Working class, Latino)	Play is irrelevant to school	Students' digital forms positioned as useless, denied cultural capital
Sheldon Junior High (Middle-class, Asian)	Play is threatening to school	Students' digital forms heavily policed and regulated, denied cultural capital
Heathcliff Academy (Wealthy, White)	Play is essential to school	Students' digital forms translated into cultural capital for achievement

At Sheldon Junior High, teachers' disciplinary orientation drove a conception of students' digital play as not simply irrelevant but also threatening to learning. Teachers saw signs of students' digital forms, including peer communications, video game-playing, and online production, as signals that students would use digital technologies to hack, cheat, and subvert their authority. Like Chávez youth, Sheldon students' digital skills were not transformed into cultural capital at school. Rather, teachers used digital technologies to construct a competitive learning environment for high-stakes achievement for mostly traditional evaluations in the form of tests.

While Chávez and Sheldon teachers' disciplinary orientations to digital play inhibited its capacity to foster learning, Heathcliff teachers actively promoted an overlap between digital play and work as an agenda for learning. Teachers' assumptions about students' privileged position, combined with expectations that youth bring generation-specific digital skills, fueled instructional practices that transformed students' digital forms

into valued cultural capital for achievement. Teachers actively used a metaphor of bringing students' "garages" to school to suggest that students should, as part of a learning experience, tinker and mess around with digital technology as a process for learning.

While scholars have long assumed that students encounter stratified entry points upon school enrollment, there is little examination of how schools may differently foster digital youth culture for learning and achievement. This study builds on this literature by illustrating that cultural capital does not always come from parents. Schools reify the status order in the digital age by disciplining play. Teachers transformed digital expressions of privileged youth into cultural capital for learning while dismissing the digital play of minority and working class students as threatening or irrelevant to education. In this chapter, I showed *how* teachers reproduce inequality in the digital era. In the next, I show *why* – I locate the sources of teachers' disciplinary orientations in the workplace dynamics at each school.

CHAPTER III:
WHERE DISCIPLINARY ORIENTATIONS COME FROM

Where do teachers' beliefs about their students' digital youth culture come from? Education researchers have wrestled with the topic of teachers' beliefs and their effects since the middle of the twentieth century. Early work suggests that teachers' beliefs about their students have a self-fulfilling effect on student performance: high expectations of student achievement lead to better grades, and the reverse for low expectations (Brophy 1983; Entwisle and Alexander 1993; Wineburg 1987). This literature suggests that teachers bring with them to school cultural notions about their students that impact their pedagogical practices. It also could suggest that a similar phenomenon may occur with regard to their beliefs about kids' digital play and its value to learning.

Many of these studies tackle specifically how teachers' beliefs about students' race, class, and gender tie to educational expectations that vary along scales of privilege. For example, teachers at schools that serve working class Black and Latino youth position their students as academically adrift threats with little chance for success (Ferguson 2001). Black and Latino young men, racialized by faculty as "bad boys," are subject to higher disciplinary sanctions than other children and subsequently have poorer educational outcomes. On the other hand, teachers at schools that serve middle- and upper-class Asian-American and White students position their pupils as intelligent and capable of postgraduate success (Diamond, Randolph, and Spillane 2004; Lee 1996; Lee and Zhou 2015). Teachers construct Asian-American children as model minorities, emphasizing cultural assets obtained from their countries of origin, including affinities for math, science, and standardized exams. White youth, on the other hand, are not racialized like minority

children are; they benefit from Whiteness' invisibility and their achievements are seen as individual successes rather than be attributed to race-based stereotypes.

But we also know that teachers' beliefs about their students often quite diverse. Indeed, qualitative work highlights the diversity of racialized, classed, and gendered stereotypes that teachers draw on to construct their students. For example, just as some studies report that Latino youth are constructed as underachievers and pseudo-criminals, others find that teachers see their students, particularly young Latinas, as hard-working immigrants trying to get ahead (Valenzuela 1999). Whereas much research highlights how Black students are racialized as threats, some work finds that Blackness varies in its meaning depending on if the school's student body is a Black majority or a minority (Lewis 2003). And although much of the literature characterizes teachers' treatment of Asian-American students as model minorities, other work suggests that Asian-American youth are perceived as rule-following laborers without creative potential (Duster, Minkus and Samson 1998; Gamoran and Mare 1989; Woo 1994). Recent news stories about cutthroat, overbearing "Tiger mom" parents present a different narrative to the model minority stereotype. Clearly, teachers' beliefs about students' race, class, and gender are not monolithic; rather, faculty draw from a repertoire of available cultural imagery and stereotypes when constructing most of their students. But while education researchers acknowledge that teachers draw on cultural imagery to construct their students, they know less about when and why teachers envision their students in the ways that they do.

I have found Swidler's theory of cultural toolkits to better conceptualize teachers' beliefs of students in the present study (Swidler 1986; 1997). Swidler challenges sociologists to think of culture as a repertoire, a "collection of stuff," that includes sets of

beliefs, meanings, and worldviews individuals carry with them. In her view, the breadth of tools that are accessible to any given person is acquired from their milieu over the course of their life. Swidler wrestles with the fact that during the course of an interview people can have multiple, sometimes conflicting points of view. Similarly, as I find, teachers exhibit multiple constructions of Asian-American and Latino students as threats and also as achievers.

But what determines when a tool is applied? In other words, what determines when a teacher constructs a Latino youth as a hard-working immigrant rather than a future gang member, and why? Toolkit theorists speculate that institutional settings exert this calculus. Although education researchers have not, to date, explored the relationship between toolkits and the school environment, scholars are increasingly studying the importance of organizational culture among faculty to student achievement (Kruse and Louis 2009; Moller et al. 2013; Shein 2010). To advance this argument, they contend that faculty share among them a set of structures, processes, and behaviors that govern their work with one another and with their students. These norms are not necessarily brought by teachers to the school but rather emerge from the history of the school and are situated in a particular settings. For example, scholars in this area identify how teachers share varying levels of collaborative orientations to their work depending on the school. Some schools promote help and feedback among one another, and others schools are more hostile. Interestingly, this largely quantitative work finds that faculty who share a collaborative orientation to one another exhibit fewer race- and class-based gaps in achievement for their students than do faculty with more hostile orientations.

In this chapter, I first draw on interview data to document the breadth of teachers' beliefs, or tools, they used to construct their students along lines of race, class, and gender. I build on existing work by suggesting that cultural toolkits provide more explanatory power for understanding teacher beliefs. I then use ethnographic accounts to provide empirical support for how workplace norms structured teachers' cultural toolkit selection for constructing their students. Each school environment has its own history that accounts for how faculty collectively made sense of their experience in this work environment. Faculty described how this shared meaning system orients them to one another by generating norms for the relationships they develop as colleagues. These norms create a path dependence that makes the use of a specific tool to describe students commensurable. Teachers' beliefs, represented by toolkits, and teacher workplace culture are inseparably linked social features that construct the lens through which teachers construct their students. It is the mechanism that determines how students' play is disciplined as valuable or not for achievement.

Teachers' Tookits

Given existing work on cultural toolkits, I expected that the teachers in this study – all largely White, middle class, and female – would share similar perceptions of their students. As teachers reflected on student populations they have taught, both at their present place of work and at other schools, I learned that their toolkits were indeed alike. Like Swidler uncovers during the course of her interviews, I find that teachers had two competing views of minority students: two ways of perceiving working class Latino students, and two constructions of middle-class Asian American students. But I also find that these perceptions were situated within a particular school setting from their memory.

Instructors at César Chávez Middle School saw their predominately working class, Latino students in the image of a benevolent, hard-working immigrant. For example, Ms. Limon, a seventh grade math teacher, explained that "my students are mostly Hispanic and a lot of them come from damaged homes," she said. "but these kids work so hard to try to make it in this world. Their parents really trust us with their children." Mr. Weber, an eighth grade History teacher, said that "at Chávez it's basically Latino or Hispanic students, and I would say lower middle class or working class. Really high proportion of single parent families or where the father is in jail or they don't even know the father. But they come to this school looking for a better life for their kids." And Ms. Embry, an eighth grade Language Arts teacher, noted that "a lot of kids here have uneducated parents from Mexico that only speak Spanish, and they want to be supportive of their kid in school but just don't know how." Like much of the literature on perceptions of Latino students in public schools, these White, middle-class teachers at Chávez did construct their students in classed and racialized ways but did so through depictions reminiscent of an assimilating immigrant attending school to reach for the American Dream.

Teachers at Sheldon Junior High also described their students through the lens of race and class, and did so with imagery of smart, yet cutthroat Asian immigrant youth. Ms. McDonough, a seventh grade Language Arts teacher, explained:

> The typical student here is pretty high achieving. Mostly Asian and very good at taking tests but not very good independent thinkers. I think they have a lot of fear of doing something wrong because they're raised by these Tiger Moms who will not let them out of the house unless they do well. We have some very gifted kids who are already taking the SATs and scoring high, but they lack some of the humanity kids this age should have because of how they're raised.

Like Ms. McDonough, Mr. McNally expressed frustration that his eighth grade students were raised to be so test-focused. "They're only as good as how they are on a test," he said.

"In Asian culture, their livelihoods are about tests. The benchmark in China is about tests. We're creating people who can't think or can't problem solve, but they're good at tests." Teachers also expressed that their students' cutthroat orientation extended into major disciplinary issues. "We've had a bunch of suspensions this year because these Asian kids are so good at using technology that they hack our online system," said Ms. Finnerty, an 8th grade Science teacher. "One student broke into a teacher's website and locked her out. They'll do anything to do well." At Sheldon Junior High, teachers drew on racialized imagery of Asian-American students as test-focused, Tiger Mom-raised youth who are intelligent but also potential threats.

Sheldon served a more diverse student body than the other two schools is this study, and when I asked faculty to reflect on their Latino student population they drew on stereotypes of Latinos as threats, diverging from how Chávez faculty positioned Latinos as immigrant achievers. For example, Ms. Leary, an eighth grade science teacher at Sheldon, described her Latino students as "unruly": "They don't do as well academically as the Asian students here," she said, "and so they start a lot of fights with them. I'm sure they learn it from their culture at home." Mr. Oruche, a sixth grade Language Arts teacher, similarly described his Latino students as troublemakers. "Those students, especially the boys, are much more aggressive than the other students," he said. "Our Asian students may be crazy competitive, but they won't resort to fists like the Latino kids here do." Whereas Chávez faculty saw their Latino students as hard-working immigrants, Sheldon faculty saw both Asian-American and Latino students through a "threat" orientation: as cutthroat hackers and violence-prone troublemakers, respectively.

Meanwhile, at Heathcliff, teachers did not have much to say about their majority White student body beyond typical banter that they were "good kids," "very smart," and "come from good families." Whiteness was not a readily accessible status to teachers, which resonates with research that positions Whiteness as invisible. However, the school did have a small Asian-American population, and teachers shared race-based assumptions about these youth. "Well, you know what they say," said Mr. Blendell, an eighth grade math teacher. "Asian kids really do fit that model minority stereotype. Our other students could learn a lot from them." Another teacher, Mr. Gates, described Asian students in his music classes. "They're so gifted at music," he said. "I think I read somewhere that Asian culture celebrates music. It's such a beautiful thing." Heathcliff faculty described their Asian-American students with a benign achiever orientation, a stark contrast to the threat lens applied to Asian-American students at Sheldon.

Despite their ability to narrate lengthy race- and class-tinged stories about the students at their current school, teachers described students of similar demographics at other schools where they have worked in very contrasting ways. Among Sheldon teachers who worked with Asian populations elsewhere, these constructions were more consistent with those shared by Heathcliff faculty. Ms. Nisbett, a seventh grade science teacher at Sheldon, said that she had worked at another school in the area that served mostly Asian-American children. "My job there was so easy, the kids were just so darn smart," she said. "Quiet, but smart. I think it's part of Asian culture, they're just on such good behavior all the time." Ms. McDonough, a seventh grade Language Arts teacher who worked at a school three hours away from Sheldon, explained that her other school "had a mixture of White, Asian, and Latino students, but the brightest were the Asian students. I just don't know

what it is, they always know the answer to the questions. It's no wonder they end up at great schools like UCLA or Cal (Berkeley)." Recounting his teaching at a school in a different part of the state, Mr. Kenworth, an art teacher at Sheldon, said that his old school also had a high Asian population. "They did well in class because of the cultural thing," he explained. "Their parents are first generation and grew up in a different country, and came here for opportunity and the educational system. They just want their kids to do better for themselves. They were good kids." Teachers at Sheldon described Asian students at their current school as racialized threats, but when referring to Asian students at other schools where they have worked they drew on non-threatening, model minority imagery. These two sets of beliefs likely reflected the breadth of teachers' cultural toolkits for constructing Asian-American youth.

In a similar flip, teachers at Chávez described Latino students at other schools to be very different from how they constructed Latino youth at their current school. For example, Ms. Limon, a seventh grade math teacher, worked at a school in Illinois before coming to teach at Chávez. "We had so many behavior issues there. It was mostly Hispanic kids from broken homes with lots of issues from family. I swear half of our energy staying on top of discipline." Ms. Woodside, a 7th grade science teacher at Chávez, also worked at another school with mostly poor Latino youth. "It was one of those inner city schools, lots of kids who are in Latino gangs or who have siblings who are in them," she said. "Teaching at a place like that was like teaching future gang members." Another teacher, Ms. Gellar, did her student teaching at an inner city school, as well. "A lot of the kids there were latchkey kids whose parents came here from Mexico, or one parent is even still back there," she explained. "These kids were in gangs, had probation officers, absolutely no support at

home. Behavioral issues were out of control." While teachers at described students at Chávez with a kind of new immigrant narrative, these same teachers who worked at other schools with similar student demographics instead characterized those youth as future gang members. These teachers' dual perceptions of students with similar race and class statuses likely represented the cultural toolkit available to construct Latino youth.

After teachers shared their contrasting images of same populations, essentially revealing two sets of tools they use to construct minority students, I prompted them to reconcile the source of the differences. Most of the time teachers expressed difficulty putting the words together to explain why they would characterize students so differently. Some would stutter and quickly say that they only meant one of the descriptions was "right," such as when Ms. Woodside responded with a correction: "well, there were only a *few* bad students at the other school, these kids mostly just came from tough situations." Others could not explain the source of the difference, but were stern in their assertion that both types of characterizations were true.

A few teachers, however, suggested that the sources of their perceptions were more complicated than they thought at first. For example, at the end of our interview I told Ms. Gellar that existing research would expect us to find that César Chávez Middle School, given that it serves working class, Latino youth, would have more behavioral issues and disciplinary sanctions at school. I asked her why students are different at this school as compared to the other school where she talked about Latino youth as gang members. She paused, and said:

> The way people react here at Chávez is a lot more civilized than some other places I've worked where teachers not only confront students but also get in other teachers' faces. In my experience at different schools, how your teachers are with each other is how your kids are with each other. Last year the Vice Principal referred to this school as

> Disneyland in terms of discipline compared to other schools with the same demographic of kids. That difference comes from how teachers at this school see these kids differently, not as behavioral problems but as people who have a bigger story to them than what we see in one moment in class. The administrators are the same with the teachers as they are with the kids, too. The trust just flows. If you take the same group of kids and put them in other schools they will act completely differently. It's about what your surround these kids with.

Teachers' difficulty justifying their use of competing tools to describe their toolkits is not surprising given our understanding of toolkits. Conflicting tools can exist simultaneously because awareness of potential differences between them are obscured from view. But these findings suggest that teachers' constructions of Latino and Asian youth were indeed heterogeneous and also located in particular social environments. Whiteness, however, was invisible in each of the schools. In the next sections, I examine situational dynamics located at each of these schools. I begin each school discussion by describing the workplace dynamics that created a path dependent link to particular tools in teachers' toolkits. I then show where these workplace dynamics came from: a consequence of schools' recent histories.

'In it Together' at César Chávez Middle School

Among teachers and staff at Chávez, the common thread among almost all respondents was that everyone there was "in it together." This phrase represented a kind of template for social dynamics at the school, and acted as a durable sets of norms for how faculty worked with one another and taught their students. During a group interview, Ms. Fillion, a sixth grade math teacher at Chávez, said that "we care about our kids and want them to do well. We have conversations about students all the time, like what's up with Johnny lately? It bonds us." Ms. Ramirez (Language Arts) agreed: "We are very together. We share our lessons, like – here you go! I'll make copies. Some schools they don't do that.

You're actually judged here if you aren't open about your work!" Individual interviews with other faculty confirmed that the workplace dynamic at Chávez provided a shared purpose around collaboration and help, and created expectations for peer support among faculty. During interviews, teachers explained to me that Chávez is "very collaborative," other teachers as "helpful" and "there for you" in times of need. Ms. Roberts, a seventh grade Language Arts teacher at the school, elaborated:

> The teachers at this school are *very* cohesive…I'll send students who need extra work or a detention to someone else, they'll send students to me because they say I have something that better supports this student. We will do that a lot. You feel like everyone is part of your family here.

The "in it together" mentality supported a normative understanding of sharing and commitment among the network of teachers at Chávez.

Teachers' talk about the family-like, "in it together" norm resonated with observed behavior during day-to-day life at the school. Faculty meetings and faculty lunchroom banter centered around asking for or offering help to other teachers with specific questions about lessons or about students they had concerns about. For example, over lunch three teachers talked about one student named Jose with whom they all shared concern. "Jose's been acting up in my [7th grade] class and I have no idea why, I can tell he's a smart kid but there's something up," said Ms. Woodside. "He was fine for most of my [6th grade] class," said Ms. Ramirez, "but toward the end of the year he was doing exactly what you were saying – something is definitely going on." Ms. Fillion waved her finger in the air and said, "that's around the same time he told me his parents are going through a divorce. We should talk to the school counselor and get this kid some help." This kind of discussion among teachers happened regularly on campus, an activity they jokingly referred to as "triage." Triage, either by helping other teachers resolve problems or identifying students that need

other help, occupied the discussion in both formal meetings and informal settings like lunches.

Like their teachers, students at Chávez were also aware of, and embedded in, the "in it together" way of life at the school. The youth described teachers as "like family," "strict, but really caring," and "people they can trust." Bailey (14 years old, Latina) said that "teachers here enjoy what they're doing so it just spills over to us, we like it much more. It feels like they want us to understand. They're like mentors." Caleb (14 years old, Latino) explained that "these teachers are super nice, they're like your Moms and Dads. They're very close to the students. They're more like family almost. That's the way they treat us and so we treat them with respect." The "in it together" approach to teaching generated trust between teachers and students, and gave students the assurance they needed to approach teachers when something was wrong. "They're more helpful here than at my other school," Mercedes (14 years old, Latina) said. "At my other school teachers didn't even talk to us. Here if you go to them with a problem they'll actually do something. They're people you can open up to."

Although students and teachers described and engaged in family-like behavior with one another, their actions represented more than isolated incidents. The "in it together" norm summarized a meaning system associated with the network of inhabitants within this particular organization. It imposed an expectation of sharing and collaboration, and encouraged people in need to speak up because they could anticipate kindness and compassion as a response. While teachers appreciated the school dynamic, it also occupied much of their time and energy to meet these expectations. "It's a damn lot of work to be this

nice!" said Ms. Ramirez, laughing. "But it's definitely worth it in the end, especially for the students."

At Chávez, teachers constructed their working class, Latino students in ways consistent with their interviews – as struggling, well-intentioned immigrants – as an extension of their "in it together" mode at school. For example, I observed Mr. Weber's 8th grade history class during first period, and he was starting a new lesson on factory labor and working conditions in the 20th century. The formal materials for the lesson, including slides and handouts, comprised of timelines that denoted phases of industrialization in the United States, and descriptions of the poor conditions for workers in factories through selections of Upton Sinclair's *The Jungle*. "The warm up for today," said Mr. Weber, "is your diet. What are your eating habits? Protein, carbs, etcetera…or McDonald's twice a week?" A student raised his hand, and spoke: "I'm a vegetarian!" Mr. Weber nodded. "Good for you, Frankie. You are what you eat. Anyone else?" Another student, Mary, spoke up. "My mom cooks vegetables every now and then. I eat junk food on some days, pretty normal I think." "Thank you, Mary," said Mr. Weber. He looked to a slide on his projector and read the words aloud: "If we are such a smart nation, why do we eat crap?" He turned back to the students. "Let's investigate this. The average Mexican immigrant today makes $10/hour more in food factories than he does at any other job. The working conditions are bad, but he makes more. So why wouldn't he work there to care for his family?" Mr. Weber then turned on a clip from *Fast Food Nation*, and plays a scene that shows, in gripping detail, Mexican workers getting injured on the job. "Today's factory job is no different than it was in Sinclair's *The Jungle*," said the teacher. "The only difference is that the workers today are Latinos and other immigrants *just like you*." Students are silent. "This is why it's so

important that you let us, at school, help you do the best you can. You need to do well and stay in school no matter what so you can make a better life for yourselves."

Although Mr. Weber's curricular plan for the day was about poor working conditions in the 20th century, he translated the material content to students in ways that best "fit" with both the toolkit construction of Latinos as suffering, well-intentioned immigrants, as well as the school-wide orientation that sees people there as "in it together." But when I approached him after his lesson, his responses were only focused on the family-like take of his class: "Aren't they just incredible? They really need us. It's days like this that make you feel good to be a teacher." Although in interviews elsewhere he described Latino youth as "future gang members," such a construction was not readily accessible at this school where teachers were positioned as caretakers. The family-like orientation to work that faculty adopted created a path dependence to the "appropriate" tool, that of the well-intentioned, immigrant Latino, while obscuring the fact that teachers also harbored another, less favorable image of Latinos.

I have so far described how norms among faculty shaped a collaborative, family-like orientation to their work, and illustrated how these norms rendered a particular tool from teachers' toolkits to describe Latino students "sensible" given this orientation. But where did these workplace norms come from? As I spoke with faculty and staff about the history of the school, I learned that it followed a rather unique trajectory within the broader community. The area gained a very large influx of Latinos over the last ten years, a 21.39% increase, to account for just over half of the community population (U.S. Census Bureau 2010). Its smaller White population, 43%, primarily resided closer to the oceanfront, and Latino families lived further inland. Faculty described the public school serving the White

families near the ocean as a sort of paradise, and they colloquially referred to the school as "life at the beach." Houses near that oceanfront school costed, on average, $400,000, a price tag that the Latino population, many of whom live at the poverty level, cannot afford. Chávez's neighborhood fits an increasingly common portrait of segregation in California where Whites and immigrant Latinos seemingly live in two very separate economic and social worlds despite being five miles from one another.

But the circumstances of Chávez's founding was what teachers attributed to the family-like atmosphere at the school as compared with the climate at other schools serving similar student populations. Ms. Fillion, a sixth grade math teacher at the school, explained:

> We used to be an elementary school just under ten years ago. The district was getting too big and couldn't accommodate the many, many immigrant families that moved here. So they talked to Mr. Erickson, who was the principle of the elementary school where he and many of us worked, and convinced him to be the head of this middle school. A bunch of us left that school to join him. Sure, the kids we teach are older, but it feels the same. We never had to leave our family.

Just under half of the faculty at Chávez migrated with Mr. Erickson from an elementary school in the district to found this middle school. When asked about the collaborative, 'in it together' workplace, they said it came the supportive dynamic that was expected back in the day when it was an elementary school. Mr. Chase, a seventh grade science teacher at the school, reflected that Chávez was different from other middle schools he had taught at. "At most junior high schools the teachers have to act like the police almost, be very attentive to discipline," he explained. "But a lot of teachers here used to work with little kids. You wouldn't expect former elementary school teachers to act like cops, and we're probably better off that way." The history of Chávez's founding shaped the 'in it together' workplace dynamic among faculty. This dynamic oriented teachers to think of their students as well-

intentioned and made "sensible" a construction of their students as benevolent immigrants rather than the "future gang members" faculty described elsewhere.

'Every Man for Himself' at Sheldon Junior High

Whereas at Chávez the organizational dynamic was family-like, at Sheldon the idea of coworkers as a family was often the butt of a joke. "There's this pressure to tell everyone here that 'we're a family,'" said Ms. Steele, a seventh grade math teacher. "But my opinion is that if you're a family you don't have to advertise it." Ms. Umberger, a seventh grade social studies teacher, said that "teachers here are a lot like the women on that movie *Mean Girls*. They won't let you sit with them at lunch. You're really on your own a lot of the time, it feels like it's every man for himself."

When asked to describe their relationships among coworkers at school, teachers would say over and over that they felt like it was "every man for himself." Teachers described their relationships with other teachers as "professional," and their work as very "nine to five" but they do not attempt to get any closer with anyone else. Mr. Penna, a school physical education teacher, said that it is "not exactly buddy-buddy here. I have a life at home. I go to work to make money, that's about it." Teachers at Sheldon were guarded about themselves and their work. "I try to keep to myself except for the few teachers I'm close with," said Ms. Leary, an 8th grade science teacher at Sheldon. "If you open up too much they'll take advantage of you or call you out with other teachers." Echoing Ms. Leary, Mr. McNally explained that if teachers decide to voice their opinions they must do so with caution. He recounted one time when he disagreed with another teacher during a department meeting:

> I told [the other teacher] that what she was saying was not what we had decided at an earlier meeting. She did not like that I even questioned her and she took a box of pens in

> front of her and threw them at another table. Treating me like I was a student! At the end of the meeting we all walked out and not one person said to her that her behavior was inappropriate. In some ways teachers are bullying each other. They tolerate everyone's unprofessionalism.

At Sheldon, the "every man for himself" sentiment summarizes the social dynamic that teachers must wrestle with when interacting with their colleagues. Teachers were afraid to open up too much with other teachers, including sharing their opinions, for fear of being attacked.

Day-to-day life at Sheldon was much aligned with the workplace norms teachers articulated. Faculty lounge and lunch banter almost always included negative, cutting gossip about other teachers, and racist and homophobic epithets were not uncommonly used in reference to other colleagues. During faculty meetings, the typical dynamic was, in the words of one teacher, "antagonistic." Every meeting the principal started with an activity called "snaps," where teachers anonymously submitted words of appreciation for another teacher and the principal read it in front of everyone at the meeting. Although the premise seemed harmless, teachers used these snaps as opportunities to make fun of other teachers. "Thanks to our school psychologist, who is always there for our students," the principal read from one note. Another teacher in the room snorted, and said: "she's always there….except when she's not. She's not even here!" The room laughed. Students, too, were subject to the same types of messages from faculty and staff. Reading another "snap," the principal congratulated a teacher on running the school's first spelling bee:

Principal:	Thank you to Nick for bringing this event to Sheldon!
Nick:	Our new champion is Dane!
Teacher:	Now what happens to Dane?
Nick:	He goes to other schools to compete.
Principal:	I want you guys to say 'ooooooooooh!' [waves his hands in the air]
All:	Ooooooooooh!
Principal:	What do you think the odds are of him going to the next level?

Nick: ...let's just say he'll like the medallion he won from us.
All: [Laughter]
Principal: To the medallion, everybody!

In public settings at school, banter among teachers was a jagged form of joking that teachers described privately to me as "frustrating" and "tiring." "You have to always feel *on*," explained Ms. Finnerty. The "every man for himself" workplace dynamic cultivated relationships among teachers that were hostile in nature.

Students also reflected that teachers imposed on them combative situations that were very similar to those that I observed among faculty. Teachers were almost always described as "strict" or "very tough." Daniel (15 years old, Asian), said that "there's a handful of teachers I don't ever want to be in their class. Many of them are mean. I have had some of them, so I know, or I hear from other students. They can be really, really strict and really, really mean, almost for no reason." In addition to being strict, students expressed that classroom activities were often high-stakes. "A lot of the teachers here like to call on you at the one moment when you look distracted," said Sarah (15 years old, Asian). "If you answer correctly you get major points from the teachers, but if you are wrong they make fun of you in front of everyone and it stinks." Another student, Andrew (13 years old, Latino), reflected on the same high-stakes teacher demeanor: "it makes you feel like school is a game. If you win you get good grades, but if you lose everyone laughs at you." The "every man for himself" norm filtered through the teachers to the students, and informed relations across the network of inhabitants at Sheldon.

On an early spring afternoon, I sat down in the back of the Ms. Finnerty's 8th grade science class at Sheldon Junior High. The day's lesson was a continuation of earlier work on understanding fractions. Ms. Finnerty stood at the front of the classroom with her hands on

her hips and addressed her students. “Any remaining questions before our big test next week?” One student raised his hand and asked if mixed fractions will be on the exam. “You won’t have to know that for the test. If I give you a test you can rest assured knowing that it is fair.” Ms. Finnerty paused for a moment, raised her eyebrow a bit, and then began pacing back and forth at the front of the room. “How many of you have ever looked at another student’s test and freaked out because you were wrong?” The class was silent. “We’ve all done it!” she exclaimed. “Cheat and didn’t mean to. Just *tell* me you did it and I’ll give you a new question.” Ms. Finnerty then abruptly pointed at a boy in the middle of the room. “Bobby!” He jumped a bit in his chair. “So how do you do well on the test?” Bobby looked down at his desk and squirmed in his seat a bit. Growing impatient, Ms. Finnerty raised her hands in the air. “You dumb dumbs! If you’re smart and keep good notes, you’ll get into the honors placement for next year. And tests don’t mean next to nothin’! Let’s pretend your parents are from a ‘traditional culture.’” She used her fingers to make air quotes. “Your parents can lock you in your room and shove math down your throat, but can they *apply* geometry?” Ms. Finnerty put her right hand on her chest, and raised the other. “Say *I am smart!*” Students replied, “*I am smart!*”

Immediately following the lesson, I approached Ms. Finnerty to ask if I could run a few questions by her about class today. “Matt, I’ll tell you I barely ever remember what I’m doing when I’m up there,” she told me. When I approached other teachers with specific questions after their lessons, they also often expressed that they were “on autopilot” and could barely remember beyond the original lesson plan they put together. “You gotta be tough with these kids,” Ms. Finnerty explained. “If you leave the door cracked open even just a little bit they’ll take advantage of you and weasel their way into getting an A.” In a

separate interview earlier in the year, Ms. Finnerty described Asian students at other schools as unthreatening model minorities, and so I asked why these students today did not fit that image. She paused and looked at me quizzically. “Not here,” she said. “Teachers here have to watch out for themselves.”

Like Ms. Finnerty, teachers at Sheldon employed the same imagery they used during interviews to describe their middle class, Asian-American student population: driven, cutthroat, threatening hackers raised by “Tiger Moms.” Yet, when asked about these moments they rarely if ever recalled these parts of the lesson. Instead, they focused on the features of teaching that demanded most of their mental energy: the “every man for himself” school norm and how it informed their relations not only with teachers but also students. During instruction, teachers’ toolkits and the situated workplace norms were linked together in ways that shaped instruction.

I have thus far described how the ‘every man for himself’ workplace norms shaped faculty interaction with one another and with their students, and illustrated how this dynamic positioned their students as threats. As a result, this dynamic created a path dependence on the teachers’ toolkit selection to prioritize tools that construct Asian-American and Latino youth with threatening class- and race-based imagery rather than the benevolent immigrant or model minority representations described elsewhere. Interestingly, Sheldon’s White student body was largely ignored when it came to acting on the threat orientation. The invisibility of Whiteness, in this case, shielded students from the brunt of school disciplinary actions because faculty primarily drew on racial status to negotiate their perceptions of threat. But where did these workplace norms that inform toolkit choice come from?

My fieldwork proved to be quite useful in uncovering the source of the 'every man for himself' workplace environment at Sheldon. Many of the younger teachers and staff expressed their frustration with the culture among teachers, but more senior faculty articulated how this uncaring, "9 to 5" workplace shifted over the last decade. "We all use to be so committed to our work," said Mr. Madison, an eighth grade science teacher who had worked at the school for twenty-eight years. "But our students completely changed. This used to be a neighborhood with almost entirely middle class White kids. All of a sudden, Asians came in and replaced everyone. It's never been the same since." Mr. Madison and other faculty were correct in noting the dramatic shift in neighborhood demographics. Over the last ten years the Asian-American population spiked to account for 52.47% of the area, an increase by 20.44%. Whites, who used to make up 40.80% on the neighborhood in 2000, now were only 33.19%, a decrease by 19.29%.

Senior faculty at Sheldon described this demographic shift as a threat to the happy life that they remember as teachers. "We used to have a lot in common with these kids," said Ms. Ullman, a seventh grade history teacher who had worked at the school for thirty-one years. "We knew where they were coming from and we knew how to support them. Today, the parents are incredibly demanding and half of them can't even speak to us in English. It's exhausting." Teachers referred to the neighborhood changes as a breach of the racial and social boundaries they had lived with comfortably as teachers previously. "I think people just kind of gave up," said Ms. Brady, an eighth grade Language Arts teacher who had worked at the school for fifteen years. "Nobody wanted to commit the hours that were needed to really support students. And so anybody new who really *tried* would get a lot of crap for not following the old guard." Sheldon, a formerly White school positioned

within a neighborhood undergoing dramatic demographic changes, experienced these shifts through a lens of racialized threat. Senior faculty attributed these neighborhood shifts that they witnessed to the 'every man for himself' workplace dynamic, a set of norms that guided faculty to construct their students as racialized threats rather than achievers.

Serving Elites at Heathcliff Academy

Parents ruled the land at Heathcliff Academy. Every faculty member and administrator at Heathcliff described the various academic standards that they imposed during instruction, but they all expressed that ultimately it came down to impressing parents. "Most of them are pretty affluent," said Mr. Filippo, a seventh grade Social Studies teacher. "They are all very successful, and expect their kids to succeed, too. When we teach these kids in class we're always thinking in the back of our minds what their parents might say." This mentality among faculty of serving elites shaped their workplace dynamic. Teachers described their colleagues as smart and capable, but an underlying tension of existed among them related to who pleased parents the most. In the words of Ms. Lawson, a sixth grade history teacher, "the feeling is if these kids don't end up getting into the best high school or college after here, it's pretty much our fault." This workplace dynamic oriented teachers to think of themselves as attendants to their gifted students.

Although parents put considerable pressure on teachers, the expectation that teachers treat students as elites was shared among faculty and enforced among one another at the organization-level. For example, I sat in on a faculty meeting where teachers and administrators discussed available budgets for their instruction. Mr. Banks, an administrator for the school, led the meeting:

Mr. Banks: As you all know, the Spring Gala is a major part of the budget that we get

to pay for school supplies and other events here. Remember that we had a smaller budget last year because of poorer parent turnout. We're working with the principal and marketing to do a better job, but we still need some ideas.

Ms. Kaufman: I think we need to do a better job sharing with parents all the amazing things our students are doing. I mean, look at Dylan's yearbook online, or even some of the videos my students make for their assignments.

Ms. Richards: Great idea – and we need to do more of that, turn the great work our students do into activities that can be shared.

During the faculty meeting, teachers emphasized the need to not only teach students but make highly visible their students' achievements as part of not only a pedagogical process but also economic need. Faculty communicated similar messages to one another in less formal settings, as well. I routinely hung out in the faculty lunchroom that, incidentally, was also used by parents who visited during the school day to volunteer, drop off food, and coordinate events. "Those kids come to me straight after his class and are half asleep," said Ms. Daniels to Mr. Gates over lunch. "Students tell me they don't learn anything from him, and then I'm the one who has to spend the first thirty minutes of my time trying to wake them up." Mr. Gates shook his head, concerned. "That's not helping those kids, that's not how we do things here." At Heathcliff, faculty shared an understanding that students come first above all, that their students deserve an elite education, and that their students' talents need be showcased publicly.

The parent-driven faculty workplace dynamic of elite servitude filtered into everyday teaching practices in the classroom. For example, Ms. Abrams, a member of Heathcliff's marketing staff, explained that parents expect that teachers use the most up-to-date technologies and related methods for teaching. "We make sure that technology is a core part of our learning goals, and our parents are adamant that they use it, too," she said. "There are only a few teachers who are against using technology in their classes, and they

really stand out…and not for good reasons." As I spoke with faculty about technology use in class, they described keeping up-to-date with the latest tech as in the "best interests" of their students. They also portrayed the luddites among faculty as doing wrong by the children. "I'm no whiz at technology," said Ms. Richards, an eighth grade science teacher, "but I do everything I can to try to keep up. The teachers who don't keep up stand out here – they just can't do the math," she said with a wink.

Ms. Richards was referring to the well-known fact that Mr. Blendell, an eighth grade math teacher at the school, was vehemently opposed to using technology in class. "I use as little of the stuff as I can get away with," Mr. Blendell said to me. "Technology is preventing these kids from actually learning the subject material. They'll Google an equation before figuring out how to solve the problem first." But he also explained that there was a cost to standing by his principles about digital technology. "The moment a parent finds out you aren't using the latest fad they call the principal and email other teachers and say you are doing a disservice to their kid," he said. "Parents can turn other people against you."

The faculty norm of elite servitude was vividly apparent during day-to-day life on Heathcliff's campus. Mr. MacAllister, the school's principal, encouraged me to observe Ms. Pryce's eighth grade Language Arts classes, noting that she represented the "ethos" of the school. I sat in the back of the room during a class she was teaching on grammar and vocabulary. Students had their iPads on their desk and open to a related assignment they worked on the night before. They were discussing a fill-in-the-blank sentence: 'His principles were _____.' "So, my dear students," said Ms. Pryce, with bravado. "The question is: are his principles incredulous, chivalrous, or altruistic?" Students mumbled among themselves, debating the possibilities. "Do I have any *scholars* with the correct

answer?" she asked. Ms. Pryce regularly used words like "scholar" or "bright young minds" when referring to students as she taught them. Other teachers at the school used similar words tailored to their classes, i.e., "historians" for history, or "young scientists" in science class. A group of four students in Ms. Pryce's class narrowed their answer down to chivalrous and altruistic. "Great work! One of those two is the correct answer," said Ms. Pryce. "Adam, pick a scholar of your choice to help us figure out which one it is." Ms. Pryce and other faculty at Heathcliff positioned their students as elites and bright minds during day-to-day instruction. They allowed students to interrupt their lectures with tangents and found ways to integrate those tangents into critical discussions of the material. The shared expectation among teachers of elite servitude filtered into the classroom as faculty actively framed their students as peers and soon-to-be experts in their subjects.

Race operated invisibly for its majority White student body, and the workplace orientation of elite servitude rendered students as achievers in the eyes of faculty. However, race was much more visible to faculty when it came to their small numbers of Asian-American children. For example, one morning Ms. Lawson started her class off by asking if there are any announcements students wanted to share. One White student said it was his birthday. Alex, an Asian-American youth, invoked a stereotypical Asian accent and said, "Ooh, what age you turning?" The class chortled. "Is that how your parents talk to you?" asked Ms. Lawson. "Not at all!" Alex exclaimed. "In fact, I use that voice a lot when I want to get my way. People ask me for something and I just say, 'sorry, no speak Engrish!'" Everyone laughed. "We could all learn a thing or two from Alex," said Ms. Lawson as the class calmed down. "Very clever. I'm sure that move works on me all the time, too!" When racial meanings are invoked at Heathcliff for Asian-American youth, they resonated with

the model minority imagery that faculty discussed during interviews. The other cultural tools available to faculty that conceive of Asian-Americans as threats, like those used at Sheldon, are incommensurable with a workplace that promotes elite servitude and positions students as achievers.

Thus far I have described how a workplace norm among faculty that promoted student servitude shaped day-to-day teaching by positioning youth as achievers and elites. Although race operated invisibly for its majority White students, teachers drew on images of Asian-American students as model minorities when race became salient for this population. But where does this culture of elite servitude come from? Parents, certainly, but also from a broader set of politics that parents negotiated as they selected Heathcliff for their child and participated in its functioning. "Well, I mean, just look at the neighborhoods around here," one parent told me before a parent event, reflecting on why she sent her son to Heathcliff. "There are a lot of *bad* neighborhoods just five minutes away. At Heathcliff you can know for sure you're sending your child to a place with other good kids."

Although Heathcliff's gates seemed to separate itself from much of the local neighborhood, the outlying community had become much more diverse in the last ten years. Whites remained the majority, at 76.67 percent of the population, but the size of the Latino community had grown by 16.59 percent since 2000 to account for just over ten percent of the total neighborhood. Despite this growth, Latino families earned considerably less than White families. The median household income for White residents in the neighborhood was $83,246 in 2013, an increase in 26.5% since 2000, whereas the median household income for Latino residents was $27,757, a decrease in 4.4% since 2000.

Heathcliff families were likely far more wealthy than the medium income for Whites given the tremendous cost to attend.

Parents I spoke with at school events rarely named the racial groups they were referring to, and instead used "bad neighborhoods," "bullies," and "drug dealers" to describe poor Latino youth whom they perceived to be threats to their child's proper development. "My husband and I were so scared at the thought of sending our daughter to a public school after Heathcliff," said a parent on a panel at the school's parent event. "There's a lot of drugs and crime in the bad neighborhoods around here. We all don't want that to touch our children." Another 'Heathcliff Mom' on the panel nodded in agreement. "The reality is Heathcliff is not like the rest of the world," she said. "You just have to hope that with all that we've taught them that they will seek out other normal kids and not be influenced by the bad ones." Parents who send their children to Heathcliff do so to provide a "safe" environment, meaning one that separates them from the growing population of poor minorities in their community. Although parents and teachers were more willing to discuss social class than race, racial dynamics were a key facet of the Heathcliff school environment. The largely White families sent students to this school to separate them from poor students of color, especially Latinos. Their active engagement with Heathcliff faculty and staff ensured that their children get an education fit for elites. These parent-driven politics facilitated a vision of Heathcliff students as achievers in the face of poor minority youth in the outlying community. Unlike at Sheldon Junior High, Heathcliff faculty linked an achiever orientation to a cultural tool that portrayed their Asian-American students as model minorities rather than cutthroat hackers like at Sheldon.

Sources of Discipline: Workplace Dynamics and Cultural Toolkits

In previous chapters, I illustrated how schools invoked different disciplinary practices to students' digital youth culture, activating kids' digital skills as culture capital at Heathcliff Academy while rendering digital youth culture as threatening or irrelevant at Sheldon Junior High and César Chávez Middle School. In this chapter I described where these disciplinary orientations came from. I mobilized the answer to the puzzle by drawing together previously disconnected literatures on teachers' beliefs, cultural toolkits, and workplace dynamics. I argued that teachers carry with them multiple, contradictory racialized and classed beliefs about their minority students. But teachers selected the "appropriate" tool from their toolkit of cultural imagery as it aligned with the meaning system that existed at their workplace.

Scholars who study organizational culture challenge education researchers to think of the classroom as, in part, shaped by norms faculty develop and share with one another. I find that teachers, especially more senior faculty, saw connections between the recent history of their school and the workplace norms that faculty, both new and more senior, must wrestle with. Workplace norms, I found, were powerful social forces that oriented teachers to one another and to their teaching. They evoked a shared meaning system that created a path dependency on how teachers selected tools to construct their students that were within sensible alignment. Table 2 provides a summary of this relationship between workplace dynamics and cultural toolkit selection.

For example, although in the context of an interview teachers displayed awareness of multiple constructions of Asian-American youth as either model minorities or Tiger Mom-raised, cutthroat hackers, only teachers at Heathcliff saw their Asian-American students as the former and only teachers at Sheldon saw them as the latter. Teachers at

Heathcliff shared an achiever orientation to their students as a consequence of parental pressures to treat their students as elites, and "fits" with the model minority imagery they described during interviews. At Sheldon, however, teachers shared a threat orientation to their students as a consequence of how faculty interpreted neighborhood demographic shifts as a violation of their racial and social boundaries. This view of students as threats aligned with the cutthroat hacker imagery they described during interviews.

Table 2: Relationship between Faculty Norms and Constructions of Students

School	Workplace Norms	Orientation to Students	Tool for Asians	Tool for Latinos	Tool for Whites
Cesar Chavez Middle (Working class, Latino)	In it together	Achiever (Vocational)	N/A	Benevolent immigrant	Invisible
Sheldon Junior High (Middle-class, Asian)	Every man for himself	Threat	Tiger Parent, cutthroat, hacker	Future gang member	Invisible
Heathcliff Academy (Wealthy, White)	Serving elites	Achiever (Elite)	Model minority	N/A	Invisible

Faculty also reported a similar set of beliefs about Latino students as either benevolent immigrants or future gang members, but only teachers at Chávez saw their Latino students as the former and only teachers at Sheldon saw them as the latter. Teachers at Chávez shared an achiever orientation (for vocational tracks) to their students as an extension of the family-like, 'in it together' mentality that carried over from their transition from an elementary school to a middle school. This achiever orientation aligned with the benevolent immigrant imagery teachers described during interviews. At Sheldon, however, the aforementioned threat orientation also applied to their Latino students, and aligned with the future gang member stereotypes that teachers possessed within their cultural toolkit.

An interesting consequence of the invisibility of Whiteness is how its invisibility privileged White students no matter the school context. At Heathcliff, faculty constructed White students' achievements as individual successes rather than the much more visible status their Asian-American students shared, and teachers attributed their achievements to their racial group. At Sheldon, White students' invisibility shielded them from the much more visible racial statuses imposed on Asian-American and Latino students. As a consequence, Asian-American and Latino students – not Whites – became the focus of teachers' disciplinary practices to negotiate supposed threat.

Teachers' disciplinary orientations to students' digital youth culture came from how race- and class-inflected cultural toolkits ere entangled with workplace dynamics. In the next chapter, I turn to interviews with samples of eighth grade students where they narrated their experiences and development over the course of middle school. These narratives illustrated how schools' different disciplinary approaches to play created students as subjects, and differently as tinkerers, rule-followers, and digital laborers.

CHAPTER IV:
CULTIVATING TINKERERS, RULE-FOLLOWERS, AND DIGITAL LABORERS

In this dissertation, I stitch together a set of arguments that explain how educational institutions cultivate youth as innovators in the digital era. I first described how schools differently discipline the value of similar cultural resources children bring with them to school as 'digital youth.' Teachers transformed the digital play of privileged children into cultural capital for achievement while dismissing minority and poor students' digital youth culture as threatening or irrelevant to education. I then explain where these disciplinary orientations came from. Workplace norms among faculty that originated from the history of the school structured particular orientations to students' digital play. These orientations were selected from the cultural toolkit teachers brought with them to school that included varied gendered, classed, and racialized imagery of non-White children. In this chapter, I mobilize a response to the oft-flung retort: "so what?" I find that these previously described social forces at school have the effect of cultivating students' affinities as creative producers within institutions. These dispositions children developed by the end of middle school would be carried with them to their next set of stops down the road: high school, possibly college, and work. They affect their ability to perform in these contexts and will likely guide them into different tiers of a stratified labor market for the twenty-first century.

Social reproduction theorists describe the outcome of a school cultivation process as the relationship between social structure and forms of consciousness (Bowles and Gintis 1976). Scholars have variously interpreted consciousness to include students' personalities, interpersonal behavior, identities, habits and dispositions (Calarco 2011;

Crosnoe 011; Lareau 2011; Eckert 1989; Willis 1977). Remember that Bourdieu argues children develop habits and dispositions specific to the social milieu in which they are raised, and children whose behaviors match the ideals of the dominant class (such as those who run educational institutions) do better in school and beyond. Throughout the dissertation I argue that children differently developed these valued dispositions from not just parents (per Bourdieu) but also teachers.

In this chapter, I focus on one aspect of students' dispositions central to Marxist theorizing: through interviews, I extract the ways students relate to technologies of production. This matters to scholars of digital youth culture and learning scientists because they identify kids' capacity to create and share media online as central to their development as labor market participants (Ito et al. 2013). These literacy scholars are aligned with "creative class" minded business strategists who argue that play is critical to prototyping new ideas and implementing them into our digital infrastructure (Florida 2012; Schrage 2000). Youth already develop through play with friends many of these skills cited as valuable by scholars, including online collaboration and digital production, but as I describe in other chapters schools discipline whether those skills are permissible in institutional settings. Through analyses of interviews with students in this study, I now illustrate how schools differently cultivated students' orientations to online publics, including their comfort with being visible to institutional authorities online. I tease out commonalities and differences among how these eighth grade students narrated their experiences over the course of middle school. I show how children differently internalized boundaries for the appropriateness of play and digital production while at school.

At César Chávez Middle School, I found that students left their more innovative digital pursuits outside of school, and they saw these online activities as inconsequential to schooling. Students viewed school-sanctioned forms of digital production as a laborious means to earn money in the future. At Sheldon Junior High, students also left digital play outside of school. But they saw these digital activities as risky in the eyes of school officials, and so they carefully curated their activities online at school. Sheldon students saw digital tools as secondary to a primary objective of succeeding by any means to get into a good college. Students from Heathcliff Academy thought play online was essential to school, and saw classroom assignments as starting points for creative expressions that were highly visible online to school officials. These school-level differences in student consciousness are what social reproduction theorists suggest guide students into different labor market trajectories. In what follows, I review these in turn by connecting the social phenomena at each school to students' narrated relationships to play and digital production.

Digital Laborers at César Chávez Middle School

> I love music. So me and my brother, we take our favorite music and make something new with it. He'll have an idea for different sounds to add, and I'll add the beats. He's really good at thinking which songs could go together, and I'm good at actually remixing it. We do this for fun whenever we're not at school or not doing homework.

Bailey (14 years old, Latina), a student at César Chávez Middle School, was obsessed with making music with her brother using her computer. She and her brother maintained a Soundcloud account where their songs were shared online for others to leave comments and make suggestions for new tracks to make. Like most of the other students I interviewed at the school, Bailey pursued her interests with others using various digital tools. Chávez youth reported having a lot of fun outside of school, especially using digital technologies, and they described relishing in that moment when the school bell rings and

they can do what they want for fun. “I can’t wait until the school day is over so I can go home and play GTA (Grand Theft Auto) with my friends,” said Anthony (Latino, 13 years old), a student at Chávez. “I play socially, like online with other people, mostly people from school and I stick with my friends in a party.” Caleb (Latino, 13 years old) said that he loved to hang out with his friends at the park, and when he’s not outside he loved listening to music. “I follow a lot of music online, either on YouTube or other apps,” he said. “It’s a nice break from homework or just to relax after a long day at school.” In addition to gaming and music, youth also enjoyed to read using their phones. “I read something like a dissertation a week,” Summer (Latina, 14 years old) told me. “I can download them from the local library to my phone. What’s funny is that I read much more of this than I do stuff for school. It’s just more fun.” As students described to me what they loved to do for fun, they revealed a boundary they shared between school and play. For these students, part of what made an activity playful and enjoyable was that it is not associated with school.

But what was it about school, and particularly digital technology use while at school, that Chávez students found so unappealing? In interviews, students explained that teachers did not think social media, gaming, and their other digital interests were helpful at school. Elsewhere in this dissertation I documented how teachers at Chávez disciplined play by rendering it irrelevant to learning in class. This disciplinary orientation likely shaped students’ own relationships with digital technology in school settings. For example, Bailey did not see her music remixing as educational or of value to school in any way. “Teachers wouldn’t get it,” she told me. “And if I shared it with them they’d probably find a way to not make it as much fun any more,” she said, with a laugh. Anthony (13 years old, Latino) told me that “teachers are worried kids will goof around if we used some of the more fun apps

at school. They say it's okay to communicate with others using social media but it's not for work." Students not only saw their digital styles as irrelevant to school but they also created a division between their interest-driven activities and schooling. "Social media is fun but school isn't open to it because people take advantage of it and mess around with it," said Juliet (13 years old, Latina). "Messing around isn't productive." Students at Chávez came to think of the fun types of messing around on digital platforms as separate from work. If Ito et al. (2010) are correct in that "messing around" with digital technology is a key part of developing affinity for creative production, then Chávez students miss out on that opportunity in school. Rather, Chávez faculty imposed on students a division between work and play that functioned to relegate their own agentic impulses to time *outside* of school.

When students explained what the value of digital technologies are for school and how it may relate to their future, they framed such uses through a lens of productive, yet laborious, work. "We use things like Microsoft Word and Keynote so that we can get better at taking notes and stuff," explained Riley (Latina, 13 years old). "It will probably help me get a job or a career, it's about getting the right skills for it." Most students emphasized that uses of digital technology at school tied to developing skills for a job some day. "Typing is important," said Mercedes (Latina, 13 years old). "It helps when you need to search for big words to put in a paper or something. I'm sure I'll need that for high school or a job." Kendra (Latina, 14 years old) also saw digital technology use at school as valuable for work. "Using computers and iPads and stuff are good because it's helping us get ready for high school and college," she said. "Like even sometimes you have to contact people with technology and search for things." As a consequence of the faculty-imposed boundary

between play and school, Chávez youth saw their relationship to digital technology in school settings as a tool for labor.

An interesting consequence of how Chávez teachers constructed students' digital play as irrelevant was that students reported curating their online presence, both in and outside of school, only with mind to their peer groups. For example, Juliet (Latina, 13 years old) explained that she did not worry much about who would see her information online with the exception of her girlfriends. "I don't really worry about who will see my data," she explained. "It's more that certain people I know don't see stuff I don't want. So I only keep tweets or pictures up that my friends wouldn't give me a hard time about." Graham (Asian, 14 years old) also described curating his online presence primarily in the interests of his peers. "I don't share stuff to Facebook because I don't want people there to see it. I'll share that stuff instead to specific friends on Kik rather than the whole world on Facebook, that would be embarrassing."

When asked about other entities who might view their online activities, youth typically said they did not care and referenced teachers' blasé approach to their online presence. Students rarely said that they worried about what teachers, parents, or other adults with authority, might think about what they share online. For example, Hank (Asian, 14 years old) said that he used Instagram a lot and played games that share posts online about his activities. He shrugged when I asked about what his parents or teachers might think if they saw his online data. "My parents don't really care what I do online, as long as I don't get into trouble," he explained. "And I don't really care if my teachers see it. They might think it's silly but they really wouldn't care." Kendra (Latina, 14 years old) also cared little about who would see her online presence beyond her friend groups. "I don't care

about who sees it, I don't worry about my teachers or even companies looking at my stuff because I have no reason to worry," she said. "I don't use it in wrong ways." Bailey (14 years old, Latina) similarly had a nonchalant attitude towards how her data might be used beyond her immediate friends. "I don't really worry about the government or companies because I feel like they're going to use it anyway," she said. "And teachers don't care, unless you do something really bad online like bully someone. I mostly just don't want to look embarrassing to my friends," she laughed. Students at Chávez were unconcerned with who viewed their online presence with the exception of curating their digital footprints with mind to local peer networks. When asked about other entities that may view their presence, they cited that teachers would not care.

Teachers at Chávez disciplined students' play by communicating to youth that what they do online for fun was irrelevant to learning. Instead, they prioritized using digital technologies at school to teach basic skills with typing, presentations, online research, and programming. As a consequence, youth reported that digital technology use at school was important but laborious, and devoid of the fun and creative activities they pursue outside of school with peers. Students saw their online behaviors as irrelevant to institutional authorities, like teachers and even government agencies and companies. They only saw their progress on the laborious digital work at school as important for their future, and did not worry about how they act online may matter down the road as well. In the next sections I illustrate how the other schools cultivated different orientations to play, work, and digital technology use, as well as the types of audiences youth curated their presence for online.

Rule-Followers at Sheldon Junior High

Sheldon students did not see digital technology use at school as really that valuable for learning. This stands in contrast with Chávez youth who believed digital technology use at school was important albeit laborious. Instead, students at Sheldon said technology skills are good to have but secondary to getting good grades and doing well on tests. "Technology is getting more advanced these days, it's helpful to stay on top if it," Amber (Asian, 14 years old) explained. "But at the end of the day I have to get good grades to get into a good college." Daniel (15 years old, Asian) said that "school is a stepping stone to get to the right place, it's not where I have fun. I save Minecraft for home." Sheldon youth reported that digital technology use was not directly related to achieving in school, and instead cited doing well on other metrics teachers positioned as more central to their achievement. For example, Michelle (13 years old, Asian) explained that "Instagram is cool and everything, but what's going to help me get into college is to do well on the tests they give us in class. School is kind of like a game in that way, to figure out how to do well. Getting the best grades you can is like a race." Students at Sheldon emphasized getting into a good college as a primary objective, and neither digital skills nor play online were seen as key elements of the college preparation process. Instead, students conformed to standards of achievement that teachers created in their classrooms, such as high-stakes activities like exams.

Like Chávez youth, Sheldon students also enjoyed a number of different online activities with friends but pursued them outside of school. The activities students reported were very similar to Chávez students, such as playing video games with friends, reading books using their smartphones, using Instagram or following Tumblr accounts. But Sheldon students described that the reason why they pursued these activities outside of school was because they feared the consequences of getting caught. Students at Sheldon generally saw

their teachers as tough disciplinarians and viewed their own digital play at school as risk-laden. For example, Anne (15 years old, Asian) described teachers at Sheldon as "not so nice," and explained that "teachers say social media is harmful." Anne saw her own social media use as "just for fun with friends," but noted that she "would never use it at school because teachers watch what you do online." Elsewhere in the dissertation I described how Sheldon faculty disciplined play by treating it as threatening to learning. Teachers' disciplinary practices had the effect of creating a binary for students between work and play, and this binary was so rigid that students like Anne maintained a low profile online at school to avoid punishment.

A curious pattern I noticed from interviews was that although Chávez and Sheldon students both enjoyed similar types of social media and video games, only Sheldon youth said that they preferred to consume media across these platforms rather than create media to share widely with others. For example, Anne (Asian, 15 years old) explained that she follows others on social media but she did not produce her own media to share. "I use Twitter to follow celebrities, YouTube to watch videos, but I don't share much on Twitter," she said. "I just don't have anything interesting to say!" Elizabeth (Asian, 13 years old) said that she did like to share things online but only did it through restricted channels. "I have an Instagram and sometimes post things there, but it's completely locked down and only certain friends can see it," she said. Only one Chávez student blocked their social media accounts from public access, and every Sheldon student with the exception of two youth restricted their accounts to prevent people from seeing it. This striking difference suggested that even though both Chávez and Sheldon students pursue play outside of school, Sheldon students' play online occurs in closely guarded settings.

I asked Sheldon students why they either did not create media online or restricted who could see their online activities, and found that in addition to peer pressures they also worried a great deal about authorities from educational institutions finding them online. "I definitely don't share things on Facebook because my friends would think I'm a weirdo," said Quentin (Asian, 14 years old). "But I lock my Twitter account because if a teacher finds me that would be really bad." Elizabeth (Asian, 13 years old) worried that if teachers found her Instagram they would suspect her of not doing her schoolwork. "My parents are pretty chill, but if my teacher found my Instagram she might think that I was using it instead of doing my work," she said. "I've heard of other students getting in trouble for using it during class, even if they only posted something between classes or after school. I'm not taking that risk." A number of students extended their fears of being caught online to college admissions, as well. "I don't want a college to search for me online and find out that I play Candy Crush or anything else," explained Wesley (Asian, 14 years old). "It's better that they don't see anything about me online and just focus on my grades and the rest of my application." Not only did Sheldon youth separate play from schoolwork, they carefully minimized their digital footprint out of fear for retribution from school authorities.

Teachers at Sheldon disciplined students' digital play by communicating to youth that what they do online for fun was threatening to their ability to succeed in school and beyond. While teachers used digital technologies at school, they only used them for discipline or to facilitate high-stakes activities, like exams. As a consequence, youth reported that use of digital technologies was secondary to doing well on exams as they aimed for college entry. Unlike Chávez youth who saw their digital play outside of school as irrelevant to learning, Sheldon youth did not create and share their digital activities to the

public for fear that it would adversely impact their schooling. Students internalized teachers' perceptions of digital play as threatening to achievement, and so chose to restrict public access to their social media accounts or minimize playful digital production in its entirety. Whereas Chávez students curated a public online presence with mind only to peers, Sheldon students worried about both peer pressures as well as teacher discipline. In other words, Sheldon youth disassociated their digital play from institutional settings so that teachers can only see them as rule-following students. As I illustrate next, Heathcliff students saw the relationship between play and schooling much differently and in ways that shape a very different type of online presence.

Tinkerers at Heathcliff Academy

During interviews, students described how by the end of eighth grade they learned that play was essential to learning and doing well at school. Many noted, however, that they did not have these habits upon enrollment and had to develop them. For example, Andrew (White, 14 years old) explained how using digital technologies in front of the whole class, like interactive whiteboards, was intimidating back when he started in fifth grade. "Teachers here really force us to get comfortable showing off our online projects to the school since we start here," he said. "It's nerve-wracking at first, but eventually you learn it's kinda fun. Teachers make you feel good for sharing your ideas." As we saw in other chapters, Heathcliff teachers disciplined play at school by requiring that students bring in their peer practices online into class. Teachers actively encouraged students to integrate media from home and from playing online with friends. Teachers, too, often deferred to students' own knowledge base about the best apps to use or strategies for using technologies for different parts of daily lessons. This stood in stark contrast to interviews

with students from Chávez and Sheldon, who described their digital play as irrelevant or threatening to schooling. Heathcliff teachers' disciplinary approach was associated with students reporting play as essential to achievement in class.

An important part of Heathcliff teachers' instructional practices was to encourage youth to shine as *creative* users of technology. Students explained that part of being creative with digital technology meant to use rules for school assignments as starting points for something new. For example, Ken (14 years old, White) described how he decided to replace a writing assignment with an activity he thought of using Minecraft:

> For class last year we had an assignment to describe city life. The assignment teachers gave us was to write a normal paper, but me and my friends were like, 'Hey, let's build a city on Minecraft.' The teacher liked our idea and *loved* the finished product, it turned out really well. I ended up being able to use Minecraft for class. Teachers may not understand it but they let us bring stuff like that in. Minecraft is after all a creativity game.

Heathcliff students described sharing their creative, digital expressions as a legitimating experience that gave them authority over their own curriculum. In another example, Alyson (White, 14 years old) shared with me how she used her fan fiction writing for a class assignment. "I really, really love the Hunger Games series, like so much that I write stories about it online," she said. "I've submitted those writings for class sometimes, too. We had a paper on morality we had to write and my teacher let me submit a story I wrote related to the topic." Teachers' disciplinary orientation to play cultivated in youth an orientation to school success that positioned these types of creative expressions online as valuable to school. Students came to see school rules not as end points but as guides to come up with something new and exciting.

Students at Heathcliff shared many of the same interests as Chávez and Sheldon youth did, including video games, reading e-books, and using social media, but they also

emphasized their interests in specific creative genres that blended their pursuits with an online presence. For example, Tom (White, 14 years old) shared his love for debate. "I've been debating for a few years now," he said. "I want to be humble but I've become quite good at it. I have a YouTube account where I give advice to other debaters so they can get better, too." Robin (White, 13 years old) told me about her passion for platform diving. "I always try to have someone take a photos of my dive, it's basically my entire Instagram," she laughed. "I really like movement in general, it's why I love sports and diving." Another youth, Alyson (White, 14 years old) also told me about her interest in sports, as well as her related Twitter account. "I do gymnastics and compete nationally, and I'm also really into Krav Maga right now," she said. "I use my Twitter account to share my experiences training and everything." Heathcliff students enjoyed playing online using similar tools and platforms as Chávez and Sheldon youth, but they also pursued a number of atypical interests and shared those activities using their social media accounts.

Like Chávez students, Heathcliff students also maintained highly visible online presences using various social media. Only one Heathcliff student locked some of her online accounts, and cited her parents worrying about strangers. However, Heathcliff students explained that they cared little about what their friends thought of their behavior online. Instead, they expressed that their primary worry was for how institutional authorities perceived them. "I mean, we all know that at the end of the day it doesn't matter if some girl thinks a picture you put up is weird," explained Cordelia (White, 14 years old). "Before I put something up online I always think about if a teacher or colleges see it. I try to make sure they'd like what they see." Although Sheldon youth similarly worried about teachers and colleges seeing their online activities, Heathcliff students' curatorial practices emphasized

creating and sharing acceptable media online rather than restricting it altogether. "Getting good grades is just the first step of doing well here," said Nathan (White, 14 years old). "There's a lot of pressure to act as if you're like the next top 'this' or 'that.' It feels like you won't get into college unless you're a really good student and you have a million Twitter followers, too." Heathcliff students cared less about their peers seeing them online than they did teachers and future college officials. As a result, they maintained highly visible online presences, and curated their media with mind to institutions. These youth wedded their creative pursuits online to attempt to appear special and worthwhile in the eyes of teachers and college admissions officers.

Cultivating Tinkerers, Rule-Followers, and Digital Laborers

In this section I showed how social forces at school, in the form of teachers' disciplinary approach to play, impacted students' relationships with the tools for necessary digital production in the twenty-first century. Contrary to Bourdieuian perspectives that locate children's dispositions in parenting, I illustrated how teachers' messages to students about the value of play for achievement impacted their orientations to digital production in and outside of school settings. Teachers at César Chávez Middle School communicated to students that their digital play was irrelevant to schooling. As a result, students relegated their creative impulses to digital activities outside of school; they thought of their in-school tasks with typing, programming, and presentations as boring, albeit important, labor. Because teachers at Sheldon Junior High construed students' digital play as threatening to learning, these youth saved play for outside of school, as well. But while Chávez students saw (boring) digital skills as important for achievement, Sheldon students believed digital skills were of secondary importance to their performance on exams. Faculty at Heathcliff

Academy encouraged students to merge their play online with classroom lessons. Heathcliff students described how they used classroom assignments as starting points to make something new, like a Minecraft creation or online creative writing, in order to do well. Teachers' disciplinary orientations to play thus have an effect on how students conceive of the relationship between play, digital technology, and educational achievement.

Table 3: Relationship between Teacher Discipline and Student Orientation to Play

School	Disciplinary Approach	Student Orientation	Student Online Behavior
Cesar Chavez Middle (Working class, Latino)	Play is irrelevant to school	Students pursue play outside of school, and see school as a place for laborious digital work	Highly visible online, create and share media curated for peers
Sheldon Junior High (Middle-class, Asian)	Play is threatening to school	Students pursue play outside of school, and see exams and grades as more important for achievement than digital skills	Highly restricted online presence to avoid teacher punishment, mostly consume rather than create and share media
Heathcliff Academy (Wealthy, White)	Play is essential to school	Students pursue play at school and use school rules as starting points for creative expression	Highly visible online, create and share media curated for teachers

A consequence of these varied student orientations is how it impacted how students interacted in online publics and in ways that would likely shape their later life opportunities. I found that teachers' disciplinary approaches to play shaped how students differently curated media that came represent them online. Sheldon youth, out of fear of teacher retribution for messing around online, highly restricted their online presence. They did not become adept at creating and sharing media in highly visible settings online. Chávez youth, however, did get quite good at such activities. But because they believed teachers did not care about what they did online, they only created online media with mind to their peers. Heathcliff students too practice creating and sharing online, but cared little

about appeasing their peers. Instead, they developed highly curated online presences to appease institutional authorities. They pursued their interests visibly online in order to appear as candidates for later educational success, like college admissions. Learning scientists increasingly cite the value of digital production and online collaboration as essential to not only educational success but also students' futures in a technologically sophisticated labor market. Although many youth develop these digital skills among their friends, teachers' disciplinary orientations to play shaped whether children developed comfort and facility in asserting these skills in not only school settings but in online publics, as well.

CHAPTER V:
CONCLUSION

Digital divides are declining, and young people are learning valuable digital skills from play online with peers. In the contemporary moment, youth culture is intimately tied to the use of digital technologies, much more so than any other generation – including teachers'. Young people hang out, mess around, and geek out as they play with friends online, and in the process they develop facility with online communication and collaboration, as well as the tools needed to create and share new media across online publics (Ito et al. 2009; 2013). Incidentally, these are the very skills education scholars and contemporary reform initiatives cite as valuable for learning outcomes and for students' potential in our changing labor market (Hargittai 2001; Hargittai and Hinnant 2008; Hargittai and Shaw 2014; Freese, Rivas and Hargittai 2006; van Dijk 2005). I write this dissertation at a rather unique point in history when young people are more adept at using this era's technologies for production than most of their parents and teachers. Such a circumstance presents unheard opportunity to abet educational inequality spurred by children's unequal acquisition of valued cultural resources, like digital know-how. Whereas scholars of educational inequality typically point to children's unequal childhoods to explain class- and race-based differences in achievement at school, today young people arrive at school with similar digital skills (Lareau 2011). If youth, regardless of social origin, share similar valued competencies then underserved youth, especially, may finally make strides in their climb up opportunity structure in education.

Yet the students that I profiled in the last chapter suggest that kids' potential as budding technologists gets bifurcated as they pass through middle school. Despite the fact

that these youth developed skills with online communication, media editing and production, and even the basics of programming logic, these eighth graders reported different conceptions of whether online play was acceptable or even welcome in schools, students' institutional links to the opportunity structure. While students at a school for mostly White and wealthy youth came to see digital play, including the use of social media and video games, as fun and even necessary to achievement, students at schools serving less privileged and mostly minority students were taught that play at school is either irrelevant or threatening to schooling. As a result, schools differently disciplined the potential of kids' digital skills through play and in doing so shaped how young people came to evaluate their own digital self-worth in these settings.

Education researchers have tended to ignore the processes by which digital technologies and their users are constructed. They have not considered how social forces at school shape the way teachers and students imagine the value of technology and what counts as its successful use. In my fieldwork I observed how teachers differently conceived of very similar digital technologies as either productive portals into young people's lives, tools for surveillance and punishment, or platforms for rote digital labor.

In this dissertation I unpack both *how* and *why* teachers conceive of digital technologies and their students' use of them in such different ways. This matters so that we can begin to think more critically about our methods to ensure that schools provide opportunity for upward mobility rather than create additional setbacks. Comparing educational institutions where school-level digital divides have closed help us uncover what blockages to student achievement might exist despite these reform efforts. And comparing schools serving different student class and race populations, key predictors of

student outcomes, allow us to be mindful of the interaction of student status with digital pedagogy. I begin this chapter by reviewing the story I have told about education and digital youth as evidenced by this comparative methodological approach. Next, I discuss the implications of the mechanism described in this book, namely how race and class factor in to perceptions of students' self-worth. Lastly, I will provide an assessment of how we might better conceive of the relationship between education, youth culture, and digital literacies.

Disciplining Play at School

Although I selected each school for this study because they each had similar, high-quality technologies available at their disposal, I was struck by how differently school members imagined its value. This stands in contrast to scholarly work arguing that technologies have independent effects on their users. Rather, teachers revealed to me a more nuanced dialectic relationship: people adopt technologies in different ways as a consequence of their social environment. In some cases, the technologies administrators purchased differed from the other schools because of these local, human factors. This way of thinking is much more in line with social theorists' call for a relational approach to understanding technology (Dourish and Bell 2007).

I first replicated the findings of much existing research by showing that the sampled youth in this study all possessed similar cultural resources that could be transformed into cultural capital for achievement. Digital divides were, like national reports suggest, in many ways rather minimal when it came to access to technologies needed to play online with friends. Nearly all children regularly used smartphones, iPads, laptops, and internet-connected video game systems. Regardless of social origin, the youth in this study all shared similar interests in social media use, video games, online reading and writing, and

image and video making. Incidentally, to pursue these interests with their friends these youth had to develop facility with various digital technologies and online software. They did not develop this facility from their parents. Digital youth culture could be a resource teachers activate in the classroom to help kids get ahead. Indeed, I find that teachers disciplined the value of play by transforming it into cultural capital.[1] But whether teachers did this or not depended on the school.

At Heathcliff Academy, the school serving mostly wealthy and White youth, faculty invoked a view of digital technologies as productive "portals" into the lives of their students. They used iPads, interactive whiteboards, cloud-based software, and even video games to bolster students' creative potential through online collaboration and digital production. In interviews, teachers described students' youth cultural pursuits online as necessary to schooling. Tinkering online, either through online writing, video game playing, or YouTube creations, was seen as innovative and critical to classroom success. This played out during instruction, too. Teachers frequently deferred to students' expertise with technology, encouraged them to regularly present their online interests in front of the class, and created opportunities to replace traditional assignments with kids' new media productions. Heathcliff teachers thus discipline play by transforming it into cultural capital for achievement.

[1] I use here a definition of discipline advocated by social reproduction theorists, one that not simply acts of reprimand but rather a process by which institutions impart a durable sense of normativity. Herbert Bowles and Samuel Gintis refer to this as the way teachers install a "built-in supervisor" in kids' heads as a consequence of their daily lessons. Discipline could, for example, be the way teachers validate particular student behaviors and reprimand others. Schools can set and enforce very different standards for validation and discipline depending on the setting, as I find here. For more, see Samuel Bowles and Herbert Gintis, *Schooling in Capitalist America: Educational Reform and the Contradictions of Economic Life* (Basic Books: 1976).

At Sheldon Junior High, the school serving mostly middle class and Asian-American youth, faculty constructed digital technologies as tools for student surveillance, punishment, and high-stakes means for traditional tests. Administrators opted not to purchase interactive whiteboards because they wanted faculty to constantly roam around the classroom and monitor student behavior. On top of that, teachers and administrators actively lurked on students' accounts to police many of the same playful activities that were validated at Heathcliff. Students were reprimanded for playing online, like perusing YouTube videos, playing video games, or even communicating with their peers using text-messaging software. Online play was seen as deleterious to classroom achievement. Instead, teachers used cloud-based technology to create online quizzes or other activities that pit students against one another, and come with either great rewards or embarrassment. Sheldon teachers discipline play by rendering it threatening to learning, and therefore cut off opportunities to transform students' digital skills into cultural capital for achievement.

At César Chávez Middle School, the institution serving mostly working class and Latino youth, teachers saw digital technologies as key tools that students will use in what they imaged to be a twenty-first century factory. They emphasized students' need to develop "basic skills" with these technologies, skills that include many of the celebrated literacies at Heathcliff, like programming basics, use of presentation software, and new media production. If a learning scientist were to conduct a survey of students' digital literacy development, they would find Heathcliff and Chávez students to be similarly prepared. But a critical difference is that Chávez faculty saw students' digital play as irrelevant to learning. This meant that teachers communicated to students that their

creative expressions online, including social media use, video games, and peer communications would not help them do well in school nor do well down the road in a job. Teachers thus disciplined play at Chávez by curtailing it from becoming cultural capital for achievement. Instead, what counted as successful was students' proficiency in skills needed for rote digital labor.

Disciplining play is *how* schools reproduce inequality in the twenty-first century. Children come to school with similar digital skills they developed from play with peers. But teachers independently invoked an orientation to digital technology and students' online play and enacted this perspective to students during instruction. These divergent pedagogical approaches to play determined whether kids' digital youth culture was activated or not into cultural capital. But *why* did teachers do this? I review this next.

Where Disciplinary Orientations Come From

Education researchers who study the sources of teachers' perceptions of their students often locate them in teachers' heads. For example, considerable work argues that the largely White and middle-class population of teachers brings to school classed, gendered, and racialized assumptions about children that can be subsequently linked to their students' achievement (Brophy 1983; Entwisle and Alexander 1993; Wineburg 1987). But this literature suggests that teachers' beliefs are quite mixed, and difficult to predict. Qualitative work, too, illustrates how teachers invoke quite a diversity of assumptions about the social statuses of their students. For example, some studies find that Latino students are constructed as hard-working immigrants and others as having criminal intents (Valenzuela 1999). I, too, find diversity in the types of cultural imagery teachers draw on to construct their students. But I find the concept of cultural toolkits to provide

better explanatory power than existing treatments. Toolkits represent sets of beliefs, meanings, and worldviews that individuals carry with them and are developed from one's social milieu (Swidler 1997). These beliefs can be multiple and even contradictory, like teachers conceiving of Latino youth as hard-working immigrants and future criminals.

What determines which cultural tool a teacher applied to their students? Toolkit theorists speculate that institutional settings exert this calculus (Swidler 1997). I argue that teachers' beliefs are intimately connected with school workplace dynamics, another key source of culture that shapes disciplinary orientations. Although education researchers have not, to date, explored the relationship between toolkits and the school environment, scholars are increasingly studying the importance of organizational culture among faculty to student achievement (Kruse and Louis 2009; Moller et al. 2013; Shein 2010). To advance this argument, they contend that faculty share among them a set of structures, processes, and behaviors that govern their work with one another and with their students. These norms are not necessarily brought by teachers to the school but rather emerge from the history of the school and are situated in a particular setting. For example, scholars in this area identify how teachers share varying levels of collaborative orientations to their work depending on the school. Some schools promote help and feedback among one another, and others schools are more hostile. Interestingly, this largely quantitative work finds that faculty who share a collaborative orientation to one another exhibit fewer race- and class-based gaps in achievement for their students than do faculty with more hostile orientations (Moller et al. 2013).

In this study, I find that in the context of an interview teachers displayed awareness of multiple constructions of Asian-American youth as either model minorities or Tiger

Mom-raised, cutthroat hackers. But only teachers at Heathcliff saw their Asian-American students as the former and only teachers at Sheldon saw them as the latter. Teachers at Heathcliff shared an achiever orientation to their students as a consequence of parental pressures to treat their students as elites, and this workplace dynamic "fits" with the model minority imagery they described during interviews. At Sheldon, however, teachers shared a threat orientation to their students as a consequence of how faculty interpreted neighborhood demographic shifts as a violation of their racial and social boundaries. This view of students as threats aligned with the cutthroat hacker imagery they described during interviews.

Faculty also reported a similar set of beliefs about Latino students as either benevolent immigrants or future gang members, but only teachers at Chávez saw their Latino students as the former and only teachers at Sheldon saw them as the latter. Teachers at Chávez shared a caretaker orientation to their students as an extension of the family-like, 'in it together' mentality that carried over from their transition from an elementary school to a middle school. This caretaker orientation aligned with the benevolent immigrant imagery teachers described during interviews. At Sheldon, however, the aforementioned threat orientation also applied to their Latino students, and faculty at that school thus drew upon future gang member stereotypes that teachers possessed within their cultural toolkit.

An interesting consequence of the invisibility of Whiteness is how its invisibility privileged White students no matter the school context. At Heathcliff, faculty constructed White students' achievements as individual successes rather than the much more visible status their Asian-American students share, and teachers attributed their achievements to

their racial group. At Sheldon, White students' invisibility shielded them from the much more visible racial statuses imposed on Asian-American and Latino students. As a result, Asian-American and Latino students – not Whites – became the focus of teachers' disciplinary practices to negotiate supposed threat.

Although there were very few Black students at the schools in this study, I did notice that when teachers spoke of Black students there seemed to be only one cultural tool available – that of Black youth as troublemakers. Future work should try to more fully assess and understand whether a similar breadth of cultural tools exists among teachers for Black youth as it did here for Asian and Latino youth. If only one stereotype existed for Black children, that would point to the significance of Blackness in shaping teacher perceptions of Black children and their uses of digital technology. It would mean that workplace culture may have little effect on the treatment of Black students, unlike how it altered conceptions of Asian and Latino youth.

Education research on teachers' beliefs and school workplace culture has largely been conducted in separate domains. I address the puzzle of where teachers' disciplinary orientations to children's play come from by showing how teachers' beliefs and faculty workplace dynamics interact with one another. For example, teachers trying to get by in a hostile work environment saw their peers and their students as threats, and then linked these expectations with racialized images of Asian students as hackers rather than model minorities. Teachers at a school that fostered family-like support among faculty and in teaching saw their Latino students as benevolent and hard-working immigrants rather than future gang members. The dynamics of school workplaces rendered "sensible" particular racialized, classed, and gendered imagery that teachers used to construct their

students, and drove the very orientations to play that enabled or constrained opportunities for student innovation.

Race, Class, and Digital Technology at School

One of the key takeaways from this project was that race and class undergird how digital technologies were used during instruction. Perceptions of the meaning of students' race and class statuses informed how teachers came to imagine the purpose of digital technologies available at school and even their assumptions about kids' digital skills for learning.

Part of this problem is that the schools were monolithic in terms of the race and class populations of both students and teachers. Although I will not review the considerable literature on the topic here, the effects of segregated neighborhoods and its impact on school composition are intimately related to the social boundaries between the largely White and middle-class teacher populations and the non-White, working- and middle-class students that they serve. Private schools, too, are linked to school segregation processes. Wealthy, White families increasingly enroll their children in private schools (Suitts 2016). Data from this study suggests that some parents are making the choice to send their children to private schools to, in part, provide a learning environment that is *separate* from the toxic influence that they imagine poor minority youth will have on their own children. Futurists who contend that digital technologies will be a "magic bullet" to addressing educational inequalities are wrong. As this study shows, digital technologies are used not as an apparatus for equity but rather to exacerbate existing inequalities along lines of race and class. We cannot allow education reformers to prioritize mythic portrayals

of digital technology over the real need to address segregated student populations and the lack of diversity among teachers.

The final empirical chapter of this study also suggests that we will soon bear witness to digital versions of the race- and class-based distinction-making processes so often studied by scholars of cultural inequality in schools. As cohorts of digital youth age and eventually become parents themselves, they will begin teaching new generations sets of digital habits and skills that will be differently linked to expectations by the dominant class. But the form that these distinctions take may be different than we have witnessed in existing literature, which typically focus on knowledge acquisition of high/low culture or cultural omniveriousness (DiMaggio 1982; Khan 2011; Lizardo 2006).

I found signs that kids' distinction-making occurs through the habits they develop with publicity online. In the cases described here, only students at schools with mostly upwardly mobile Asian-American and White youth were taught to care about their digital footprints online. Heathcliff students went to great efforts to create highly public online presences that highlighted their affinities for unique hobbies they imagined would grant entry to elite colleges. Sheldon students also went to great effort to curate their online presence for colleges – but instead minimized their digital footprints from the public for fear it would disqualify them from admission to elite colleges. Like Heathcliff students, the predominately working class and Latino Chávez students also curated highly public online presences. But these online performances were for peers, not college admissions officers. Although students may have developed these different orientations to online publics from teachers at their schools, one can imagine a reality not so far from today where children

develop these orientations from their parents. Student orientations to online publics could be a future set of distinctions that aid in social stratification.

Hacking Together Solutions

One of the most enjoyable parts of doing this kind of research was being able to observe people figuring out solutions to their daily problems, even as their strategies may be outliers to the broader setting in which they conduct their work. I gleaned many of the solutions I present next from these moments with the teachers, administrators, information technologists, and, of course, the youth with whom I conducted this study. Some solutions are more challenging roads to pursue than others, but we are in need of a diverse utility belt from which to draw so that we can begin to address these problems.

The first and potentially most complicated matter is that of the sources of teachers' disciplinary orientations. Although school segregation is undeniably important to address, members of the school ecology, and in particular teachers who wield the fate of these students, must come to terms with the cultural toolkits we each possess that include classed, gendered, and racialized stereotypes of children. Most teachers in this study are simply too stressed, too caught up in the meeting workplace demands that they do not have the time, patience, or even awareness that they hold conflicting views of children who come from different origins. The few faculty members who reflected on these differences during our interviews seemed to be less concerned with school pressures – they were either tenured, had given up on "the system," or had some training in graduate school on inequality. Teachers need to be given opportunities to critically assess their own assumptions about the children they work with in order to better serve them.

The truth is that no matter our race-ethnicity, gender, social class, or other status, we all are subject to, and reproduce, cultural stereotypes about other groups. Even scholars of inequality sometimes forget this fact, adopting a better-than-thou attitude towards signs of others' unfair assumptions. But, as Bourdieuians might argue, the cultural toolkits held by those in power in a given setting have a major impact on the imagined potential of our children. In this study, those in power were largely middle class and White teachers. Diversifying teachers' ranks would certainly help, but it does not change the fact that each social milieu likely possesses cultural assumptions about other groups that should be addressed. Schools need to provide a structure for teachers to have honest and safe discussions about inequality, and teachers need to be willing to have these challenging discussions with one another, be self-reflective, and grow.

Next up are the workplace dynamics at schools. As evidenced by existing work in this area, collaborative teacher cultures can do a lot for the success of faculty and their students. A family-like atmosphere among teachers certainly does not eradicate issues around race, class, or gender in and of itself, but it could create an environment where school members may be more willing to grow in these areas together. Principals and administrators can and do shape the workplace environment, but my data suggests that these norms are primarily shared among faculty and can be quite durable, lasting years upon years. A simple anonymous survey among faculty about their relationships with one another could provide a thermometer for this dynamic, and caring teachers and administrators can use this data to begin assessing strategies for improving the workplace climate for faculty which will in turn affect their students.

Third, student-centered and connected approaches to learning need to take considerably more central roles in classroom pedagogy. What this means is that students' interests need to occupy a facet of any given lesson taught in the classroom. It is not a teachers' place to decide whether a child's interest is "bad" or "good" for school. It does not matter if a child enjoys hip hop or jazz; if they love makeup or wrestling; if they love social media or online fan fiction; or if they are fascinated by museums or video games. Teachers (and parents) will find that children learn more if they can relate to a topic through these interests. In this study, only one school regularly advocated this approach by giving children opportunities to teach the teachers about their own lives and what they like to do. Temporal and economic factors do not need to impede the capacity for faculty to take a student-centered approach. Reward students for sharing stories about themselves during instruction. Celebrate the moments when students make productive links between their interests and the classroom activity that day. If students are doing things off-task, talk with them about ways to bring in the things they like to do into lessons.

A Call for Critical Digital Literacy

The suggestions I just described are primarily focused on improving schools' approaches to working with children. But this is, of course, only part of the story. Children can be quite meaningful participants of a school setting if given the opportunity. What I lay out next explores how we can better imagine a reality where young people have more of a say over their own educational experience, and particularly with mind to our increasingly digital lives.

Digital literacy typically refers to the development of key skills needed to work with contemporary technologies, like computer programming, online communication and

collaboration, and digital production (Hargittai 2005). These are the skills touted by education researchers and reformers, businesses, and even two of the schools in this study. But they reflect a deeply functionalist view of learning and education. It posits that, above all, the development of skills nets future economic gain. Per Marx, it reifies the likelihood that children develop particular relationships with technologies for production that reproduce the very outcomes observed in the present study.

I believe that an alternative to this functionalist approach would be to introduce critical pedagogical approaches, advocated by scholars such as Paulo Freire (2000) and Henry Giroux (1983), with our digitally minded education reforms. Critical pedagogy suggests that the role of educators not simply be to teach pre-determined skills but rather to aid children in the development of a particular consciousness that is more attuned to the social reality around them. It means providing students with opportunities to become critical thinkers: to question the actions of those in power who may be acting unfairly; to reflect meaningfully on messages communicated by mass media; and to assess their own social position among their peers, adults, and society. From my perspective, a critical pedagogical approach would be to create the conditions at schools needed to make them more democratic places for children. Young people should have comparable agency to adults in the decisions made about them as they strive to make a better life for themselves and others.

A critical digital literacy approach could start the work needed to achieve some of these goals. Critical digital literacy would mean that young people need to be educated in politics of digital technologies, including what they are, how they can be used, and how they can exert agency over their own position as a data point. Rather than blame teachers

or students for improper uses of these technologies, schools must provide youth with the tools they need to navigate the information age as informed digital citizens.

For schools to be able to teach critical digital literacies, changes need to be made at both institutional and local levels. First, education reformers must partner with the tech industry to pursue an accessible and clear set of guidelines for how student and teacher data are to be used across digital platforms nationwide. As I reflect in the appendix, teachers at public schools, in particular, are incredibly concerned about legal liabilities for children's exposure to inappropriate online media and as a result they restrict online access. Schools need to be able to offload fears of liability for students' privacy into the hands of incredibly well thought out standards for data management that are required of all product developers. This would cut bureaucratic tape at the local level and enable the kind of low-stakes digital learning and play that we know works.

Second, rather than hide students from the flow of data, meaning, from the data they collect about students online, we should actively embed youth in our process of negotiating it. A critical digital literacy would mean developing an awareness of what digital footprints mean and how others in power use them. We should begin to think of ways to make available to youth the data schools collect on them. If we make Census data publicly available, why do we not make available to students and their families anonymized data that schools now regularly collect about students' online activities day-to-day? Teachers could encourage students to work with this data, teach them to develop skills in data analysis, and incentivize presenting problems and solutions that could make their school a better place for everyone to live, learn, and play.

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APPENDIX:
NOTES ON METHOD: 'COVERT' ETHNOGRAPHY IN THE DIGITAL ERA

Although we know far more than we used to about kids' digital lives online and among their friends, we know less about how digital youth culture interacts with educational institutions. This study helps to address this absence. It also contributes to an understanding of how and why social reproduction occurs when nearly all youth, regardless of social origin, bring educationally valuable cultural resources to school – facility with digital technologies. The framework draws from several sources: the digital youth culture literature; theories of social reproduction; and research on the sources of teachers' perceptions of students. In what follows, I describe the methodological approach, including entry, data collection, and the social politics of my field work. I also elaborate on the opportunities and risks of qualitative work in the digital era.

Getting In

Not much research exists on middle schools despite the fact that the period is known to be a key time for students' development. I later learned from colleagues that the dearth of research may likely be due to not only bureaucratic obstacles to doing this work but also scholars' own distaste at the idea of "going back" to such an unpleasant part of their life course. Regardless, education reforms increasingly target middle school as the time for children to develop key digital skills needed for their later success. Public data do not well indicate the exact breadth of digital technologies available at a particular learning institution, so I reached out to the principal at nearly every middle school with a website (my first rough litmus test for digital access and finesse) and set up meetings to ask about their work, the school's technology landscape, and their interest in participating.

Schools are, as I learned very early on, incredibly bureaucratic entities. Sometimes the principals were very interested in participating but regretfully pointed me toward a district-level black hole that seemed more intent on inhibiting all outside research rather than screening for safe and ethical work. Schools vary in the amount of tape needed to cross through for entry. For young scholars looking to do work in this area, I strongly recommend to reach out to school principals with a brief email about the study and conclude by asking if they could meet for a brief appointment. After just a few short days, call the principal directly until you catch them on the phone – never leave a message. Administrators are typically too busy to read or listen to your messages, and appreciate instead that you have made a concerted, yet appropriate, effort to contact them and that you are grateful to share a moment of their time between meetings. Empathy can go a long way in building new relationships.

I ultimately secured five interested middle schools and selected three that together reflected a range of student racial-ethnic and class diversity (see Table 4). Controlling for various social conditions as an ethnographer can be incredibly tricky, and so I did my best at the get-go to at the very least control for the availability of digital technology, and then secondarily aimed to capture schools with differently statused student populations. Although this was not, by far, a perfect social experiment, the site selection does reflect an effort to examine how very similar technologies are used at different schools that likely house different social ecosystems. Observing similarities and differences in technology use at each school would be, as my dissertation committee assured me despite my initial worries, a contribution.

Table 4: School Characteristics (% Noted)

	Race-Ethnicity (%)					Family Income	Class Sizes
	White	Asian	Latino	Black	Other	Free/Reduced Price Lunch (%)	Number of Students
Heathcliff Academy	74	14	3	1	8	0	20
Sheldon Junior High	15	60	16	3	6	10	26
Cesar Chavez Middle	5	3	80	8	4	87	27

Source: Data obtained for César Chávez Middle and Sheldon Junior High from publicly available School Accountability Report Cards (SARC). Data for Heathcliff Academy obtained directly from administration.

Data Collection

I pursued an inductive-light approach in my ethnographic work. I disagree with the assumptions of "grounded theoretical" takes on ethnographic data collection because they presuppose that the researcher can block out their knowledge of other work when documenting social reality. Instead, I made clear to myself the assumptions I brought with me to each of these schools. Based on my work, I assumed that children are likely hanging out online with their friends and may be pursuing some educationally valuable activities through play whether they realize it or not. I assumed (quite wrongly) that teachers' work environments were relatively similar. I also assumed that schools may provide quite different learning environments and that pedagogical strategies may vary depending on the status of the student served. By being clear to myself, as well the colleagues with whom I discussed weekly what I observed, I went through thousands of iterative "checks" to deductively test my scholarly and even personal assumptions. When these tests failed, I sought out answers in the field.

The key methods for data collection I used were semi-structured interviews and observation at each of the schools. I first interviewed as many teachers at each school as possible (see Table 5). I laced all interviews with a series of questions that were designed to get at training, previous teaching experiences and pedagogical philosophies, as well as perceptions of the value of digital technologies, sentiments about faculty colleagues, and perceptions of students and their families. After these interviews I asked for permission to observe their classrooms, which I did on rotation (I described this calculated effort in the first chapter). I also attended student enrichment activities, faculty meetings, parent-teacher events, and, most importantly, hung out in faculty lunchrooms. It is incredibly

important for school ethnographers to occupy as many of these social spaces as possible to be able to identify sources of observed social phenomena. For example, I could document *how* schools reproduce inequality in the digital era through teachers' pedagogical practices in the classroom, but I could not discern *why* it happened. I needed to suss out where teachers' notions of the meaning of students' race, class, or gender came from. As I eventually determined, it came from how teachers' beliefs and the faculty work environment interlocked with one another.

Table 5: Interviewed Teacher/Student Sample Characteristics (% Noted)

	Sample Size	**Gender**	**Race-Ethnicity**		
	N (% of Population)	Female (%)	White	Asian	Latino
Heathcliff Academy					
Teachers	18 (86%)	61.11	16	2	-
Students	12	41.70	10	2	-
Sheldon Junior High					
Teachers	26 (72%)	61.54	20	4	2
Students	14	50.00	-	10	4
Cesar Chavez Middle					
Teachers	23 (77%)	60.09	17	3	3
Students	14	50.00	-	2	12

I chatted with students informally as I moved about each school throughout the academic year, but I also conducted forty interviews with students in the last month of observation at each school. I struggled with how to sample students for interviews given that it would be impossible to collect a representative sample. At the advice of an experienced colleague, I sampled students from an eighth-grade class at each school that reflected an ideal type of the school environment. This allowed me to pinpoint classes that best reflected durable themes I identified at each school and then I could speak with students who were part of that experience. I asked very similar questions of students as I

did the faculty, including their previous schooling experiences, as well as their perceptions of the value of digital technologies, sentiments about faculty, and perceptions of their peers. I also asked what they liked to do for fun, and probed for where this fun occurred, who participated, and how parents, teachers, and peers reacted to these pursuits. This enabled me to develop a better understanding of the interaction between youth culture and educational institutions.

Covert Ethnography

I made a decision early on in my work to pursue a largely covert ethnographic strategy during my fieldwork. Inspired by the reflections of other, much more prominent scholars in the area, I did not actively solicit study participants to "fact check" my findings and provide alterations (Lareau 2011). I became all the more sure of my decision as I listened to the racist, classist, sexist, and homophobic banter that faculty, students and even parents shared with me as I conducted my work. Although other scholars and practitioners might disagree, I did not see a productive dialogue occurring as a result of sharing back this information. None of the participating schools possessed a structure for facilitating such dialogues; in such an absence, I reflected instead on anonymized portraits of each school in the hope that readers see that inequality has its roots in multiple sources. None of these sources are located in the minds of one or two "bad" teachers. Instead, as I argue, cultural assumptions emerge from collectives and are guided into action by workplace norms.

Although I cannot test this assumption, I believe my status as a White, geeky male helped me to conduct my research. We know from other scholarly work that men in female-dominated spaces are given "passes" for their social etiquette missteps (of which I

certainly had many) as well as other privileges in their setting of work (Williams 1992). Teachers would often warm up to me after they learned that I studied technology, and saw me as a sounding board for their gripes as well as a makeshift assistant when they struggled with a particular digital tool. When I asked teachers to describe their students, White faculty very willingly shared racialized, classed, and gendered notions of their students in considerable detail. I noticed, too, that they would seem less willing to share such information if a student or a teacher of color entered the room, and so I made a point to conduct interviews only in private where possible. My Whiteness proved to be a slight disadvantage during moments when I interviewed the few faculty of color at each of the schools. I remember distinctly an interview with a Latino-identified teacher who, when I asked what the student population was like at this (predominantly Latino) school, said gruffly, "You know, they're not all bad kids, if that's what you're thinking." He eventually warmed up during the interview, even permitting me to observe his classes. But researchers must recognize that interview questions mean different things depending on who is asking and who is asked, and there is merit in considering the social statuses of the researcher when developing a research design.

Becoming Data in the Digital Era

As someone who gets quite excited about new technologies, I was eager to try out a number of digital platforms that are increasingly used by researchers in the field. After all, symbolic interactionists call for documenting the taken-for-granted realities of empirical social worlds – digital tools could provide even richer data to aid in this process (Turner 1986). I used digital tools, including audio-recording pens and local internet access, to naturalistically capture day-to-day life in these schools. These tools allowed me to

document key features of social life within these settings. First, I used audio recording pens to observe and catalog face-to-face communications between teachers and students. For example, I could quickly and covertly write "teacher discipline" on paper and use that writing to connote the moment of the audio recording when the teacher was disciplining a student. These pens permit the researcher to covertly record audio of one's surroundings and link the audio to written notes. Second, local internet access at school enabled me to identify traces of digitally-mediated communications left via logs on school websites that are accessible locally online. Third, I used local internet access to transmit, in real-time, my observations and memos to a personal library online to avoid misplacing notes and other data. Compared to traditional paper and pen note-taking or audio-only recording, these digital tools enabled more innovative means to capture taken for granted social facts in the social environment.

Despite these benefits, I quickly learned that there are also great risks to using digital technologies that ethnographers must heed before using them in the field. Among them, ethnographers risk "becoming data" in the perspective of those we study by unintentionally making public our raw data and potentially jeopardizing our access to the field sites. I argue that this occurs because of a feature of symbolic interaction neglected by researchers of human-computer interaction who advocate the use of these digital tools for ethnographic studies: people act on the basis of the meaning of their objects. Digital technologies are, by now, ubiquitous and embedded in the lives of most people in our society. At some of the schools I studied, I learned that digital technologies are constructed as potentially *risky*. The three aforementioned benefits of digital tools thus also carried with them distinct costs.

First, my audio-recording pen was noticed by some of the "geekier" students and teachers, and while these tech-savvy informants were more curious than suspicious, when their excitement drew attention from others the tool symbolized potential risk ("…so what exactly have you recorded?") that could interrupt the natural environment by changing their assumptions about me as a researcher. Second, schools that more readily constructed digital tools as risks monitored their local internet. Some administrators signaled to me their use of surveillance by "joking" to me about my use of their local internet to play an online card game between interviews, which likely shifted their perceptions of my role. More important, this made me realize that I should not transmit my raw data (jottings, audio recordings) through local area networks because it could potentially put subjects at risk. Qualitative researchers in the digital must, as symbolic interactionists suggest, first identify the meanings that everyday technologies signal in their setting of study. With this information, the ethnographer may then more responsibly select from the growing assortment of digital tools to use during data collection.