‘Our World and Their World’: The Integration of Digital Technologies in Schools through a Cultural Logic of Separation

Brooke Dinsmore
New Ipswich, New Hampshire

Bachelor of Arts, Connecticut College, 2014

A Dissertation (or Thesis) presented to the Graduate Faculty of the University of Virginia in Candidacy for the Degree of Master of Arts

Department of Sociology

University of Virginia
May, 2018

Introduction

Over the past ten years, American high schools have increasingly brought digital technologies into the classroom. As of 2015, twenty percent of high school students were provided a laptop or tablet on a one to one basis by their school, while an additional fifty percent had access to shared laptops or tablets in class or in a separate computer lab ('Pearson Student Mobile Device Survey,' 2015). While in 2012 fifty two percent of schools banned student mobile phones, by 2016 thirty two percent of schools had implemented Bring Your Own Device (BYOD) policies, incorporating student-owned smartphones, laptops and tablets into classroom instruction ('Speak Up Survey,' 2012, 'The Center for Digital Education's Digital School Districts Survey,' 2016). Policymakers, advocacy groups and industry actors alike have positioned this integration of technology as a necessary disruption to the traditional organization of schools, transforming the character of teaching and learning to provide students with 21st century skills and solve a diverse range of social problems (Facer, 2011; Sims, 2017).

In contrast to this seeming societal consensus, scholars studying the process of technology incorporation have been sharply divided on the question of how this influx of laptops, tablets and smartphones is shaping everyday life in schools. Scholars working in the paradigms of mobile and connected learning argue that incorporating mobile technologies and new media platforms into schools leads to more student-centered classrooms and challenges the disconnection between student learning in schools and peer-driven online spaces (Berge & Muilenburg, 2013; Friedel, Bos, Lee, & Smith, 2013; Ito et al., 2012; Sharples, Taylor, & Vavoula, 2010). Pushing back against this transformation discourse, scholars adopting a critical approach argue that because these reforms do not change the material and organizational structure of schools, digital technologies are incorporated without challenging the power relationships between

teacher and students and the disconnection of schools from other spheres of youth life (Bulfin, Johnson, Nemorin, & Selwyn, 2016; Clark, Logan, Luckin, Mee, & Oliver, 2009; Crook, 2012; Neil Selwyn, Nemorin, Bulfin, & Johnson, 2017).

The debate between paradigms participating in transformation discourse and the critical approach has become a dichotomy shaping how educational technologies are studied, with most scholars adopting one orientation or another. Over time this transformative-critical division has come to limit theorizations of how the integration of digital technologies is shaping everyday life in schools because both orientations have conceptual blind spots (Sims, 2017). While transformative approaches have often uncritically adopted institutional view points and failed to consider the regulatory role of schools, the critical approach has at times treated the material, spatial-temporal and organizational structures of schools as determinative and culture and meaning as peripheral. The critical approach thus neglects what Carter (2012) terms the sociocultural structure of education, comprised of a 'school's norms of academic achievement, its logic for student conduct and presentation of self…and its climate of teacher-student, student-student and other intergroup or intragroup dynamics' (4). From this theoretical perspective, reproduction occurs at the intersection of the material and the socio-cultural as students and teachers draw on codes, schemas and narratives to utilize resources and enact institutional routines (Carter, 2012).

This paper looks to move beyond the limitations of the optimistic-pessimistic dichotomy by addressing a question neglected within both approaches: the social consequences of the integration of digital technologies in schools. Both the transformative and critical approaches have focused on how technologies impact the relationship between teachers and students as individuals, bracketing off the impact of technologies on interactions and relationships between students and on teacher

management of these peer interactions and relationships. In doing so, both approaches have treated the relationship between ‘educational’ and ‘social’ uses of technology as fixed rather than dynamic and contested. In treating this division are actively produced, this paper additionally seeks to bridge a gap between the literature on the educational use of technology and literature on the social use of technology. The incorporation of laptops and mobile phones into schools is shaped by a larger discursive division between an adult view of digital technologies as tools with appropriate and inappropriate uses and a youth view of digital technologies as enabling access to a shared social space (boyd, 2012; Fisk, 2016). These theoretical and conceptual gaps have been furthered by a methodological gap as few studies have considered the interplay between teacher and student perspectives and practices within the same school context.

Thus, this paper addresses two interrelated research questions: (1) how do teachers and students in the same school context understand the social consequences of the integration of technology into the classroom and (2) how are these social consequences related to teachers’ and students’ strategies for managing and using technology in the classroom. To address these research questions, semi-structured interviews were conducted with nineteen teachers and thirty-seven students at a high school in a Southeastern state. Located in a commuter community and serving a predominantly white, middle class population, Central High had adopted both a one to one (1:1) policy providing each student with a school-owned laptop and a Bring Your Own Device (BYOD) policy allowing students to bring their own laptops, tablets and smartphones to school two years prior. While this district policy encouraged teachers to incorporate students’ mobile devices into classroom instruction, most teachers only allowed students to use phones for directed uses and a considerable portion of teachers

had banned phones from their classroom altogether. This limited integration was driven in part by teachers' perception of the social consequences of digital technologies.

As smartphones and new media platforms enabled peer interactions to occur fluidly across the temporal and spatial boundaries of the classroom and school, the integration of digital technologies threatened a cultural logic of separation at Central High. This underlying cultural logic organized expectations and responsibilities for students and teachers through producing a division of social and educational times and spaces. From their diverging institutional positions, teachers experienced technology's challenge to this logic as threatening student learning while students accepted the integration peer sociality online and offline as a mundane part of everyday school life. Teachers used strategies of separation and differentiation to manage student use of mobile technologies and reconstitute the threatened boundaries of the classroom. While perceived as antagonistic by teachers, students' tactics for maximizing access to mobile technologies and social media sites in schools also served to re-constitute the separation between the educational and the social.

The Educational Incorporation of Digital Technologies: Divided Paradigms

Involved in the production of a broader transformation discourse, scholars working in the paradigms of mobile learning and connected learning argue the educational incorporation of mobile technologies and new media platforms challenges the power imbalance in relationships between students and teachers and the disconnection between student learning in schools and in peer-driven online spaces. The central narrative of transformation discourse motivates the adoption of educational technology reform through diagnosing the educational system's failure to change in response to shifts in the economy and in their student populations (Facer, 2011). Policymakers, advocacy groups, industry actors and scholars alike argue schools are not

producing workers with the 21st century skills necessary to succeed in a new knowledge economy, worsening the contraction of economic opportunity and further growing inequality (Ito et al., 2013; Ng, 2015; Sharples et al., 2010). Schools are disconnected from their 'digital native' students, who have grown up using smartphones, laptops and social media and thus have different capabilities, expectations and needs than past generations (Grant et al., 2015; Kosturko, Sabourin, McQuiggan, & McQuiggan, 2015; Prensky, 2001). Transforming the traditional organization of schools through the integration of digital technologies is framed as a solution to these problems.

For scholars working in the mobile learning paradigm, the affordances of smartphones, tablets, and one-to-one laptops disrupt the 'fixed' education system in part by shifting the balance of power in the student-teacher relationship (Berge & Muilenburg, 2013; Pegrum, 2014; Sharples et al., 2010). Mobile technologies lessen teachers' authority by allowing students to access a wide range of information anywhere and anytime (Martin & Ertzberger, 2013). As students are able to 'go directly to all manner of information, people, places, data, events and locations,' teachers' authority, based in the control of knowledge in the classroom, is lessened (Norris & Soloway, 2013). Students gain greater freedom and autonomy as they are 'able to call upon and utilize those resources that are most congruent with their own, individual learning needs and style' (Northey et al., 2017, p. 4). The learning relationship between student and teacher shifts from teacher-driven to student-driven (Northey et al., 2017; Pegrum, 2014; Tondeur, Braak, Ertmer, & Ottenbreit-Leftwich, 2017). 'Personalized, user-centered, mobile, and networked' technologies thus lead to learning that is 'personalized, learner-centered, situated, and collaborative' (Sharples et al., 2010, p. 223).

Within the connected learning paradigm, scholars argue the educational integration of mobile technologies and new media platforms reduces the divide between youth's experiences in schools and their experiences in peer-driven spaces (Ito et al., 2013). This paradigm builds on a sociocultural tradition that emphasizes the varied cultural, institutional and historical situations in which learning takes place (Erstad, 2012; Erstad & Sefton-Green, 2013). Schools are sites of 'formal learning,' where the pace, content and format is dictated by teachers and administrators (Erstad & Sefton-Green, 2013; Ito et al., 2013). In contrast, youth's peer-driven online spaces are sites of 'informal learning,' characterized by collaboration, experimentation and risk-taking (Ito et al., 2013; Kumpulainen & Sefton-Green, 2014). With the educational integration of digital technologies, youth's competencies and passions formed in peer-driven spaces become visible and legitimatized within schools (Ito et al., 2013). While the affordances of mobile technologies and new media spaces create the possibility for the integration of spheres of informal and formal learning, the connected learning approach argues to fully bridge these spheres requires not just the integration of new technologies but the simultaneous transformation of existing pedagogical and social practices (Kumpulainen, Mikkola, & Jaatinen, 2014).

The Critical Approach to Educational Technologies

Pushing back against transformation discourse, scholars adopting a critical approach argue that because technology reforms leave intact the existing social, temporal and material organization of schools, digital technologies are incorporated without challenging the existing power relationship between students and teachers (Bulfin et al., 2016; Crook, 2012; Neil Selwyn et al., 2017). Adopting a longer historical trajectory, critical approach scholars position smartphones and new media sites as the latest in a series of technologies subject to a cycle of 'hope, hype and disappointment'

(Cuban & Jandrić, 2015; Gouseti, 2010). Rejecting a tendency of transformation discourse boosters to focus on exceptionally innovative programs or to focus only on positive effects, this group of scholars seeks to 'look beyond the learning potential of technology' and instead develop 'accounts of the often compromised and constrained realities of education technology use on the ground' (Selwyn, 2010, p. 65).

Viewing schools as regulatory environments, the incorporation of digital technologies is a process shaped by struggles over power and control (O'Brien, 2009; Philip & Garcia, 2015; N. Selwyn, 2010). Schools are not just teaching students but also monitoring, controlling, and disciplining students (Neil Selwyn, 2010)). School management of students is carried out through a combination of social, spatial and temporal structures. Standardized organizational practices divide time and space within the school through classrooms, seating arrangements, timetables and physical boundaries that maintain (and are maintained by) a social organization based in hierarchical relations between students, teachers and administrators (Brehony, 2002; Lawn & Grosvenor, 2005; Neil Selwyn, 2010). From this perspective, 'understanding any activity that takes place within the school setting requires an understanding of issues of power and control' (Neil Selwyn, 2010, p. 89).

Supported by the spatial, temporal and social structures of the teacher-centered classroom, digital technologies are incorporated without upsetting existing power dynamics between students and teachers. While digital technologies have the potential to bring the 'outside-in', classroom practices are often driven by the fear of students moving 'inside-out,' using digital technology to engage in off-task behavior (Aagaard, 2017). Teachers adopt an instrumental perspective, promoting student use of technology for teacher-directed purposes while seeking to minimize other forms of use (Aagaard, 2017; Andersson, Hatakka, Grönlund, & Wiklund, 2014; Janak Adhikari, Chris

Scogings, Anuradha Mathrani, & Indu Sofat, 2017; Neil Selwyn et al., 2017). Devices are utilized at the teachers' direction to complete planned learning activities while teachers surveil students to prevent 'off-task' use (Neil Selwyn et al., 2017). Nonetheless, students engage in surreptitious in-class texting, find alternate spaces in class within which to use their phones and engage in unapproved multi-tasking (Aagaard, 2015; Green, 2002; O'Brien, 2009; Taylor, 2005). These tactics or 'localized acts of subversion' allow students to reclaim space and time within the constraints of the existing power relations of the school (Taylor 2005:163).

From their diverging institutional position, the incorporation of digital technologies into the school replaces disconnection with dissonance as practices developed within the peer cultural context are delegitimized by the school. Occupying different position in relation to power, students and teachers assign diverging meanings to education and draw on different frames to orient their actions within schools (Bauman, 2005; Willis, 1977). Students resent having their cultural forms appropriated by teachers as devices 'serve purposes in out-of-school situations that are lost when they are placed within the constraints and regulations of schools' (Philips and Garcia 2015:680). Clark and colleagues (2009) characterize the experience of youth in technology-rich classrooms as one of 'digital dissonance,' where tension results from the legitimization of technology while certain uses remain illegitimate. The use of filters that block access to certain content is a reoccurring source of this dissonance as technology brought into schools leads to access on school controlled terms (Clark et al., 2009). Content filters often prevent students from accessing sites they were directed to visit by teachers (Bulfin et al., 2016; Clark et al., 2009; Vickery, 2017). Students express resentment at what is perceived as inconsistency and incompetency on the part of the school (Bulfin et al., 2016; Clark et al., 2009; Crook, 2012; Philip & Garcia,

2015). The critical approach thus questions whether the connection of informal and formal spheres of learning is a desirable or possible outcome.

Moving Beyond the Transformation-Critical Dichotomy

The ongoing division between optimistic paradigms taking part in transformative discourse and the pessimistic critical approach has shaped how scholars have studied the incorporation of digital technologies into schools, with most studies adopting one orientation or the other. However, this optimistic-pessimistic divide has limited our theorizations of how the integration of digital technologies is shaping everyday life in schools because both orientations have conceptual blind spots. Critiquing the divide between cynics and optimists in relation to school reform more broadly, Sims (2017) argues, 'both optimists and cynics tend to be hamstrung by functionalist assumptions about the real purpose of educational institutions…as well as the deterministic assumptions about the role that new technologies and techniques play in these processes' (p. 7).

As identified by the critical approach, paradigms with a transformative view tend to focus on the most innovative or disruptive of sites and uncritically adopt official definitions of reforms that focus on learning outcomes, failing to consider the role of power relations in schools. However, the critical approach's strong theoretical story about why technology reforms fail to produce transformation contains assumptions that limit the questions asked about the processes taking place in schools. Specifically, the critical approach tends to treat the material, spatial-temporal and organizational structures of schools as determinative, viewing culture and meaning as peripheral. The outcome - limited impact of technologies and continuation of existing power relations between teachers and students- is taken for granted, overlooking how processes of

‘resistance, acquiesce, and negotiations’ are constitutive forces in the outcomes of any reform (Sims, 2017, p. 8).

These conceptual blind spots overlap to produce a shared limitation between the two approaches: a neglect of the social consequences of increased integration of technologies in schools. Specifically, both approaches tend to focus on the impact of technologies on relationships between teachers and students as individuals, failing to consider the impact of technologies on relationships between students and perhaps even more importantly between collectivises of students and the school. Students’ interactions and relationships with peers as well as their participation in peer groups and hierarchies shapes the identities they form and whether they feel incorporated within the school as a whole, as well as their learning and achievement outcomes (Carter, 2012; Crosnoe, 2011; Francis, Read, & Skelton, 2012). These interactions and relationships take place within the context of peer cultures and status systems, collectively produced by youth as they look to each other for status and affiliation in age-segregated contexts (Corsaro 2014). Peer cultures are subject to school’s regulatory project, as students’ position within peer groups and status systems shapes (and is shaped by) how they are treated by not just other students but by teachers and administrators (Eckert, 1989; Giroux & Penna, 1979; Willis, 1977).

In bracketing off the consequences of technology on peer interactions and school management of peer interactions, the distinction between ‘educational’ and ‘social’ uses of technology is treated as fixed rather than a division that emerges through a dynamic process of contestation and negotiation. Past theorizations of schools have emphasized how the division between the educational and the social is central to both the legitimization of teacher authority and the expectations for student behavior within different spaces of the school. Teachers’ authority within the classroom is legitimated

through their possession of formal educational knowledge, which students need to gain access to in order to use that knowledge in future exchanges such as college admissions or getting a job (Willis, 1977). The value of formal knowledge is produced in part through the devaluation and exclusion of other informal knowledges and competencies, among these the informal cultural knowledge produced by peer cultures (Carter, 2005; Giroux & Penna, 1979; Willis, 1977). Further teacher authority is produced through the bounding off of the classroom from other spaces of the school where students have more autonomy (Eckert, 1989). Classrooms are spatially controlled by teachers and within this space, student performance is evaluated by a hierarchy of cultural practices (Carter, 2005; Eckert, 1989). Introducing this perspective on the division between the educational and the social raises new questions such as what uses of technology become legitimized as formal, i.e. educational? Does the introduction of technology challenge the boundaries between the educational and social spaces of the school?

In treating the distinction between the educational and the social within schools as self-evident, scholars have recreated the same division within the academic literature on digital technologies. Scholars studying youth's educational use of technologies have rarely engaged in any amount of depth with scholars studying youth's use of these same technologies. This division in literatures maps onto a division between whether digital technologies are understood primarily instrumentally or through their affordances for social interaction. The educational technologies literature tends to uncritically accept an instrumental view of mobile technologies and new media platforms as tools with better and worse uses. This perspective on technology, uncoincidentally, is the one adopted not just by teachers and school administrators but by parents and policy makers (Fisk, 2016). This instrumental view of technology stresses that young people's use of information technology must be guided by adults to protect their potential development

as future workers and citizens from an array of risks including adult sexual predators, exposure to pornography, sexting and cyberbullying (Fisk, 2016). In contrast, youth understand mobile technologies and new media platforms as creating a social space where they can engage in practices of peer affiliation and friendship as well as status competition and conflict (boyd, 2012; Ito et al., 2009). Contesting framings of addiction and risk, youth emphasize how social media and mobile technologies provide them with the opportunity for autonomy from adult supervision (boyd, 2012; Ito et al., 2009). This division in the literatures produces an analytical problem for the study of technology in schools. Within schools, both sets of actors, operating on two different understandings of technology, and motivated by oppositional projects, one of control, one of autonomy, meet in the same space. What comes of this clash between the instrumental and social framings of technology within the space of schools?

Research Site, Sampling and Interview Methodology

The research site for this study was a small high school in a Southeastern state, referred to here as Central High[1]. As part of a larger project on peer conflict and aggression[2], semi-structured interviews were conducted over a two-month period on-site at the

[1] To maintain confidentiality, the school name has been changed and pseudonyms are used to refer to participants throughout the paper.

[2] This larger project explores the cultural schemas teachers and students use to understand and label peer conflict and harassment. Interviews consisted of a set of questions gauging participant's perception of the prevalence and form of conflict and harassment, eliciting substantive incidents that participants were then asked to label, and asking about disciplinary and classroom interactions. The data in this project is drawn mainly from a subset of questions specifically on phones and social media in the school but answers to other questions were also included when phones, social media or other technologies were part of the answer.

school. Although Central High is located in a Census-designated rural area, the town is a commuter community for two proximate urban areas with a median household income of $80,000 a year. With a student body of under 1100 students, Central High is a one-story building located on a sprawling campus with a separate gymnasium and science building. The grassy front lawn of the building is spotted with picnic tables, filled by students during the school's lengthy lunch time and breaks between classes. Reflecting the demographics of the surrounding area, the student body at Central is majority white and majority middle class, although there is also a sizable minority of working class students. As seen in Table 1, the student sample is majority white, reflecting the racial/ethnic makeup of the school overall (85% white, 4% black, 3% Asian, 4% bi or multi-racial).

[Table 1 about here]

Serving a predominantly middle-class white population, Central High can be located among a particular type of school: the high achieving suburban public school (Demerath, 2009; Weis, Cipollone, & Jenkins, 2014). In describing the school's academic culture, students and teachers cited the high number of students who attended AP classes and went on to four year colleges. Given both the qualitative nature of this study and the demographics of the sample and school, the claims this study makes are not generalizable to all schools or students. Rather this study should be positioned in relation to the wider literature on technology incorporation in a variety of settings. Given that technology incorporation is occurring in a significant portion of American schools, the question becomes how this process is shaped by the varying demographic and sociocultural context of those schools.

The integration of digital technologies at Central High was an ongoing process that had been formally initiated two years prior when 1:1 and BYOD policies had been

adopted as district level policies by the county superintendent's office. Under the 1:1 policy, each student was assigned a laptop at the beginning of the school year. Under the BYOD policy, smartphones had been designated by the district as educational devices, which students could bring to school and use alongside or in place of school-issued laptops. Within Central High itself, administrators permitted each teacher to make their own decisions about how to implement district level technology initiatives. While not technically required, teachers described feeling considerable pressure from the district office to incorporate students' smartphones into classroom instruction. Although nationally representative surveys of schools on these topics are limited, the available data suggests that the one to one and Bring-Your-Own-Device reforms described in this study are being implemented or considered for implementation in approximately twenty to thirty percent of American school districts (Staff, 2014)

Sampling and Interviews

To address this study's research questions, thirty-seven students and nineteen teachers were recruited to take part in interviews, for a total of fifty-six participants. Students were recruited through in-person presentations and follow-up visits to eighteen classes. Classes were purposefully selected based on academic track to enable the recruitment of student participants who represented a range of social positions within the school. Students were recruited in six periods of AP or higher classes, four periods of mid-level classes, four periods of lowest level classes, and four periods of non-levelled electives. About a fourth of the teachers (5) who took part were invited face-to-face following in-class presentations. The remainder of teachers were recruited through email, with all the teachers in the school receiving an invitation to participate.

Semi-structured interviews with teachers and students lasted anywhere from 40 to 90 minutes. The interview protocols were designed to capture perspectives from two

differing institutional positions on the same issues. Interviews with youth centered on their perception the impact of social media and smartphones their experience as a student, as well as on their perception of administration policies and teachers' in-classroom practices pertaining to social media and phones. For example, students were asked how does social media impact what happens in school. Interviews with teachers included questions about their own policies and classroom practices and their perception of student digital technology use and administration policies. For instance, teachers were asked to explain their classroom rules for student use of phones.

Interviews were audio-recorded, with the participant's consent, and then transcribed. The interviews were then coded using a grounded theory approach (Charmaz, 2006). An initial open-coding of a subset of ten teacher and twenty student interviews was used to develop a set of codes about students' online and offline peer cultural practices and teachers' strategies for managing student use of digital technologies and social media in the classroom. For instance, the code 'subversive use' was used for instances of teachers or students discussing student strategies for using phones in unapproved ways during class time. The code 'screen surveillance' was used for a teacher strategy of walking around the room during class time to see what students were doing on laptop screens. Codes were then applied to the entire sample. Memoing was used throughout to develop codes and analyse patterns.

Findings

Despite a district level vision of fully integrating students' smartphones into teaching and learning, the place of mobile technologies within classrooms at Central High was best characterized as limited. Teachers who allowed open use of smartphones and integrated them fully into lessons were in the minority, with most teachers only allowing students to use phones for directed use and a significant portion of teachers

banning phones altogether. However, limited integration into the classroom did not mean that allowing all students to bring their mobile technologies into the school and openly use them hadn't impacted everyday life within the school.

As smartphones and new media platforms enabled students' social interactions to occur fluidly across the temporal and spatial boundaries of the classroom and the school, the integration of digital technologies threatened a cultural logic of separation which divided the school into educational and social times and spaces. From their different institutional positions, this change was viewed as threatening by teachers but viewed by students as a mundane part of everyday social life. This paper argues that teachers' strategies for managing the use of digital technologies in the classroom and students' tactics for navigating teacher strategies in pursuit of peer cultural projects served to mutually re-constitute the imperilled divide between the educational and the social. Teachers used strategies of separation and differentiation to reinforce the boundaries of the classroom by separating students from online social spaces and distinguishing educational uses of mobile technologies from social uses. Students similarly reproduced separation by using tactics that enabled them to access mobile technologies during class time and to use social media within the school while simultaneously seeking to limit teacher knowledge of what took place in online peer social spaces.

This findings section will first introduce how the cultural logic of separation divided the educational and the social at Central High through both temporal and spatial boundaries as well as through cultural expectations for teacher responsibilities and behaviour. It will then introduce how the integration of digital technologies threatened this cultural logic of separation and discuss how teacher and students' perceptions of this change were shaped by their different institutional positions. Lastly, it will look at

the strategies teachers used to manage technologies in the classroom and the tactics students used to enable them to participate in online social spaces while in class and at school while also managing their identity as students.

The Cultural Logic of Separation: Bounding Social and Educational Time and Space

Central's approach to the management of student social interactions followed a cultural logic of separation. Students were granted a certain degree of autonomy to engage in peer social interactions in certain times and spaces within the school. The peer interactions that occurred within those times and spaces were viewed as bounded off from the separate educational space of the classroom by both teachers and students. Teachers viewed the separation of the educational and the social as necessary to fulfil their institutional role of delivering content. Students viewed the separation of the educational and the social as protecting the contextual integrity of their peer social practices.

The spatial and temporal component of Central's cultural logic of separation was most strongly evident in the school's lengthy lunch period and breaks between classes. Students at Central had a fifty-minute lunch period and two fifteen minute breaks during the day. Students had the freedom to spend these blocks of time anywhere in the school. This sectioning of time and space was seen by teachers as supporting the school's academic mission. Experienced teachers who had taught at Central for ten years or more identified this schedule as part of the founding ethos of the school. As Brad, a teacher with twenty-seven years of teaching experience, explained

> The way they started was huge, because they wanted to push an academic school, that was the first principal who did that. They coupled that with a lot of responsibility on the kids. We have the longest lunch ever. And he [the first

> principal] saw that as a way to use a lunch for something other than sitting and eating. Other schools can't get away with that because they're addicted to that short lunch, because of control issues.

Granting students autonomy of both time and space thorough the school day was understood as supporting rather than challenging the school's educational mission.

As part of this culture of separation, students were considered capable of managing their own conduct during the autonomous times of lunch and break, as all spaces in the school were not directly observed by teachers. As Michelle, who had been teaching at Central for four years, explained, 'I don't know if you heard about our lunch concept. It's 50 minutes and the kids can go anywhere. …Sometimes I'll have lunch duty, but if I don't, sometimes I'm just walking around and I'm like, these three kids are in that room and no one's in there.' While newer teachers in the school like Michelle found the autonomy granted to students surprising, it was an unremarkable part of school life for those teachers who had been at Central longer.

To fulfill their perceived primary role of delivering content, teachers sought to keep peer sociality outside the boundaries of the classroom. Tracy, a teacher with twenty-eight years of teaching experience, expressed the consensus among teachers concerning their institutional role, 'I think the responsibility that we have in the classroom is to teach our content and to do whatever we can to help that content be meaningful to the student, so that student is educated.' Teachers' involvement with peer relations within the school was understood as secondary to their primary role of delivering content. In describing his approach to peer conflict in the classroom, Kevin, a teacher with twelve years of experience, explained, 'Knowledge, learning doesn't happen if that person is physically and psychologically not doing well.' Intervention in

peer sociality was necessary to support learning but not a teacher's primary responsibility.

One primary way teachers managed peer interactions to facilitate learning was through establishing a standard where peer interactions remained separate from the educational space of the classroom. Frank, a teacher with eight years of experience, maintained that he saw 'none' of the conflict between peers that took place within the school, explaining that, 'if it happens, it's usually downstairs in the cafeteria. My classroom, I set pretty high standards and they know from me, that if anything like that were to happen…they're out.' When teachers were successfully accomplishing their primary role, their knowledge and involvement of peer sociality were minimal. When asked how much teachers knew about peer social life, Shawn, a teacher with thirteen years of experience explained, 'I feel like generally teachers have their world and students have their worlds…Our teachers are definitely really engaged with kids and love being around them but it's their job to be in classes and teach academic content.'

Central High students were perceived by teachers as responsible enough to manage their conduct during autonomous social times and spaces, keeping sociality separate from the educational space of the classroom. Teachers explained that ninth graders had to learn to handle the greater autonomy at Central by becoming more responsible. However, this perception of responsibility was tied not just to age of students but also to the academic achievement and (implied) socioeconomic status of students. As Diane, a teacher with thirty-one years of experience, explained, 'The population I teach, I teach five sections of AP and then one section of a Post-AP class. So, I have generally academically inclined, mature kids. Who have learned how to resolve conflict and know when I've gotten to this line and I don't want to put my toe over it because then it's too far.' Brad drew on the school's demographics more

explicitly in explaining the school's culture, 'Other places have to do it differently because it's a different clientele.'

Like teachers, students viewed the separation of the educational and the social as a desirable outcome. However, whereas teachers were motivated by how separation supported the achievement of learning outcomes, students were motivated by the autonomy they achieved. As Allison, a 16-year-old sophomore stated, 'I don't think that the school needs to be in everyone's private business. I don't think that's like, a part of their job.' Privacy for youth participants meant maintaining the contextual integrity of their social practices by keeping them away from teachers who could judge them when taken out of context (A. E. Marwick & boyd, 2014; Nissenbaum, 2009). There was a strong peer cultural norm of only involving teachers or administrators in peer social life when violence or threats of violence took place. As Carly, a 17 year old junior explained, 'They never really bring it to the staff here. …They don't need to. Unless, unless a student is being severely, severely threatened. Which I absolutely think admin should know and control it.'

Students actively worked to maintain the separation of the educational and the social by relying on peers and parents as their primary resources for help with peer problems, limiting teacher knowledge of their social lives. Christina, a sixteen-year-old sophomore explained she would go to her friends first for help with a social problem, followed by her parents. When asked why, she explained, 'To try and distinguish like, school from personal life and just kind of keep that border between.' Marie, a seventeen-year-old junior echoed Christina, explaining, 'We don't really need too much teacher help…. it's kind of like a church and state issue. The teacher you work with in school and then your social stuff is more its own separate category.'

Teacher and students' protection of the boundaries between the educational and the social was driven by their different institutional locations within the school. Teachers were motivated by their institutional role of facilitating the delivery of content to students. On the other hand, students were motivated by their desire to keep their social practices outside of teacher and administrative knowledge and interference.

Digital Technology Challenging Separation: Teacher and Student Reactions

The integration of mobile technologies into the school environment challenged the cultural logic of separation, a change perceived differently by teachers and students. Both teachers and students viewed the online as an extension of social spaces within the school. However, for teachers, this integration of online and offline social spaces was viewed as threatening their institutional role within the school. For students, the integration of online spaces with offline peer culture wasn't threatening because while the visibility of their out of school lives to fellow students was increased, teachers were seen disconnected from what happened online.

Teachers viewed youth's shared online spaces as an extension of social times and spaces within the school such as lunch and breaks. As Shawn explained

> I think there's stuff going on during lunch, particularly in the sort of, in the nooks and crannies, like stairwells. And you know, the sort of peripheral hallways of the school. I think when kids have downtime, I think often that's when conflict can rise. But I also think given the freedom that kids are given with their devices here, I don't think it's just limited to those downtimes as much.

As seen in Shawn's explanation, teachers frequently compared social media sites to peripheral spaces of the school and unstructured times such as lunchtimes. Social media, like these spaces and times, was a location in which students interacted with

minimal teacher supervision and, as a result, with limited teacher knowledge of what occurred. As Heather, a teacher with thirty-four years of experience, put it, 'I think there's a whole sidetrack of things that are happening with students but without the adults that we don't know about.' However, mobile technologies were seen by teachers as increasing their knowledge of peer sociality.

Teachers viewed smartphones as threatening the separation between the social and educational by extending social space into the classroom. With mobile phones students could engage in social interactions within the classroom without teacher knowledge or control. Teachers frequently acknowledged they were unable to fully see or control what students were doing on their phones or laptops during class. Diane expressed, 'As much as we would like to say, yeah, we've got a handle on what kids are doing on their electronic devices during class, we don't. We wish that we could do that but it's really not feasible.' Teachers believed students were using these devices to engage in social interactions, often negative, with other students during class time, unbeknownst to them. As Shawn expressed, 'If a kid has his or her phone out in a classroom it doesn't mean that they're like, automatically bullying another kid. But you, know, are they reading The Washington Post? No, they're not.' Unlike other social spheres which were bounded off spatially and temporally from the classroom, students could interact socially online in the classroom by using their smartphones to text peers or access social media sites.

Teachers were particularly disturbed by technology's *outside-in* impact on the classroom as phones and laptops enabled students to engage in negative interactions with students in other classrooms or even in other schools (Aagard 2017). As Heather observed, 'They're constantly texting. They're texting friends in the class upstairs. They're texting boyfriends in the other high school. They're texting everyone.' This

outside-in impact was frequently cited by no-use teachers in justifying their policies. As Kevin expressed, ‘Can you imagine if I allowed cell phones in class? I would have to deal not only with the conflict of the student here in the class but the conflict of that student with someone in another class.’ The affordances of mobile phones thus threatened the separation of the educational and the social by removing the spatial and temporal boundaries separating the classroom from the rest of the school.

Teachers viewed digital technologies reworking of social and educational boundaries as threatening in part because online spaces were perceived as causing students to engage in poor social behavior. Like many teachers in the school, Diane viewed technology as broadening the groups of students who participated in conflict, ‘because kids who wouldn’t resort to fisticuffs, they can take it out more passively aggressively through Facebook. And they can start smearing people and saying nasty things.’ Students who teachers would trust to behave themselves during an extended lunch period were not necessarily trusted to behave themselves online. Teachers believed that students as a generation possessed underdeveloped social skills due to their overreliance on social media and phones. As Michelle explained, ‘I think it [technology] messes with human interaction…I’m like, now you don’t know how to make eye contact with someone. So, we should probably put the phone away.’ Teachers perceived students’ underdeveloped social skills as leading to negative social behaviors, mainly online conflict and gossip-spreading.

Like teachers, students perceived peer social spaces as spanning the online and offline, blurring the boundaries of the classroom and the school. However, while teachers understood this integration as a threatening change, students took this integration for granted as a mundane part of school life. Interactions that took place online influenced interactions in school because as Sophie, a 16-year-old sophomore,

put it that was ‘when everyone was around you.’ But interactions in-school were also seen continuing online. As Jeremy, a 16-year-old sophomore, describes it, ‘I feel like a lot of fights happen through social media. It's not like social media is a cause, but we're in school, something causes it, and then you just go talk about it over social media.’ The online was viewed as an extension of offline shared social space that interactions with school peers continued fluidly into.

Unlike teachers, students didn’t perceive online spaces as changing the severity of peer interactions. Rather students saw the integration of online and offline as changing the speed at which information traveled through peer networks in school and the visibility of out of school interactions at school. As Adam, a seventeen year old junior, explained, ‘Well, people are on their phones a lot and things spread quickly.’ Jessica, a sixteen year old sophomore girl, expressed a similar sentiment when asked how social media impacted what happened in school, answering, ‘Things can spread really fast through social media.’ Students identified social media and phones are more quickly spreading negative gossip about other people’s personal lives as well as more benign or humorous interactions that took place within the school.

In addition to phones and social media speeding up the pace of peer cultural life, students saw social media and phones as increasing the visibility of out of school activities and identities within the school. As Elizabeth, a fifteen year old sophomore, explained, ‘You post something and someone’s gonna see it, then someone’s gonna talk about it at school.’ One particularly consequential form of this visibility was social media reveling the difference between in school and out of school peer groups. As Marie explained, ‘If someone wasn’t invited to something, then saw it on Instagram and was upset about that, then they can just come up to them in school and be like, I felt

excluded.' Online presentation was perceived as shaping individual's in-school reputation. As Annie, a fifteen year old sophomore, described

> The influence of social media on our lives is crazy. Like it affects everything we do and who we hang out with. …Like if you see a post you don't kind of fit with, then you're like, I'll probably stay away from that person.

The integration of online and offline social spaces thus resulted in peer interactions and evaluations spanning the spatial and temporal boundaries of both the classroom, as information traveled through the school, and the school itself, as out of school interactions and actions were visible to school peers.

Unlike teachers, students didn't experience this increased fluidity of peer interactions across the boundaries of the classroom and the school as threatening the separation of the social from the educational because students saw teachers as disconnected from what happened online. As seen in Table 2, when asked how much teachers knew about what students in the school did on social media, most student participants answered that teachers were mostly or completely unaware of what students were doing. Nina, a 16 year old sophomore, answered this question, 'Zero to none. They don't really know much.' In response to the same question, Nick, a seventeen year old senior, answered, 'There's some things that they [teachers] really do know about, obviously, that are more physical here. Social media, they have no clue…they just aren't connected.' Students viewed teachers as having little knowledge of interactions in online social spaces as compared to physical in-school social spaces.

[Table 2 about here]

While both teachers and students viewed mobile technologies as leading to increased integration of online and offline social spaces, challenging the boundaries of the classroom and of the school, their experience of this integration was shaped by their

diverging institutional perspectives. Teachers viewed the increased integration as threatening because it extended uncontrollable social spaces into the educational space of the classroom. Teachers thus faced increased responsibility for students' negative interactions with each other. On the contrary, students accepted the increased integration because they viewed teachers as disconnected from what happened online. This disconnection can be seen in part as produced through teachers' strategies for managing students' use of technologies in the classroom.

Re-constituting Separation: Teacher Strategies and Student Tactics

Across differences in formal classroom policies, teachers used strategies of separation and differentiation to manage student use of mobile technologies and reconstitute the threatened cultural logic of separation. In response to these strategies, students engaged in subversive tactics to maximize their access to online social spaces in school. While viewed by oppositional by teachers, these strategies similarly maintained the separation of the educational and the social because of how students used access to these digital technologies to keep peer conflict outside of the classroom.

Teachers at Central High received very little formal guidance from the school's administration on how to integrate mobile technologies into the classroom. While the school superintendent was an enthusiastic backer of the policy, Central's administrators allowed each teacher to determine whether phones were used and how within their own classroom. As Diane described, 'The superintendent of our schools is very in favor of use of technology in the classroom…I mean, teachers can set their own rules for their classrooms but if we're doing what they're hoping we'll do, they'll be on the computers, they'll be on their phones.' Despite this pressure, teachers fully adopting the district policy in their own classroom were in the minority. As seen in Table 3, only two teachers in the sample had a policy of *open integrative use*, in which students could

have their phones in the open throughout class and use of phones was integrated throughout instruction. Most teachers had a *selective use* policy, in which student use of phones was allowed only when directed by the teacher. Another smaller group of teachers had prohibited phone use in their classrooms altogether. Despite differences in formal policies, all three groups of teachers drew on common strategies for managing when and how students engaged with phones within the classroom.

[Table 3 about here]

Separation strategies reconstituted the divide between the educational and the social by imposing a physical distance between students and their phones, preventing students from accessing online social spaces within the classroom. For example, some teachers utilized cubbies where students were required to place their phones as they came into the classroom. The most frequently used separation strategy was requiring students to keep phones in their bags or desks unless they were explicitly told to take them out. At the extreme end, some 'no use' teachers enforced separation by confiscating phones if students were seen using them and keeping them in their possession until the end of class. Carrie, a 'no use' teacher, described her phone policy as, 'they can't have them [phones], if I see them, I take them and I put them in the trash can.' Phone confiscation was viewed by most teachers as generating too much student resistance to be effective.

Teachers used differentiation strategies to establish and maintain a distinction between educational uses of technology, which were allowed in the classroom, and social uses of technology, which were not allowed. Uses of technology defined as 'educational' and thus allowed in the classroom included using laptops and phones to find information, access Google Docs, take class polls and play review games. However, when directing students to engage in these uses, teachers engaged in practices

to prevent all other non-approved uses of technology. One strategy was screen surveillance, where teachers would move throughout the classroom to actively look (and to be seen looking) at what students were doing on their phones or laptops. Another differentiation strategy was partial accommodation where students were allowed to occasionally engage in social uses of technology. For example, some teachers described gave students two minute breaks to 'check their phones,' aware that students would use those two minutes to respond to texts or go on social media. However, by presenting these accommodations as indulgent exceptions to the overall rules governing use, teachers maintained the differentiation between educational uses and social uses of technology. Thus, while separation strategies located all uses of mobile technology as residing within the social sphere, differentiation strategies located some uses of technology as residing within the educational sphere; namely those uses that were teacher-directed and controlled.

By reconstituting the division between social and educational, strategies of separation and differentiation limited teacher knowledge and responsibility for students' online social interactions. The previously mentioned concern about negative online behaviors was largely a concern about what teachers imagined students doing online as most teachers expressed that they had little direct knowledge of what went on between students over phones or on social media and little interest in learning more. Rather, teachers described acting to avoid acquiring more knowledge of what students were doing online. Although teachers engaged in screen surveillance during class, they expressed that the goal of this strategy was to prevent students' social use during class rather than to acquire knowledge of what this social use consisted of. Similarly, Amanda, a teacher with an 'open integrative use' policy, explained that she frequently turned away students who attempted to show her interactions they had with other

students online, stating, ‘I’m glad that they feel comfortable talking to me. And I want to provide a safe space for my students. But my role is not to enter into this kind of thing.’ Within the cultural logic of separation, making a classroom a safe space meant keeping peer sociality separate.

Both teachers and students described a range of tactics used by students to subvert teacher strategies and school rules that limited their access to online social spaces while in-school. As Diane explained,

> I’m not so naïve to think that when they’re sitting there with this, they’re doing this under their lap [*Interview field note: at this point Diane imitated someone texting on a phone with her hands in her lap while pointedly looking forward*] …the other thing is if they want to be excused to the restroom, you can’t tell them not to go. The number of kids who it’s like, ‘I’m going to the bathroom.’ And they take their phone with them.

These tactics of students using their phones out of the teacher’s line of sight or taking phones with them to the bathroom were most frequently described by teachers.

When discussing the subversion of the teacher and school rules governing technology use, students explicitly described their tactics as motivated by the desire to participate in peer social interactions. When asked whether students followed teacher rules for phone use, Devon, a seventeen year old junior, answered, ‘Not exactly. It's very tempting to just pull out your phone and check if you've got a text message or an email, something like that.’ The subversion tactic mentioned most frequently by students was the use of VPN apps to subvert the school’s firewall, which blocked all social media sites from being accessed on the school’s Wi-Fi network. As Nick, an eighteen year old senior, explained

> They have blocked some social media inside school, but then there's the VPN that people use to get past that. I mean, I do myself because I want to check my Snapchats. I mean, come on. I have friends I want to talk to.

Students engaged in subversive tactics to circumvent teacher and school rules that sought to limit their access to social spaces.

Students' subversive tactics served to reinforce rather than challenge the cultural logic of separation within the school because they were used within a larger peer cultural project that sought to limit the visibility of peer interactions to teachers and administrators. As previously described, students actively worked to limit teacher knowledge of peer sociality. One way students did this was through using social media and texting to avoid in-person confrontation and conflict with school peers. As Jessica, explained, 'Social media is kind of where all the conflicts take place. …And not like, in person so much.' While teachers viewed online conflict as resulting from youth's lack of control over their online behavior, students described actively choosing an online setting when settling an ongoing disagreement with friends or peers. Maggie, a 16-year-old junior explained her choice of an online setting for conflict, 'You can pre-plan what you want to say and you can filter yourself more…You have more confidence to say what you want to say over text.' These confrontations were not limited to one's revolving around social concerns; multiple students described using social media or texting to confront fellow students who were not pulling their weight in academic groupwork.

One reason students provided for keeping conflict online and out of the classroom or school was to facilitate academic and extracurricular achievement by maintaining a distinct in-school reputation. Carly explained that in-person confrontation was rare because 'this school is such an overachieving school. Like half of

everyone…are like going to Ivy Leagues and all these really big schools. And so it's very competitive and everyone wants to seem perfect on the outside.' To be a high achieving student meant keeping your negative interactions with peers outside of educational spaces. For students one way to achieve this separation was through keeping conflict within peer social spaces online and out of educational spaces. Students thus used mobile technologies and social media sites in a way that served to reconstitute the cultural logic of separation.

Conclusion

This paper sought to move beyond the dichotomy between the transformative and critical approaches to educational technologies by addressing theoretical and empirical limitations and omissions present within each approach. Specifically, it did so by considering the social consequences of educational technologies and adopting a theoretical perspective viewing the cultural and material structures of schools as mutually constitutive. In adopting this theoretical approach, the educational and social division is considered actively produced through a dynamic process of contestation and negotiation between teachers and students. Interviews with nineteen teachers and thirty-seven students at Central High, a school in a commuter town that had adopted BYOD and 1:1 policies, produced a story not of transformation or continuation on its own but of how digital technology's challenge to the sociocultural, spatial and temporal organization of schools is actively contained through teacher and student strategies. While teacher strategies and student tactics were understood as oppositional by participants, the two sets of practices worked in concert to re-establish a threatened cultural logic of separation between the educational and the social.

The findings and theoretical approach of this paper poses new questions to and provides new ways to think about previous findings in both the transformative and

critical educational technologies paradigms. As proposed by the connected learning paradigm, the integration of digital technologies did challenge existing configurations of the formal and the informal at Central High (Erstad & Sefton-Green, 2013; Kumpulainen & Sefton-Green, 2014). However, as this challenging of boundaries between different spheres of student life was threatening to teachers' control of the classroom environment, teachers engaged in strategies that produced a differentiation between educational and social uses of digital technology. Further, students also actively worked to maintain the separation of the educational and the social because it protected the contextual integrity of their peer cultural practices. These findings suggest that for reforms to truly connected the formal and informal spheres of youth lives, these reforms must also challenge the existing power relations within schools, changing teacher definitions of what control looks like and taking seriously student pursuit of privacy.

Further, adopting a sociocultural approach that considers social consequences as well as educational and places teacher and student viewpoints in conversation leads to a fuller picture of power dynamics in technology-integrated classrooms. Previous studies in the critical approach paradigm have identified some of the teacher strategies and student tactics described within this paper; particularly, teacher use of screen surveillance and reliance on a directive teaching style as well as students' in-classroom off-task use of technology and subversion of blocking sites (Aagaard, 2015; Bulfin et al., 2016; Clark et al., 2009; Neil Selwyn et al., 2017). However, this study provided a fuller picture of the motivations and consequences of these strategies shaping how struggles for control played out. These strategies are shaped by an existing cultural logic of separation within schools, a logic central to institutional projects of both teachers and

students. Through giving more analytical weight to culture and meaning, the teacher-student power relationships is more fully contextualized.

Moving forward, there is a need for the theoretical and methodological approach within this study to be applied comparatively, considering how cultural logics vary across schools in different contexts, and how this variation produces varying outcomes in the process of technology incorporation. Although this theme could not be fully fleshed out due to this study's single site design and fairly homogenous sample, the cultural logic of separation and the process of technology incorporation at Central High was undoubtedly tied up in the dynamics of race and class privilege and reproduction. The cultural logic of separation shaping technology incorporation here, which granted youth a certain degree of autonomy and privacy, contrasts sharply with previous work showing how a variety of adult institutions target the social use of technologies by youth of color and working class youth to surveillance and regulation (Campos-Holland, Dinsmore, Pol, & Zevalios, 2015; A. Marwick, Fontaine, & boyd, 2017; Vickery, 2015). The privacy and autonomy produced by the division of the educational and the social may prove to be unequally distributed.

Works Referenced

Aagaard, J. (2015). Drawn to distraction: A qualitative study of off-task use of educational technology. *Computers & Education*, *87*(Supplement C), 90–97. https://doi.org/10.1016/j.compedu.2015.03.010

Aagaard, J. (2017). Breaking down barriers: The ambivalent nature of technologies in the classroom. *New Media & Society*, *19*(7), 1127–1143. https://doi.org/10.1177/1461444816631505

Andersson, A., Hatakka, M., Grönlund, Å., & Wiklund, M. (2014). Reclaiming the students – coping with social media in 1:1 schools. *Learning, Media and Technology*, *39*(1), 37–52. https://doi.org/10.1080/17439884.2012.756518

Berge, Z. L., & Muilenburg, L. (2013). *Handbook of Mobile Learning*. Routledge.

boyd, danah. (2012). *Taken out of context: American teen sociality in networked publics*. University of California-Berkeley.

Brehony, K. J. (2002). Researching the 'Grammar of Schooling': an historical view. *European Educational Research Journal*, *1*(1), 178–189.

Bulfin, S., Johnson, N., Nemorin, S., & Selwyn, N. (2016). Nagging, noobs and new tricks – students' perceptions of school as a context for digital technology use. *Educational Studies*, *42*(3), 239–251. https://doi.org/10.1080/03055698.2016.1160824

Campos-Holland, A., Dinsmore, B., Pol, G., & Zevalios, K. (2015). Keep calm: Youth navigating adult authority across networked publics. *Technology and Youth: Growing up in a Digital World*, *19*, 163À211.

Carter, P. L. (2005). *Keepin' It Real: School Success Beyond Black and White*. Oxford University Press.

Carter, P. L. (2012). *Stubborn Roots: Race, Culture, and Inequality in U.S. and South African Schools*. Oxford University Press.

Charmaz, K. (2006). Constructing grounded theory: A practical guide through qualitative research. *SagePublications Ltd, London*.

Clark, W., Logan, K., Luckin, R., Mee, A., & Oliver, M. (2009). Beyond Web 2.0: mapping the technology landscapes of young learners. *Journal of Computer Assisted Learning*, *25*(1), 56–69. https://doi.org/10.1111/j.1365-2729.2008.00305.x

Crook, C. (2012). The 'digital native' in context: tensions associated with importing Web 2.0 practices into the school setting. *Oxford Review of Education*, *38*(1), 63–80. https://doi.org/10.1080/03054985.2011.577946

Crosnoe, R. (2011). *Fitting In, Standing Out: Navigating the Social Challenges of High School to Get an Education*. Cambridge University Press.

Cuban, L., & Jandrić, P. (2015). The dubious promise of educational technologies: Historical patterns and future challenges. *E-Learning and Digital Media*, *12*(3–4), 425–439. https://doi.org/10.1177/2042753015579978

Demerath, P. (2009). *Producing Success: The Culture of Personal Advancement in an American High School*. University of Chicago Press.

Eckert, P. (1989). *Jocks and burnouts: Social categories and identity in the high school*. Teachers College Press.

Erstad, O. (2012). The learning lives of digital youth—beyond the formal and informal. *Oxford Review of Education*, *38*(1), 25–43. https://doi.org/10.1080/03054985.2011.577940

Erstad, O., & Sefton-Green, J. (2013). *Identity, Community, and Learning Lives in the Digital Age*. Cambridge University Press.

Facer, K. (2011). *Learning Futures: Education, Technology and Social Change*. Taylor & Francis.

Fisk, N. W. (2016). *Framing Internet Safety: The Governance of Youth Online*. MIT Press.

Francis, B., Read, B., & Skelton, C. (2012). *The Identities and Practices of High Achieving Pupils: Negotiating Achievement and Peer Cultures*. Bloomsbury Publishing.

Friedel, H., Bos, B., Lee, K., & Smith, S. (2013). The Impact of Mobile Handheld Digital Devices on Student Learning: A Literature Review with Meta-Analysis (pp. 3708–3717). Presented at the Society for Information Technology & Teacher Education International Conference, Association for the Advancement of Computing in Education (AACE). Retrieved from https://www.learntechlib.org/p/48685/

Giroux, H. A., & Penna, A. N. (1979). Social education in the classroom: The dynamics of the hidden curriculum. *Theory & Research in Social Education, 7*(1), 21–42.

Gouseti, A. (2010). Web 2.0 and education: not just another case of hype, hope and disappointment? *Learning, Media and Technology, 35*(3), 351–356. https://doi.org/10.1080/17439884.2010.509353

Grant, M. M., Tamim, S., Brown, D. B., Sweeney, J. P., Ferguson, F. K., & Jones, L. B. (2015). Teaching and Learning with Mobile Computing Devices: Case Study in K-12 Classrooms. *TechTrends*, *59*(4), 32–45. https://doi.org/10.1007/s11528-015-0869-3

Green, L. (2002). *Communication, technology and society*. Sage.

Ito, M., Baumer, S., Bittanti, M., boyd, danah, Cody, R., Stephenson, B. H., … Tripp, L. (2009). *Hanging Out, Messing Around, and Geeking Out: Kids Living and Learning with New Media*. MIT Press.

Ito, M., Gutierrez, K., Livingstone, S., Penuel, B., Rhodes, J., Salen, K., … Watkins, C. (2012). *Connected Learning: An Agenda for Research and Design*. Retrieved from https://dmlhub.net/publications/connected-learning-agenda-for-research-and-design/

Ito, M., Gutierrez, K., Livingstone, S., Penuel, B., Rhodes, J., Salen, K., … Watkins, S. C. (2013). *Connected Learning: An Agenda for Research and Design* (1 edition). Digital Media and Learning Research Hub.

Janak Adhikari, Chris Scogings, Anuradha Mathrani, & Indu Sofat. (2017). Evolving digital divides in information literacy and learning outcomes: A BYOD journey in a secondary school. *International Journal of Information and Learning Technology*, *34*(4), 290–306. https://doi.org/10.1108/IJILT-04-2017-0022

Kosturko, L., Sabourin, J., McQuiggan, J., & McQuiggan, S. (2015). CHAPTER 1: Changing Education with Mobile Learning. In *Mobile Learning: A Handbook for Developers, Educators, and Learners*. John Wiley & Sons. Retrieved from https://proquest-safaribooksonline-com.proxy01.its.virginia.edu/book/programming/mobile/9781118894309/chapter-1-changing-education-with-mobile-learning/chap1_html

Kumpulainen, K., Mikkola, A., & Jaatinen, A.-M. (2014). The chronotopes of technology-mediated creative learning practices in an elementary school community. *Learning, Media and Technology*, *39*(1), 53–74.

Kumpulainen, K., & Sefton-Green, J. (2014). What is connected learning and how to research it? *International Journal of Learning and Media*. Retrieved from https://www.researchgate.net/profile/K_Kumpulainen/publication/262486653_What_Is_Connected_Learning_and_How_to_Research_It/links/0046353929944a6bef000000/What-Is-Connected-Learning-and-How-to-Research-It.pdf

Lawn, M., & Grosvenor, I. (2005). Materialities of schooling: Design, technology, objects, routines. Symposium Books Ltd.

Martin, F., & Ertzberger, J. (2013). Here and now mobile learning: An experimental study on the use of mobile technology. *Computers & Education*, *68*(Supplement C), 76–85. https://doi.org/10.1016/j.compedu.2013.04.021

Marwick, A. E., & boyd, danah. (2014). Networked privacy: How teenagers negotiate context in social media. *New Media & Society*, *16*(7), 1051–1067. https://doi.org/10.1177/1461444814543995

Marwick, A., Fontaine, C., & boyd, danah. (2017). 'Nobody Sees It, Nobody Gets Mad': Social Media, Privacy, and Personal Responsibility Among Low-SES Youth. *Social Media + Society*, *3*(2), 2056305117710455. https://doi.org/10.1177/2056305117710455

Ng, W. (2015). *New Digital Technology in Education*. Cham: Springer International Publishing. Retrieved from http://link.springer.com/10.1007/978-3-319-05822-1

Nissenbaum, H. (2009). *Privacy in Context: Technology, Policy, and the Integrity of Social Life*. Stanford University Press.

Norris, C. A., & Soloway, E. M. (2013). Substantive Educational Change is in the Palm of Our Children's Hands. In *Handbook of Mobile Learning* (pp. 109–118). Routledge Handbooks Online. Retrieved from https://www.routledgehandbooks.com/doi/10.4324/9780203118764.ch10

Northey, G., Govind, R., Bucic, T., Chylinski, M., Dolan, R., & van Esch, P. (2017). The effect of 'here and now' learning on student engagement and academic achievement. *British Journal of Educational Technology*, *0*(0), 1–13. https://doi.org/10.1111/bjet.12589

O'Brien, M. (2009). The Tactics of Mobile Phone Use in the School-Based Practices of Young People. *Anthropology in Action*, *16*(1), 30–40. https://doi.org/10.3167/aia.2009.160104

Pearson Student Mobile Device Survey. (2015). Harris Poll.

Pegrum, M. (2014). *Mobile Learning: Languages, Literacies and Cultures*. Springer.

Philip, T. M., & Garcia, A. (2015). Schooling Mobile Phones: Assumptions About Proximal Benefits, the Challenges of Shifting Meanings, and the Politics of Teaching. *Educational Policy*, *29*(4), 676–707. https://doi.org/10.1177/0895904813518105

Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the Horizon*, *9*(5), 1–6.

Selwyn, N. (2010). Looking beyond learning: notes towards the critical study of educational technology. *Journal of Computer Assisted Learning*, *26*(1), 65–73. https://doi.org/10.1111/j.1365-2729.2009.00338.x

Selwyn, N. (2010). *Schools and Schooling in the Digital Age: A Critical Analysis*. Routledge.

Selwyn, N., Nemorin, S., Bulfin, S., & Johnson, N. F. (2017). Left to their own devices: the everyday realities of one-to-one classrooms. *Oxford Review of Education*, *43*(3), 289–310. https://doi.org/10.1080/03054985.2017.1305047

Sharples, M., Taylor, J., & Vavoula, G. (2010). A Theory of Learning for the Mobile Age. In *Medienbildung in neuen Kulturräumen* (pp. 87–99). VS Verlag für Sozialwissenschaften. Retrieved from https://link.springer.com/chapter/10.1007/978-3-531-92133-4_6

Sims, C. (2017). *Disruptive Fixation: School Reform and the Pitfalls of Techno-Idealism*. Princeton University Press.

Speak Up Survey. (2012).

Taylor, A. (2005). Phone talk. In *Mobile Communications* (pp. 149–166). Springer.

The Center for Digital Education's Digital School Districts Survey. (2016). Center for Digital Education.

Tondeur, J., Braak, J. van, Ertmer, P. A., & Ottenbreit-Leftwich, A. (2017). Understanding the relationship between teachers' pedagogical beliefs and technology use in education: a systematic review of qualitative evidence. *Educational Technology Research and Development*, *65*(3), 555–575. https://doi.org/10.1007/s11423-016-9481-2

Vickery, J. R. (2015). 'I don't have anything to hide, but … ': the challenges and negotiations of social and mobile media privacy for non-dominant youth. *Information, Communication & Society*, *18*(3), 281–294. https://doi.org/10.1080/1369118X.2014.989251

Vickery, J. R. (2017). *Worried about the Wrong Things: Youth, Risk, and Opportunity in the Digital World*. MIT Press.

Weis, L., Cipollone, K., & Jenkins, H. (2014). *Class Warfare: Class, Race, and College Admissions in Top-Tier Secondary Schools*. University of Chicago Press.

Willis, P. E. (1977). *Learning to Labor: How Working Class Kids Get Working Class Jobs*. Columbia University Press.

Tables and Figures

Table 1. Student Demographics

	White	**Bi-Racial**	**Asian**	**Hispanic/Latinx**
Boys	8	-	1	1
Girls	18	2*	2	-

*African American and white, African American and Puerto Rican

Table 2. Student Perception of Teacher Awareness of Social Media

How much do teachers know about what students do on social media?	**Participants[3]**
Teachers are mostly or completely unware	19
Teachers are somewhat aware	6
Teachers are more aware than students think	4

Table 3. Formal Phone Use Policies

Technology Policy	**Teachers[4]**
Selective Use	10
No Use	5
Open Integrative Use	2

[3] This question was not asked in 7 of the student interviews due to its place at the end of the interview schedule. Student interviews could only be conducted on-site at the school and with the majority taking place during a fifty-minute study hall periods as condition of site access.

[4] Two teachers I interviewed did not have a phone policy because they worked with students outside a formal classroom capacity, either one-on-one or in small groups.