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IDENTITY AND AGENCY IN SCHOOL AND AFTERSCHOOL SETTINGS: INVESTIGATING DIGITAL MEDIA'S SUPPORTING ROLE

Katie Davis, Anthony Ambrose & Mania Orand

Abstract: *This study documents opportunities for identity and agency experienced by students in urban school and afterschool contexts, with a focus on digital media's role in shaping these opportunities. We conducted focus groups and interviews with 43 students and six teachers affiliated with an urban public high school and a network of afterschool programs in the United States, as well as participant observations of nine afterschool sessions and three school classes. Compared to school, afterschool programs afforded students greater opportunities for identity expression, with digital media generally playing a supporting role. We found that the institutional constraints and sociopolitical dynamics that shape students' experiences in school and afterschool contexts are largely mirrored in the ways technology is used in these contexts. Introducing digital media into a setting will not necessarily change these dynamics, though we did see potential for disruption in some afterschool settings. The findings provide new insight into digital media's role in supporting identity and agency in school and afterschool settings.*

Key Words: Digital media; identity; agency; formal and informal learning contexts

Introduction

Carlos, a tenth-grade Latino boy, loves to read. In fact, reading is core to his identity. "I say I read more than what I eat, because reading is life for me. I love reading. Reading is like, I get home, and I just read. I am like the bookworm." Carlos does most of his reading on his iPad. In school, he is often among the first in his class to finish his work, and when this happens he takes out his iPad to read. However, as soon as his teacher sees him, she tells him to put it away, assuming that he is off-task. Carlos attends a public high school located in an urban neighborhood in the Northeast, but his story could have come from any number of urban public high schools across the United States, where technology use is tightly controlled and teachers tend to discourage use of personal devices in the classroom (Ito et al., 2013). For Carlos, such restrictions represent a missed opportunity to find a space for interest-driven technology use in school.

Drawing on students' interests and sense of identity is now well recognized as playing a valuable role in supporting the learning process, both in formal and informal settings (Barton & Tan, 2010; Holland et al., 1998; Lave & Wenger, 1991; Nasir & Hand, 2008; Wortham, 2006). Learners need to see themselves in their learning experiences in order to engage deeply in them. The advent of openly networked technologies has introduced exciting new opportunities for supporting *identity*—the set of values, goals, and beliefs that individuals use to define themselves (Erikson, 1968; Schwartz, 2001)—and *agency*—marked by self-determination, a belief in oneself, commitment, and purpose (Cote, 2000)—in learning. When playing Minecraft—a sandbox video game popular among youth—players tap into their gamer identities as they develop skills in computer programming, physics, and systems thinking. On fanfiction sites, authors tap into their fan girl or fan boy identities as they develop their writing skills (Campbell et al., 2016;

Evans et al., 2017).

The current study investigates whether and how digital media technologies afford or constrain opportunities for identity and agency in urban educational settings. We conducted a yearlong investigation of high school students' experiences with technology in school and afterschool settings in the United States. Through focus groups and in-depth interviews with 43 students and six teachers, as well as participant observations of nine afterschool sessions and three school classes in an urban public school district, we documented the variety of ways in which technology was used by students and teachers. We focused in particular on how digital media use intersected with opportunities for identity expression in these learning contexts. Our work provides new insight into technology's role in supporting identity and agency in learning among urban youth.

Theoretical context

Identity's role in learning

Theory and research underscore the important role that identity plays in learning (Holland et al., 1998; Lave & Wenger, 1991; Nasir & Hand, 2008; Wortham, 2006). As a process of deepening participation in a social practice (Lave & Wenger, 1991), learning requires a change in how one sees oneself in relation to the practice. This process hinges on making the transition from seeing oneself as a peripheral observer to someone who is an expert and central actor.

Schwartz and colleagues (2013) identified three types of identities that are particularly salient for urban youth and affect their learning experiences in school and afterschool settings. *Personal identity* comprises the goals, values, and beliefs that individuals use to define who they are today and who they might become in the future (Erikson, 1968; Oyserman & Destin, 2010; Schwartz, 2001). *Ethnic identity* involves the role that individuals' ethnicity plays in their sense of self (Phinney & Ong, 2007). Ethnicity can play a more or less central role in, and can be seen as a more or less positive component of an individual's identity. *Cultural identity* relates to the way individuals see themselves and their country of origin in relation to mainstream American culture. For urban youth growing up in immigrant families, ethnic identity and cultural identity may be more significant and interact more directly with personal identity than for white youth living in non-immigrant households (Schwartz et al., 2013).

Personal, ethnic, and cultural identities can affect how youth come to see themselves—or not—as capable learners within certain domains (Schwartz et al., 2013). Fordham and Ogbu (1986) described how some African American youth resisted performing behaviors in school that they and their peers perceived as "acting White." These behaviors, such as studying hard and speaking standard English, are tied to the institutionalized norms and cultural practices of mainstream (white) American culture that dominates U.S. public schools. Therefore, adopting such behaviors was seen by youth to be in conflict with their ethnic and cultural identities. Resolving this conflict is a complex matter, but research suggests that introducing supportive mentors, giving youth opportunities to demonstrate choice and responsibility, and acknowledging and honoring young people's ethnic and cultural identities can be beneficial (Hudley & Daoud, 2008; Hudley & Duran, 2013; Masten, 2001). The resulting sense of personal agency—what individuals can imagine themselves to be and to do—can support youth's identities as learners (Barton & Tan, 2010). Barton and Tan (2010) emphasize the dialectic relationship between agency and identity by describing how agency enables individuals to assert their identities in a particular setting as well as imagine new identities for themselves. A sense of personal agency makes it possible for individuals to act on and therefore change their environments.

Identity Expression in School and Afterschool Contexts

Social and institutional structures affect urban youth's opportunities for identity expression in school and afterschool contexts. Hand, Penuel, and Gutierrez (2012) described how dominant social, cultural, and institutional discourses are reflected in our educational system and give rise to a "doing school" frame that positions teachers and students in specific ways. The doing school frame—which appears most salient in urban school contexts—is characterized by "rote and shallow learning performances" (p.255) in which students take on passive roles as they receive information delivered by the teacher and reproduce it by raising their hands to answer the teacher's questions, filling out worksheets, and taking tests. Students are not given the authority to construct knowledge for themselves, or question the knowledge that they receive from the teacher. Hand et al. observe that framing students in this way serves to recreate the racial and power hierarchies that prevail in the broader society.

Consistent with the doing school frame described by Hand et al. (2012), Moll and colleagues observed that the classroom is typically closed off from students' social worlds outside school (Moll, 1992; Moll et al., 1992; Moll & Gonzalez, 2004). Teachers fail to draw on their students' "funds of knowledge"—the skills, knowledge, and mentorship opportunities that youth experience by participating in the everyday practices of their families and communities. Instead, teachers know their students only by what they present in the context of the classroom (Moll et al., 1992). As a result, key opportunities to acknowledge students' personal, ethnic, and cultural identities and tie them to their learning are missed.

Operating outside the high-stakes environment of the formal education system, afterschool contexts typically lack the same social and institutional constraints that give rise to the doing school frame that prevails in many urban schools (Cole & Distributed Literacy Consortium, 2006; Ito et al., 2013). For urban youth, afterschool experiences have been associated with increased resilience, sense of competence, and likelihood to attend college (Peck, Roeser, Zarrett, & Eccles, 2008; Schwartz et al., 2013; Zarrett et al., 2009). For instance, in Barton and Tan's (2010) study of an afterschool science program, middle school students took on roles as both producer and critic of science during the process of researching and producing documentaries about the science behind urban heat islands. Given the direct relevance of the topic to students' community context, these roles were experienced as personally meaningful and consequential (Stevens et al., 2006); the science exploration was directly connected to students' lived experiences, and they were even able to share their emerging science understanding with members of their community.

New Media, New Identities

With the advent of digital media technologies, there is growing interest in exploring the extent to which their particular affordances shape identity and agency in distinct ways with respect to learning processes and opportunities. The connected learning model developed by Ito and colleagues provides a theoretical framework linking digital media, identity, agency, and learning (Ito et al., 2013). Students' interests are placed at the center of learning and used to promote academic achievement, civic engagement, and future educational and career opportunities. Building on previous work demonstrating the importance of leveraging personal identity and interests to support academic engagement and learning (Hidi & Renninger, 2006; Lave & Wenger, 1991; Wortham, 2006), the connected learning model describes how digital media technologies can be used to empower students, support their identities as learners, and enrich their learning experiences. Undergirding the model is an equity agenda that aims to broaden access to

learning for youth who have traditionally been blocked from such opportunity. The model is therefore particularly applicable to urban education contexts that struggle to provide students with adequate material resources, high quality, culturally competent teachers, and learning opportunities that go deeper than teaching to the test.

Connected learning unites three contexts for learning: young people's *personal interests*, *peer cultures*, and *academic studies* (Ito et al., 2013). Like previous scholars (e.g., Hudley & Duran, 2013; Moll et al., 1992), Ito and colleagues recognize that these contexts typically remain separate from each other, particularly for urban youth. Opportunities to draw on students' personal interests and peer cultures in order to engage them in the learning process are often missed. The learning environments best able to unite the three contexts for learning are defined by three core properties. Adults and youth come together around a *shared purpose*; learning opportunities arise in the context of active *production* rather than passive consumption; and *openly networked* infrastructures are used to connect students to people, resources, and contexts beyond their immediate environment and disseminate their learning productions to audiences of import.

Existing research shows how youth are able to draw on their personal interests and peer networks to a greater degree when using technology in informal contexts than when they are in school (Furlong & Davies, 2012; Greenhow & Robelia, 2009; Lai et al., 2013; Sefton-Green et al., 2009). In school—particularly urban schools—technology use remains limited and used primarily for direct instruction (Padron et al., 2012). Livingstone and Sefton-Green (2016) documented the control-oriented nature of technology use in a middle school class serving a mixed neighborhood in London. Their ethnographic case study showed how the social and institutional constraints present in the school served to limit students' use of technology to only the most basic tasks. For instance, they documented how teachers used the school's learning management system to keep track of student attendance, behavior, and grades, and how the class Smart Board was used primarily for one-way communication from teacher to students. Moreover, despite the ethnic and socioeconomic diversity among students, teachers did not take advantage of networked technologies to connect to and incorporate students' cultural backgrounds into their teaching.

The Current Study

Emerging research in the area of digital media and learning points to distinct opportunities and challenges associated with using technology to support identity and agency in learning in school and afterschool contexts (Cole & Distributed Literacy Consortium, 2006; Ito et al., 2013). This work also highlights the need to account for the sociocultural contexts in which technology use and learning take place (Selwyn, 2010). The current study builds on existing research by documenting the opportunities for identity and agency that students in urban settings experience in school and afterschool contexts and the specific role that digital media technologies play in shaping these opportunities. We pay particular attention to both the opportunities and challenges that are specific to each context. In contrast to some work in this area, which places technology at the center of the learning experience (e.g., Barron, 2004; DiSalvo et al., 2014), our work examines the supporting role of technology in a variety of formal and informal learning settings. Through focus groups and in-depth interviews with 43 students and six teachers affiliated with an urban public high school and a network of afterschool programs in the United States, as well as participant observations of nine afterschool sessions and three school classes, we explored the following research questions:

1. What are the identities available to students in the Afterschool Network[i] and how do they compare to the identities available to them in school?
2. How do students use digital media technologies to express themselves in school and afterschool settings?

Method

Research site

The research site comprised a network of afterschool programs, the Afterschool Network, which serves high school students attending public school in an urban city in the Northeast United States. In 2008, the Afterschool Network launched a new high school initiative to build on the organization's long-standing middle school programs. In 2012, students in one high school began receiving high school elective credit for participating in these afterschool programs, which the Afterschool Network calls Expanded Learning Experiences (ELEs). Community partners lead these programs, while teachers in the school district observe and assess student learning. Assessment is based on students posting weekly blog entries on the Afterschool Network website, as well as giving a final presentation of their learning to teachers and community members at the end of the term. In 2012, the Afterschool Network began awarding digital badges to students for their successful completion of ELEs. These digital badges are displayed on students' profiles on the Afterschool Network website. The ELE program expanded to a second high school in fall 2013, and a third high school was included in spring 2014. Our research was conducted during fall 2013 and spring 2014.

Sample and Data Collection

Consistent with a social constructivist approach to research that seeks to gain insight into the subjective meanings that individuals ascribe to their lived experiences (Creswell, 2009), our methods of data collection included in-depth interviews, focus groups, and participant observations. Interviews and focus groups gave us insight into participants' perceptions of their experiences, as well as their values and commitments (Maxwell, 2005). Participant observations gave us firsthand knowledge of students' afterschool and school experiences and the nature of their participation in these settings (Emerson, 2001).

Student sample. We conducted eight in-person focus groups or student pair interviews with a total of 43 students, which represents 36% of the approximately 120 students enrolled in the ELE program during the 2013-2014 academic year. Drawing on the connected learning framework, we asked students about their experiences at the ELEs and in school; the degree to which their experiences align with their personal interests; and their use of technology in each setting (Appendix A).

We adopted a purposive sampling approach in an attempt to include students who mirrored the demographic characteristics of the school district. We also sought representation from each of the three high schools participating in the ELE program and all 17 of the ELE classes offered. Of the 21 students who provided demographic information, 13 (62%) were female, 13 (62%) were Latino, 7 (33%) were African American, and 1 (5%) identified as Asian. These statistics reflect the demographic characteristics of the broader student population in the public school district. In 2013-2014, 63% of the high school students enrolled in the public schools identified as Hispanic, 19% were Black, 10% were White, and the remaining 8% identified as either Native American, Asian Pacific, or Multi-Race.[ii] In our sample of student participants, three students (14%) were in Grade 9, ten students (48%) were in Grade 10, six students (29%) were in Grade 11, and two students (10%) were in Grade 12. To protect their

privacy, we did not specifically ask students about their immigrant status. However, four students made explicit reference to emigrating with their families in recent years from Dominican Republic.

Adult sample. We conducted in-depth interviews with six teachers of record for ELE programs. Some interviews were conducted by phone and others in person. As high school teachers employed by the school district, teachers of record are responsible for assigning students' grades and deciding whether students receive high school elective credits for their participation. They observe ELE sessions during the semester; read and respond to students' blogs; and take part in the judging at the Exhibition Event at the end of the term. In the interviews, we asked questions about the goals and activities associated with each ELE program; the nature of students' engagement in ELEs and in school; and the use of digital media (Appendix B). Our sampling strategy aimed for a diversity of subject areas taught. Participants taught a wide variety of subjects, including math, visual art, physical education, international studies, foreign languages, and special education.

Observations. We conducted participant observations of nine ELE sessions in October 2013 and April 2014, representing 53% of the 17 total ELE programs offered that year. Each observation lasted approximately two hours, which was the length of each session. We aimed for a diversity of programs with respect to subject focus. The topics of the sessions included Android app programming; architecture, construction, and structural engineering; engineering of self-propelled model cars; visual art and design; arts appreciation; leadership in the school community; learning English as a second language; building and maintaining a functional bicycle; and discussing issues of empowerment with girls. The researchers participated in sessions and compiled detailed field notes during and immediately after each observation (Emerson, 2001).

In April 2014, we conducted hour-long observations of two math classes and one art class in the original high school to participate in the ELE program. We approached teachers who had previously participated in an interview. Due to teachers' restricted schedules, we were not able to conduct as many school observations as ELE observations. As with the ELE observations, we compiled field notes during and immediately after each session.

Data Analysis

The interviews and focus groups were audio-recorded and transcribed, and detailed field notes were produced for each participant observation session. We conducted a thematic analysis (Boyatzis, 1998) of the transcripts, and used the observational data to investigate the extent to which these themes were observed firsthand in the ELE and school settings. In the first stage of analysis, the authors read through all transcripts independently. In research team meetings, we discussed emerging themes as they related to our research questions. The coding scheme that resulted from this process comprised two broad categories of codes: (1) codes related to students' interests and identities (including personal, ethnic, and cultural identities) and (2) codes related to students' technology use in ELEs and in school. Within these superordinate codes, sub-codes were created to distinguish between setting (ELE vs. school), the presence or absence of opportunities for identity expression, the specific type of technology used, as well as challenges to technology use in each setting (see Appendix C).

To ensure the codes were applied consistently and accurately to the entire data set, we employed a joint, iterative process of collaborative discussion and independent corroboration (Smagorinsky, 2008). Two researchers independently applied the codes to

a transcript selected at random. Kappa statistics for the superordinate codes were calculated at 0.79 (identity) and 0.73 (technology use), well above the 0.60 cutoff suggested by Landis and Koch (1977). The research team documented areas of agreement and disagreement and clarified through discussion the definition and appropriate application of each code. We then divided and coded the transcripts independently, meeting weekly to discuss our coding progress and any questions that emerged.

Findings

Overall trends

We coded all transcripts for instances when participants spoke about the identities available to students in the Expanded Learning Experience (ELE) programs and at school. We further classified these statements as having either a positive or negative valence. Because there were more interview questions about the ELEs than school (see Appendices A and B), overall we coded more ELE-related identity statements (69 references) than school-related identity statements (35 references). With respect to the proportions of positive to negative identity statements, there was a clear distinction between the ELEs and school. Whereas 96% of ELE-related identity statements were positive (66/69 total references), only 26% of school-related identity statements were positive (9/35 total references). These figures are reported in Table 1.

Across all interview transcripts, 533 excerpts were coded as evidence that students were using technology either at school or in their ELE programs. From these excerpts, 475 (89%) were coded as evidence of using technology in the ELE programs and only 58 (11%) referred to the use of technology at school (Table 1). This large discrepancy is due in part to the fact that the interview protocols included specific questions about the Afterschool Network's website, blog, and use of digital badges, and there were no such parallel questions related to school (Appendices A and B). However, the remainder of the interview protocol included an even balance of questions about technology use in school and afterschool settings. The technology-related excerpts represent instances in which students and teachers spoke about students' use of technologies such as computers, mobile phones, the Internet, email, TV, and websites, as well as challenges or barriers to technology use in both settings. Of the 475 excerpts coded as ELE-related technology use, 17 (4%) related to specific challenges or barriers students faced in using technology in their afterschool programs. By contrast, 13 of the 58 school-related excerpts (22%) related to challenges or barriers to technology use (Table 1). In what follows, we delve more deeply into these overall trends by sharing representative participant quotes and summaries from our participant observations.

Students' Experiences in the ELE Program

Supports for identity. Agency figured prominently in the positive ELE-related identity statements. Both youth and adult participants noted the sense of agency that students gained from creating something new in their ELE courses. One student described the sense of accomplishment he experienced in the Bicycle Design program: "We built a car out of food. It was really hard to get that thing down the ramp. I mean, after I built [it] I was pretty proud." In addition to the focus on creating, this quote also illustrates the sense of agency that came from being challenged, which was present in several other student comments. Technology often functioned to support and enhance students' sense of agency. For example, one student described the sense of accomplishment he felt as a result of working to master the technology used in the Live Music Mixing ELE: "After when I finally got it [scratching] right after like 15 thousand tries, I was so happy. I

wanted to fall and just cry."

The most frequently cited source of agency related to the fact that students were given a voice and trusted with responsibility in the ELE program. When students were asked to compare their ELE and school experiences, one student observed: "I feel like maybe I guess we're given more responsibility and we're trusted more [in the ELE program] than you are at school." When the interviewer asked how being given that trust made him feel, the student responded: "Empowered." In one ELE called Talking Justice, students explored racism and how it affected their experiences. One student reflected on her experience in this ELE: "We were able to like voice our opinions and talk about, give our opinions about what's happening in the world and then discuss it with the other students." In Debate Club, students researched laws and policies that affected housing in their neighborhood and used this research to formulate arguments and propose solutions. Through these experiences, students were given a voice in a broader sociopolitical conversation that affected their lives and their communities.

Students' positive sense of identity in the ELEs was frequently tied to the freedom they were given to explore their interests and express themselves. One student observed: "They let us be us [in the ELEs], like they let us, it's not all instructions and 'do this and do that' [like in school]." Students agreed that it was not just the ELE teachers who encouraged them to express themselves freely; they felt supported by other students who shared their interests. One student commented: "I like how everybody just like accepts what you do and have the same interests with you." Often, the interests students explored in the ELEs related to what they might study or become in the future. One student explained why he decided to sign up for Car Design: "[In] Car Design, you kind of learn how to build different cars and structures and just kind of Physics stuff. I thought I might want to go into that."

With respect to technology use and freedom of expression, we saw very few restrictions placed on students' use of their own devices in the ELE programs. During our observation of an App Creator session, for instance, students gathered around one student's cell phone to watch a YouTube video, another student used his iPad to test the app he was creating, and a group of boys carried on a texting conversation on their phones. In our observation of a Be Heard program—an ELE program for girls to discuss women's issues, such as body image and sexism—the teacher invited students to take out their phones to Google search various words and terms related to the discussion topic (body image), for instance, "the perfect female body," "beauty," and "human Barbie." These examples illustrate how the use of technology in the ELEs offered students a sense of legitimacy in their efforts to create an empowering identity.

Barriers to identity expression. Though the positive instances of identity expression in the ELE program outnumbered the negative considerably, some students and teachers did point to specific challenges they experienced with respect to self-expression in their afterschool programs. One challenge faced by students in the ELE program related to crossing geographic and cultural boundaries to participate in afterschool programming. The Bicycle Design and App Creator programs were both taught on the campus of an elite private university by graduate and undergraduate students attending the university. To get to these programs, students had to take buses to unfamiliar parts of the city. One ninth-grade girl, Daniella, was taking the App Creator ELE program and described the discomfort she felt when she was on the college campus, surrounded by high-achieving college students: "I just don't feel like – I feel weird, and I don't feel like that's like my school."

We witnessed Daniella's discomfort firsthand during our participant observation of an App Creator session. Halfway through the session, the two college students running the

program led the students out of the computer lab to an upstairs space for them to have a snack break. In contrast to the playful banter that marked the students' interactions with each other in the lab, they were much quieter while walking in the hallways, crossing paths with the students attending the university. Daniella asked one of the program coordinators several questions about the school, such as how grading worked and whether there was an honors system. She asked these questions in a quiet, uncertain voice that contrasted noticeably with her usual outgoing, playful tone. The students' demeanor and comments recorded in the field notes for this participant observation session suggest that they felt decidedly out of place at this elite university. Though the university was only a few miles from the students' neighborhood, they experienced it as unfamiliar and unattainable.

Students looked to technology to help them cross such cultural boundaries. In our observations of the ELE sessions held on college campuses, we observed that students used their cell phones to navigate an unfamiliar space and create a connection between it and their everyday social contexts. The GPS capabilities of their phones helped them to find their way to and from the ELE program, while their camera and social media apps allowed them to share their experiences with their friends outside the program. For instance, the Bicycle Design session we observed involved a field trip to a nearby racecar workshop. During the walk, students took multiple pictures of themselves in front of various buildings and sites on campus and uploaded them to Facebook and Instagram.

Challenges to technology use. Not all examples of technology use in the ELEs were positive. Students and teachers identified several challenges they faced with respect to accessing and using networked technologies in the ELE program. Students told us that they often experienced problems signing in to the ELE website. Our participant observations suggest that the problems usually involved students forgetting their username or password from one week to the next. We learned that they were unlikely to log on between sessions due to an absence of internet access at home, as well as the school's firewall, which blocked the ELE website. We also observed that there were not enough computers at some of the ELE sites. Because students had to take turns writing their blogs at the end of a session, some of them were unable to complete their entries. This sense of rushing to write and submit a blog post contributed to a feeling held among some students and teachers that the website, blog, and digital badges were not fully integrated into all ELE programs. The lack of engagement in these digital media-related activities was likely associated with the fact that they were not something that teachers purposefully designed into their curriculum; rather, they were introduced by the Afterschool Network administrators, who used them for assessment purposes so that students could earn high school elective credit for their participation in the ELE program.

Students' Experiences at School

Barriers to identity expression in school. Students tended to experience school as a place where they lacked freedom to explore their interests, where they were not trusted, and where it was difficult to show "the real you"—all factors that constrained their personal agency. Both students and teachers observed the challenges posed by the structured nature of school, including the pressures associated with a mandatory curriculum, preparing students to pass high-stakes standardized tests, and the logistics of managing a large number of students with diverse abilities, interests, and needs. Such an environment restricted students' ability to explore what interested them and inhibited their ability to express aspects of their cultural identity. One student described what happened when her Dominican heritage bumped up against the structure and restrictions at school: "Like I

like to yell a lot at my house. [We're] from Dominican, you know? So we yell a lot. If I yell [at school], I get in trouble."

The way technology was used in the classroom reinforced this emphasis on structure and restrictions, with the effect of limiting students' ability to exert their personal agency. We observed several instances of teachers using school-owned technologies to control students' actions in the classroom. For instance, we observed a 10th-grade math class taught by Mr. Mason, a young teacher who had taught for two years through Teach for America and was now in his third year teaching at the school. We observed Mr. Mason using technology throughout the class period. He used a Smart Board to teach content and give directions; he showed a video about calculating the area of a circle, which he controlled through the sole desktop computer in the room; and he assigned a student to enter data into a classroom management program called Classroom DoJo using the one laptop computer in the room. Classroom Dojo displayed all students' names, each associated with an avatar. Beside these avatars were green bubbles with a number inside, which represented the number of points each student had earned so far that period. Students received points for paying attention, patience, working hard, and other on-task behaviors.

Our observation of Mr. Mason's class as well as our follow-up interview with him revealed him to be a dedicated, enthusiastic, and highly qualified teacher who enjoyed a positive rapport with his students. Yet, he told us that he felt considerable pressure to keep up with the curriculum and help his students to pass the state-mandated tests. Maintaining control over his class was necessary to achieve this primary objective. Consequently, Mr. Mason explained that he found himself resorting to using technology primarily as a classroom management tool that helped him to move through the curriculum.

In addition to facing restrictions on school-owned devices, students described restrictions on using their own devices at school. One student observed: "In school, it's assumed that any time you take out a mobile phone to do anything, it's something that is not school-related." The student featured in the opening vignette of this paper, Carlos, illustrates how the restrictions placed on students' technology use were often tied to students' feeling that they were not trusted and lacked freedom to explore their interests in school. Carlos explained:

> I actually, you know I actually take my iPad and I download a book for my iPad, and every time I get bored in class, or I finish doing my work first because I'm one of the first people to do the work first, I work fast. I be reading books and the teacher will be like, 'Put that away.'

Students also felt constrained by their fellow classmates. One student made a sharp distinction between how her peers act in school versus at the ELEs:

> In school some people, they come, all they want to do is like hang with their friends. They don't want to show their intelligence or that. But then like after school, they show like the real you. Like they show you who they really are. Exactly, like having fun, showing that they're not boring, they're smart, all that. But like in school, they're, they don't want their friends to know that they're really smart because like they don't want their friends to judge them off who they are.

In this quote, the student described two distinct peer cultures: one that celebrates being smart, the other that discourages that inclination in order to avoid being judged. One student's experiences stood out as a notable exception to this pattern. She explained that

she used to feel stifled in expressing her academic bent at school until she started taking Advanced Placement (AP) classes. Now, she said, "it's much more enjoyable to be able to discuss such great ideas with people you know that like, want to be there [too]."

Positive experiences at school. Though challenges associated with identity expression, agency, and technology use were predominant in our data, we did identify positive examples of using technology in school to support students' self-expression and sense of agency. In one instance, when student participants were asked to compare their use of technology in the ELE program and at school, one student commented:

> I think it also goes back and forth. [The teacher] has realized that whenever we have our phones out in the middle of discussion, it's not because we're being anti-productive but rather we're trying to add to the discussion by like gaining knowledge really quickly.

This student observed that some teachers at school gave students freedom to use their devices in class because they recognized they could have a positive impact on students' productivity. Another student talked about how creating PowerPoint presentations and being challenged in gaining proficiency in computer class impacted her self-efficacy:

> That class [computer class] told me so much about myself and the career pattern was like actually like I want to take when you're, more like, when you get out of high school. And it improved my presentation skills too. I was so shy before, I couldn't speak up. And now I can speak up.

This student described two positive school-related identities: one that gave her a voice in computer class (short-term) and one that helped her identify a possible career path (long-term). Even so, it is notable that in this computer class, instead of learning to design and code an actual website, students merely created PowerPoint presentations of what they would like a hypothetical website to look like. Most students we interviewed complained about their inability to build real websites in computer class.

Discussion

Findings from the current study reveal differences in urban students' opportunities for identity expression and agency in school and afterschool settings, as well as differences in the way digital media were used to support or limit identity and agency. Consistent with the connected learning model (Ito et al., 2013), students' interests were placed at the center of the afterschool programs and connected both to the immediate focus of learning and the broader social, cultural, and political factors affecting their lives. In this way, students' personal, ethnic, and cultural identities (Schwartz et al., 2001) were recognized and used to support their learning. In contrast, the existing institutional constraints of urban public schools—which mirror the racial and power hierarchies in the broader society (Hand et al., 2012; Vasquez Heilig et al., 2014)—had the effect of limiting students' ability to express their identities and assert their personal agency, including through the use of digital media technologies.

Students' sense of agency and identity were supported in a variety of ways in the ELE programs. In a manner consistent with connected learning (Ito et al., 2013), students were given opportunities to take on integral roles as they engaged in authentic practices alongside peers and teachers. In the Talking Justice and Debate Club programs, for instance, students explored sociopolitical issues affecting their lives, such as institutional

racism and housing laws in their communities. Similarly, the Be Heard program engaged girls in critical discussions of body image and sexism. By drawing on students' personal, ethnic, and cultural identities in these ways (Moll et al., 1992; Schwartz et al., 2001), the ELE teachers were able to make learning personally relevant and consequential (Stevens et al., 2006).

The ELE programs also supported agency by engaging students in challenging activities that focused on creation (Ito et al., 2013). In programs like App Creator, Bicycle Design, and Live Music Mixing, students experienced the challenge of engaging in authentic practices that interested them, which gave meaning to their activities and resulted in a sense of accomplishment when they rose to the challenge. In the App Creator program, for instance, students assumed the role of an app developer as they created apps that could be downloaded to a mobile device and used by others. By assuming the role of creator, students were able to see the broader relevance of their learning.

Student self-expression in the ELE programs was marked by a sense of freedom and social support, which further supported their sense of agency and identity. Students valued the ability to pursue their interests and explore new ones, all in a supportive environment. Consistent with the connected learning principle of shared purpose (Ito et al., 2013), they explained that they felt this support both from the ELE teachers and their peers. In a manner reminiscent of Fordham and Ogbu's (1986) study of African American youth resisting "acting White" in school, students said they felt more freedom in the ELE program to share the side of themselves that was interested in academic pursuits. In contrast to most of their classmates in school, they knew that their peers in the ELE program shared their interests and academic inclinations. In this way, the ELEs united the three spheres of connected learning in being academically oriented, peer-supported, and interest-driven (Ito et al., 2013). Moreover, students' unconstrained use of digital media supported connections among the three spheres. During our observation of the App Creator program, for instance, students simultaneously used their phones and iPads to carry on texting conversations with their friends and to try out the apps they had created. The fluidity with which they moved between these different activities meant they did not have to partition their social, personal, and academic interests.

Opportunities for agency and identity were considerably more restricted in school than in the ELE program. Students described feeling that teachers did not trust them and viewed their actions—such as going to the bathroom—with suspicion. They also did not feel as though they could express their ethnic or cultural identities freely, such as the girl who experienced conflict between her Dominican heritage and the behavioral expectations of school. The experiences of these students are consistent with the "doing school" frame described by Hand et al. (2012), and demonstrate the failure of this urban school to incorporate students' "funds of knowledge" in the learning process (Moll, 1992; Moll et al., 1992).

The sociopolitical forces shaping urban public schools affected how students used technology in school. Consistent with previous work (e.g., Greenhow & Robelia, 2009; Livingstone & Sefton-Green, 2016; Sefton-Green et al., 2009), we found that students' use of technology in school was considerably more constrained, which in turn constrained their ability to express and explore their interests and assert their personal agency. Their use of personal devices was restricted, and school-owned technologies were often used more as a classroom management tool than as a tool for learning or creation. We saw this in Mr. Mason's use of the Classroom Dojo software, which helped him to manage his class of diverse learners and move more efficiently through the math curriculum. Though he expressed the desire to use technology in more innovative ways, he noted the pressure he felt to prepare his students for the state-mandated tests.

Though the restrictive "doing school" frame was not seen in the ELE programs, our findings did reveal how similar sociopolitical dynamics shaped students' afterschool experiences, including their experiences with technology. For instance, many of the technology challenges present in the ELE program related to access, including access to networked computers at the ELE sites and at students' homes, and school firewalls blocking access to the Afterschool Network website. These challenges are consistent with Ito et al.'s (2013) observation that opportunities for rich learning experiences with networked technologies are currently not evenly distributed in society due to socioeconomic disparities. In some cases, however, networked technologies appeared to help students overcome sociopolitical and cultural barriers. Our observations revealed how students used networked technologies to help them manage the discomfort they felt leaving their neighborhood to attend ELE programs held on the campuses of elite private colleges. Students used their phones both to find their way around unfamiliar, often intimidating spaces and to connect their afterschool activities to their social contexts at home. In this way, networked technologies helped them to overcome the geographic and cultural boundaries that undermined their afterschool experiences.

Implications

These findings hold important implications for school administrators, teachers, and staff looking to incorporate digital media into their practices. First, our results show the value of using digital media in ways that align with and support students' interests, provide them with opportunities to take on meaningful, creative roles, and connect to their social and cultural contexts. At the same time, our findings demonstrate how existing institutional practices and constraints can make it difficult to use technology in these identity- and agency-supporting ways, particularly in formal educational contexts. It is unrealistic to expect that educators in urban public schools will have the resources, time, or freedom to incorporate technology in precisely the same way as the afterschool programs in this study. Nevertheless, awareness of how technology can be used to support student agency and identity is an important first step. We recommend educators take stock of their existing learning environment, bringing a critical eye to the opportunities it affords and constrains. Such awareness will position educators to take advantage of existing opportunities for incorporating technology in identity-supporting ways, and perhaps find workarounds to the constraints that threaten to co-opt technology in service of the "doing school" frame (Hand et al., 2012). Ideally, policymakers at the federal, state, and local levels will work toward removing the existing barriers that limit the experiences of students in urban schools.

Limitations and Future Directions

Our approach of combining interviews and focus groups with participant observations yielded a rich portrait of the opportunities for identity and agency that students experience in school and afterschool settings. Though we were able to observe a variety of ELE programs, we found it more challenging to obtain permission to observe a similar variety of school classes. As a result, we had to rely somewhat more on students' and teachers' accounts of their school experiences than on direct observation, limiting our ability to corroborate these accounts. We also spoke with considerably more students than teachers, skewing the present account more towards the student perspective.

Though we view the variety of afterschool programs and school classes that we observed as a notable strength of the current study, it did prevent us from examining any one program or class in depth. Future work would complement our approach by investigating a single afterschool program and school class over a sustained period of time. For instance, it would be worthwhile to observe an entire semester of App Creator

concurrently with a school-based computer class, ideally with some of the same students enrolled in both classes. This approach would yield valuable insight into the student experience and use of technology in afterschool and school classes that have overlapping content. It would also enrich the study to examine how, if at all, students' experiences at home intersect with their afterschool and school experiences.

Conclusion

The findings from the current study provide new insight into digital media's role in supporting the identities and personal agency of youth living in urban neighborhoods as they participate in school and afterschool settings. Our work shows how the greater constraints placed on students' digital media use in school translated into greater constraints on their identity and agency. By contrast, the afterschool programs we examined provided a more supportive environment for students to develop their identities and sense of agency. In particular, these programs were better positioned than school settings to leverage digital media in a way that encouraged students to express their identities and assert their personal agency. We also found that the institutional constraints and sociopolitical dynamics that shape students' experiences in school and afterschool contexts are largely mirrored in the ways technology is used in these contexts. Introducing digital media into a setting will not necessarily change these dynamics, though we did see potential for disruption in some afterschool settings. These findings hold relevance for educators, policymakers, and researchers exploring ways to incorporate digital media technologies into urban school and afterschool contexts in ways that support students' identities as learners.

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[i] All names are pseudonyms to protect the privacy of study participants.
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