

## From Outcast to Expert: Identities as a Conceptual Lens for Studying Learning through Design Across Spaces

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**Abstract:** In this paper we introduce the analytical lens of identities-in-practice to understand how one youth's participation in a classroom design project changed as he drew on his identities with design projects developed in other spaces, particularly an after-school technology club.

### Background

In recent years there has been a renewed recognition that youth bring resources for learning from different places in their lives (e.g., Holland, Lachiotte, Skinner, & Cain, 2001) and hence the practices and ways of talking that one already knows and that are tied to one's identity can be seen as resources to participate in different social contexts. Participation in learning through design projects has been studied in classrooms and after school spaces (e.g. Peppler & Kafai, 2007; Roth, 1998). Only few studies such as Roth's (1998) have investigated how students bring in tools from home into classroom activities while Ching and Kafai's (2007) investigated how students with prior experience in design projects could be valuable peer teachers for inexperienced students. Much of this research has focused on activities and tools as resources but paid less attention to how learners' identities from multiple areas of participation in design can impact learning in school classrooms.

In this poster we argue for the value of studying participation in design across multiple contexts of students' lives, describing how one youth's participation in a classroom design project changed as he drew on his identities with design projects developed in other spaces particularly in an afterschool technology club. We use the concept of identities-in-practice as a theoretical lens for our research – the idea that a person's different identities, formed by ways of acting, talking and valuing in different social worlds of one's life, are potential resources for changing who one is in relationship to a group of people. In order to study this, we examined how an individual created bridging identities that involves more than simply imitating the practices of a group of people, it entails integrating practices and narratives to create a new identity in relationship to others. Applying this specifically to contexts of learning by design, our primary research question is how did this one youth attempt to use identities (conceived of as practices and narratives) from different contexts of participation in design as resources to become a particular type of person in other contexts?

### Study Design and Methods

This research is part of a larger study that took place between February and June 2008 that focused on two case study youth who we observed in different social spaces of their lives: an after school technology design club for 10-12 year olds and a design unit on geometric art in the sixth grade classes of the school. In all of these contexts we collected field notes, videos, interviews, and artifacts (including programming projects from the club and class). We focus on one case study participant, Matthew, a twelve-year-old African-American boy, who participated in both the club and class. The data gathered about Matthew include over 60 hours of observation from the club, school, home, and sports practices, six interviews, and artifacts he created (e.g., programming projects and school work). The main design tool that he used across different contexts was Scratch, a media-rich, visual programming environment (cf., Peppler & Kafai, 2007). Analysis was based on grounded theory (Glazer & Strauss, 1967) and began with identifying moments when identities from different spaces of participation in design intersected or overlapped. We especially looked for times of heightened emotions and actions that seemed out of place as signals that identities might be conflicting or changing. Then we worked backward from such moments to study how participation in different social spaces changed over time. We focused on changes in reifying statements made by or about the case study participant (e.g., "I am" or "you are" statements) that we took as indicators of identities in relation to practices and narratives.

### Findings

Our analyses focused on changes in Matthew's recognition from outcast to expert in Scratch design projects that crystallized during a three-week geometric art project in class. Doing design work in multiple contexts built up Matthew's practices with Scratch in different ways and together contributed to his growing narratives as a computer programmer, an expert, and a leader. There were two main issues with Matthew's engagement with digital technology at the beginning of the study. First, his parents and teachers did not support his identification

with it because he used it at times they saw as inappropriate (i.e., when he should have been doing homework). Second, he saw himself as a consumer rather than a designer of technology -he read anime rather than wrote it, he played games rather than designing them, he browsed programming projects (in Scratch) online rather than designing them. Further complicating his academic participation in school was his peers' ostracizing of him because they saw him as demeaning, probably because comments intended to be sarcastically humorous such as "You're stupid," were not interpreted that way by his classmates. One affect of this was that Matthew's peers ignored his ideas and efforts to contribute in group projects. Over the course of the study this changed as Matthew's identities with his parents, teachers, peers, and computers shifted in ways that cannot be understood apart from each other.

Two of the primary influences in Matthew's changing identities were his participation in an after school technology design club and a class project where the students developed geometric art projects in Scratch. In the after school club, members used Scratch with no expectations other than that the only use of the computers was related to Scratch. Matthew's primary participation included watching anime Scratch projects online through the social networking site [scratch.mit.edu](http://scratch.mit.edu) and browsing the Internet for good illustrations of anime characters for his own projects. Thus his social participation with Scratch and the related online site was as a consumer rather than a designer. After the club ended, his class used Scratch in a much more structured way during math to develop geometric art projects. At the beginning of the project, the two girls partnered with Matthew ignored his efforts to give advice on the project and physically excluded him from a close view of the computer. Matthew was frustrated at this, "Why are you looking at me like I'm an idiot?! I'm the expert!" Still, he went around the class helping other groups meet their design goals, demonstrating small techniques, identifying problems in their coding, and helping problem solve. By the end of the first day, one classmate said to Matthew's group, "Sorry, he should be in our group because he's helping us a lot and he's really good at Scratch," signaling the beginning of a change in Matthew's identity with collaborative computer design work.

Over the three weeks of the project Matthew was able to draw on practices developed in the after school club to make suggestions that helped his partners accomplish their goals for their project and resulted in a positive change in his classmates' actions toward him – they began talking about Matthew as a leader and expert. The group also uploaded their project, one of the highest acclaimed and most complex of the class, to the Scratch website, indicating a shift in Matthew's participation on the collaborative site. Here we see a direct interaction between Matthew's identity with Scratch and his identity with peers that led to new identities as a leader amongst his peers and as a programmer/designer. These new identities also impacted Matthew's relationship with his parents and teachers. During his final parent-teacher conference, he highlighted the geometric art project as his best achievement in math, aligning his participation with Scratch (and thus the computer and Internet at large) with his parents' and teachers' norms for positive academic behavior. In fact, he even cited becoming "the fifth best Scratch programmer in the school" as one of the academic highlights of his school year.

This is only one example of how engaging in design work across different contexts can facilitate changes in identity, yet it points to the potential both for studying the resources students bring to work in design and for creating complementary areas of engagement in design that might be mutually supporting. The poster will provide details on Matthew's changing participation in the class, fuller description of the social worlds that he bridged through his participation in design, and implications for facilitating engagement in design in multiple contexts that might help youth positively connect different identities.

## References

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