

Designing With (not just for) Learners

Provocation: What can we learn by introducing learners to design thinking and inviting them to become co-researchers in our design projects?

Discussant: Katie Salen

Scratch Memories: Using Personalized Data Visualization to Design Reflective Experiences for Young Creators

Shruti Dhariwal, Graduate Student, MIT Media Lab

Every day, young people around the world bring their unique ideas to life by creating and sharing thousands of personally meaningful projects in the Scratch online community. They also get inspired from each other's projects, express their appreciation with loves and favorites, offer thoughtful feedback, and form deep connections with other young creators. All of these personal, creative, and collaborative digital experiences can contribute to a young person's identity both online and offline. In this talk, I will share a project I developed called Scratch Memories, a dynamically generated, personalized web-based visualization that celebrates a Scratcher's journey by highlighting their key moments, creations, and connections in the online community.

Scratch Memories is designed as a way for young people to reflect back on their creative journey with Scratch, starting from their first experiments with code to seeing the increasing diversity and complexity of their projects over time; and from their initial baby steps in the community to realizing how their projects have inspired other people from around the world! Such reflective experiences can not only help them feel proud about how far they have come but also feel confident and inspired to keep going further. This data-driven visualization can also serve as their dynamic personal portfolio that they can showcase and share with their parents, teachers, and other friends. The project processes public data from Scratch API and utilizes Javascript and other web frameworks to generate a personalized video for a given Scratch username.

So, what do young people feel when they see themselves through the lens of their own creations? I will share findings from a study with a group of young people who saw their Scratch Memories for the first time. Based on this work, I will suggest ways that others can employ user data to create delightful reflective experiences that can be meaningful in different learning contexts, and offer principles to consider when designing personalized visualizations for young people.

Genius Hour: A Pathway to Connected Learning in Traditional Public Schools?

David Quinn, Mendon-Upton Regional School District (Massachusetts) / The University of Rhode Island

Research on student experiences in schools has found a growing sense of disengagement and a disconnect between students' academic and personal lives, particularly in regards to the use of digital technology (Ito et al., 2013; Kumpuallene & Sefton-Green, 2014; Reilly, Vartabedian, Felt, & Jenkins, 2012; Yazzie-Mintz, 2010). One potential teaching practice that may enhance both student engagement and digital literacy skills is a structured, self-selected inquiry process called Genius Hour. Genius Hour is designed to provide at least one class period per-week for students to explore an area of interest over an extend period of time. The culmination of this process is the creation both a product and a presentation as artifacts of their learning. Genius Hour is rooted in practices derived from Pink's (2009) synthesis on engagement and motivation. Genius Hour also reflects several underlying principles of Connected Learning (Ito, et al 2013), which focuses on student interests, peer-supported learning, and digital creation to share knowledge. In addition to Pink's ideas on motivation, this practice also appears to dovetail with other digitally supported learning approaches such as entrepreneurial learning (Zhao, 2009) and constructionist learning (Papert, 1991).

Connected learning research has captured the possibilities of youth engaged in interest-driven pursuits

(Ito et al, 2013) and recent literature most often focuses on out-of-school settings or in alternative school environments. Genius Hour may potentially be a means of achieving connected learning into traditional school settings.

The purpose of this single presentation is to share teacher insights regarding their experiences coordinating Genius Hour. This presentation will outline the common and divergent experiences of six teachers from four different states (MA, CT, MO, AK) and analyze the extent to which their interviews, Genius Hour scaffolding materials, and student-products reflect a connected learning environment. Additionally, this single will also address potential adaptations to Genius Hour that would better align practices to the connected learning model.

Scratch Microworlds: Designing Project-Based (Rather than Puzzle-Based)

Introductions to Coding

Moran Tsur, MIT Media Lab

Most introductory coding activities focus on engaging children in solving puzzles. This talk will present a different approach to introducing coding that engages children in creating projects based on their interests. I'll describe the design of Scratch Microworlds, simplified versions of the Scratch coding environment that contain a small set of blocks for making projects based on a theme, such as dance, soccer, or music. I'll contrast the instructionist approach to coding puzzles with Seymour Papert's constructionist approach of children creating projects through exploration within microworlds. I'll discuss three main questions our team identified through the iterative process of designing Scratch Microworlds: (1) how to simplify initial experiences while still supporting creativity, (2) how to provide scaffolding while maintaining learners' agency, and (3) how to provide starting points that spark rather than limit the imagination. I'll also review preliminary observations and feedback from field testing of interest-based microworlds with educators and children, and conclude by suggesting ways that others can contribute to providing more entry points into coding that support children as creative thinkers.

Centering Teens As Authorities for Understanding Youth Social Media Use

Rachel Magee, University of Illinois Urbana-Champaign

The Young Researchers project works with teens to co-design, implement, analyze, and share research that examines youth interactions with information and communication technologies (ICTs) and what those practices mean for learning and information literacy. By centering the perspectives of youth not just in our data but in the creation, implementation, and reporting of our research, we have been able to learn with and from each other. This builds on traditions of participatory research, community engagement, and co-research and co-design techniques. In our current work our focus is on how teens engage with social media, the ways and kinds of information that are shared in these spaces, and how they connect with learning. We co-developed and implemented a survey driven by our overarching goal of learning more about these ideas, incorporating the specific research interests of seven high school aged Young Researchers. During the 2016-2017 academic year, the Young Researchers co-designed the survey, recruited peer participants, aided in analysis, and presented their findings to a scholarly audience. In addition to deepening understandings of youth technology interactions, this work also served as a learning opportunity for the Young Researchers who have demonstrated increased enthusiasm for research, and contributes to understandings of research literacy development and co-research methods with youth. In this presentation, we share details about our co-design process and discuss our shared approach to analysis and developing our findings, focusing specifically on how youth engage with and assess the information they encounter on social media. We also briefly highlight opportunities and challenges for future work of this kind, ranging from practical considerations for working with youth and managing time-intensive research to methodological concerns of ethics training and study design with researchers new to the process.

Margaret Buck, University of Illinois Urbana-Champaign

Multidisciplinary New Media Design Undergraduate Program

Hye-Jin Nae, Rochester Institute of Technology

Through my 10+ years of professional experience in User Experience design at leading imaging, internet and digital product companies there has always been one constant. We do not design in a bubble, nor do we plan, manage, sell or code in isolation. The interconnected and agile systems of today's industry and workflows require cohesive team collaborations from concept to deployment. To foster this collaboration design can play a central role in creating communication and shared objectives. In addition, a strong understanding and appreciation for the aesthetic qualities of visual and interactive communications assists all stakeholders in striving to achieve higher quality solutions and therein promoting quality design to the user.

The challenge for educators is to build shared knowledge sets utilizing the individual's domain expertise so that they are prepared to leverage real world collaborative environments. As an assistant professor in the New Media Design, BFA at Rochester Institute of Technology which has taken on through the development of an intense 4-year interdisciplinary degree program that shares core courses with the BS in New Media Development, Liberal Arts Digital Humanities and Web and Mobile Development programs. These interdisciplinary courses are inclusive and mix student populations while maintaining the highest level of execution and creative exploration. I have applied core design curriculum in an interdisciplinary program across new media design, development and digital humanities as a forum to begin this shared design education.

Through my pedagogical solutions, I will demonstrate how traditional design curriculum can be leveraged in a mixed class environment and still meet the educational outcomes for the design student and non-designer alike. Through projects, students work and alumni successes, I will demonstrate why a diverse student population outweighs the limitations of a segregated or customized educational solution where design is being simplified for a specific population. The ability to identify, share and exploit individual skills across all levels creates a more progressive and applied educational experience for both the students and teachers. Most importantly, this process lays a strong foundation for peer to peer collaboration of skills and expertise while foster communications and design appreciation.

What's Literacy Got to Do With It? Youth Literacy Practices in a Computer Coding Club

Earl Aguilera, Arizona State University

The challenge of preparing students for life and work in the 21st-Century has inspired innovative approaches to teaching and learning, both in and outside of traditional classroom environments. Yet as momentum builds around out-of-school experiences such as computer programming clubs for youth and the broader movement promoting "computer science for all," less emphasis has been placed on the role that literacy might play as students are tasked with learning through and about these digital technologies. The purpose of this session is to share insights into this issue, based on the study of a library Code Club for children built around self-directed learning, adult mentoring, and peer support.

Research has emphasized the variety of contexts in which literacy practices develop outside of formal schooling, and the Code Club is a particularly interesting example of this because direct literacy instruction does not appear to be core to the program's design. However, a closer examination of both the physical and digital engagement of students in a local Code Club reveals a complex tapestry of literacy demands (Lemke, 1998), literacy practices (Street, 2006), and situated learning opportunities (Gresalfi, 2009; Sadler, 2009) evident in the Code Club experience.

Presenting an ongoing qualitative case study of one library's yearlong Code Club program, this session will share insights, raise challenges, and invite participants to explore the role that literacy plays as part of the Code Club experience, as well as highlight some ways in which we, as teachers, parents, librarians, and other caring adults might better support students in digital-age learning environments.

References:

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