

# Digital Media & Learning Conference 2016, UC Irvine

## Individual Talk Abstracts

2:00pm – 3:00pm | **Researching Inclusive Program Design**

Emerald Bay E

*Speakers: Melissa Brough, Elisabeth Gee, Carlos Martínez-Cano, Amanda Ochsner, Priyanka Parekh, Matt Rafalow, Kelly Tran*

### **80 - Individual Session      Research** **Making Innovators in Formal and Informal Learning Environments**

Matt Rafalow      University of California-Irvine @mrafalow

In this paper, I compare how two learning environments -- a formal middle school setting and an informal online community of game designers -- structure ideal forms of success using digital technology. Specifically, I examine how each learning space differently facilitates learner identities as innovators and makers. Both cases provide strong examples of settings where participants are encouraged to creatively engage in digital production. But each setting constructs digital production activities with different parameters, most notably on the relationship between the production process and the participant's identity.

Using an ethnographic case study approach over one year, this study draws on interview- and observation-based data collected in each learning setting. The middle school, Heathcliff Academy (all names are pseudonyms), is a technology-rich private school in Southern California serving mostly White and wealthy youth. The school places an emphasis on digital production as part of its curriculum. I interviewed 18 teachers (86% of the teacher population), and observed their classrooms on rotation for one year to understand the perceived value and uses of digital technology for learning. During the final semester, I selected one ideal type classroom that best fit themes from observation and interviewed half of the students (12) to ascertain their identificational relationship to digital production. The informal learning environment, Sackboy Planet, is an online community for youth with interests in LittleBigPlanet 2, a side-scrolling video game that allows users to not only play the game but also create new games for others to play. I observed communications across the community's online messages boards to document typical activities around video game design and sharing, and then interviewed 24 youth participants from the community to assess learner identities as they related to digital making.

Comparative analysis of observations in each learning environment demonstrates that while both settings facilitate digital production they differently construct its value. For example, teachers at Heathcliff Academy imagine digital production to be valuable for their students as they strive to become the next Steve Jobs in a startup-saturated labor market. Interviews with students reveal that students come to identify with digital making primarily as it relates to future success in institutional settings, like schools or in their future in the labor market. On Sackboy Planet, however, the perceived goals of digital production were different. In this setting, youth strove to create technologically sophisticated video game levels in order to gain recognition not within institutions, like schools or for jobs, but among their peers. Both Heathcliff Academy and Sackboy Planet thus construct participants as innovators and makers, but they do so in different ways and thus enable distinct learner identities. Heathcliff Academy students come to imagine their digital making primarily as it relates to institutional success, whereas Sackboy Planet youth perceive such activities as a means to facilitate a collective purpose around play and shared learning experience.

# Digital Media & Learning Conference 2016, UC Irvine

## Individual Talk Abstracts

### 158 - Individual Session    Research

#### **Gaming the System: Connected learning and parental support among non-dominant families in the CyberPatriot program**

Melissa Brough | California State University, Northridge | @broughest

CyberPatriot is an afterschool program founded by the Air Force Association to inspire public school students in the United States toward careers in cybersecurity or other science, technology, engineering, and math (STEM) disciplines. Students work in teams to compete in cybersecurity competitions at the local, regional and national level. This study aimed to identify factors that affect students' interest-driven learning in the Los Angeles Unified School District's CyberPatriot program, especially those factors related to home life and parental influence. Students and parents participated in semi-structured, in-depth interviews and background surveys. The majority of students were from low-income Latino/Hispanic families.

Despite having limited resources in most cases, the study found that parents invested in technology for their children for both educational and entertainment purposes. Some parents were actively promoting digital/technology literacy by letting their children "mess around" and be hands-on with digital media from an early age. CyberPatriot offered self-described "geeks" and "nerds" a community in which students' interests in games and digital media were validated, supported by peers/mentors, and geared toward new opportunities. The program functioned as a bridge between the students' interests and institutional opportunities for academic and professional development. However, parents remained isolated from the program and felt ill-equipped to support their students' connected learning in this context. This presentation considers the broader implications of these findings for understanding connected learning among non-dominant families, and concludes with critical consideration of the implications of CyberPatriot for the promotion of diversity and equity in the STEM fields.

### 72 - Individual Session    Research

#### **Early, Often, & Different: Fostering Inclusive Spaces for Supporting Diverse Learning Pathways in Games & Technology**

Amanda Ochsner | University of Southern California | @AmandaOchsner

Understanding young people's early experiences with games and technology can aid researchers and educators in theorizing how to make meaningful improvements to classrooms and game-playing environments to foster inclusivity and enrich learning pathways for diverse young designers. In this presentation, the presenter draws from findings from a two-part qualitative investigation on women's pathways in the game industry. The first study—an analysis of Twitter conversations about challenges women face in the game industry, revealed that many women in games feel that they are evaluated on different standards compared to their male counterparts, denied adequate recognition of their expertise, and made to feel silenced. The second study consisted of in-depth interviews with women in games about their learning pathways, contemporary industry experiences, and expectations of the future for women in games. Findings showed that women in games share a common interest in making game communities better for the next generation of designers. Overall, participants' contributions to these efforts fall into four roles: educators, advocates, role models, and leaders. In this presentation, the researcher translates these findings into actionable steps that researchers, educators, and industry stakeholders could take in their local communities to create equitable opportunities and inclusive environments around technology and games. Three specific recommendations outlined in this presentation include introducing game design to

# Digital Media & Learning Conference 2016, UC Irvine

## Individual Talk Abstracts

young people's possibility space early on; introducing programming early, often, and in different ways; and making visible the diversity of skills, roles, and pathways that can lead to a professional career in games or technology.

### **238 - Individual Session    Research** **Twine Workshop: Youth Making Games and Digital Stories**

Kelly Tran | Arizona State University | @kellymtran

This talk provides an overview of a workshop which was conducted in an afterschool setting in a middle school. The workshop focused on teaching girls to use the platform Twine (twinery.org). Twine is game design and story writing tool lauded for being accessible and easy-to-use. Twine designers can use a combination of plain written text and basic programming constructs to create games and stories. The tool has been taken up by many people who are normally not part of the broader game design community, including women (Kopas, 2015).

Games and game making represent rich literacy practices (Gee, 2003; Burke & Kafai, 2014). In this study, I sought to explore the ways in which writing stories and making games both reflected and enhanced participants' literacy skills. The workshop connected to girls' everyday lives in various ways, and participants used their outside knowledge and experience. They wrote about pop culture and used the internet to look up information, and in doing so they remixed existing resources (Jenkins, 2006). Additionally, their writing in the workshop provided an opportunity to explore writing outside of school, and playing each others' games was a favorite activity. This created a different kind of space than school, one that supported different types of literacy skills (see Black, 2007; Lammers, 2011).

This was a mixed-methods study, and data sources included surveys, video data, a focus group interview, and the games that students made. Implications for learning around game making in and out of school will be discussed.

Black, R. W. (2007). Digital design: English language learners and reader reviews in online fiction. In M. Knobel & C. Lankshear (Eds.), *A New Literacies Sampler*, pp. 115–136. New York: Peter Lang.

Burke, Q., & Kafai, Y. B. (2014). Decade of Game Making for Learning; From Tools to Communities. In Angelides, M. C. & Aguis, H. (Eds.), *Handbook of Digital Games*. New York, NY: Wiley-IEEE Press.

Gee, James Paul. (2003). *What Video Games Have to Teach Us about Learning and Literacy*. New York: Palgrave Macmillan.

Jenkins, H., Purushotma, R., Clinton, K., Weigler, M., & Robison, A. (2006). *Confronting the challenges of participatory culture: Media education for the 21st century*. Chicago, IL: MacArthur Foundation.

Kopas, M. (2015) *Videogames for humans: Twine authors in conversation*. New York: Instar Books.

Lammers, J.C. (2011). "The Hangout was serious business": Exploring literacies and learning in an online Sims fan fiction community. (Unpublished doctoral dissertation). Arizona State University, Tempe.

# Digital Media & Learning Conference 2016, UC Irvine

## Individual Talk Abstracts

### 146 - Individual Session    Research

#### **Mexican Boys and Digitally-Mediated Learning Interactions**

Carlos Martínez-Cano | University of Pennsylvania Graduate School of Education | @hyperopic

This presentation summarizes the findings of a critical ethnographic year-long investigation of Mexican-origin middle school aged boys from a Southeastern Pennsylvania town who engaged in self-directed digital literacy learning. The eight participants met once or twice weekly at a local Community Center Technology Room (CCTR). They explored programs focused on coding, 3-D drafting, graphic design, and gaming. The researcher, acting as a guide and mentor, sought to discover how historically marginalized adolescents engage in digital literacy projects, and what observable practices provide evidence of informal learning connecting with formal schooling. As non-dominant transnational youth attending institutions designated as 'low socio-economic status', the CCTR provided a safe-space for translingual/transcultural communication and meaningful critique of dominant cultural forces.

The methodological design of this ethnography draws upon the concepts of third space (Gutiérrez et al., 1999), and critical pedagogy (Freire, 1968), and is activist in nature. Specifically, the researcher engaged participants in dialogue about technology-related socio-cultural factors involved in the marginalization of the Mexican-origin students, higher education preparation, and career trajectories related to their technological interests. In doing so, the research aims to mitigate inequitable access to technology, increase the social capital of the boys, and leverage their digital interests into long-term learning beyond the school priorities of standardized testing and curricula. Findings suggest digitally-mediated learning interactions in the CCTR foster a hermeneutic model of selfhood as adolescent knowledge producers and historical actors. Data show these models of selfhood are then manifested in and through family, school, community, and digital interactions.

### 157 - Individual Session    Research

#### **“Everyday” Making and Engagement with STEM**

Priyanka Parekh | Arizona State University

Elisabeth Gee | Arizona State University

Making and tinkering have been embraced by educators as a way of teaching and learning STEM. Educational approaches to Making often emphasize the use of sophisticated and expensive tools and materials (e.g., 3D printers), along with the guidance of expert teachers. However, equity issues have recently come into focus (Beuchley, 2014; Santi, 2014), including concerns about the kinds of Making that are privileged in educational Makerspaces. The benefits and learning outcomes of “everyday” making and tinkering with widely available, household materials have been given insufficient attention, particularly as a means of expanding participation in Making among currently underrepresented populations.

In this paper, we briefly describe three individual projects that (a) represent diverse motives and goals for making, (b) use widely accessible tools and materials, and (c) demonstrate the potential to support varied forms of learning. Our first example is a craft project created by a child using household materials, the second, a DIY project pursued by a parent to avoid purchasing expensive reusable diapers, and the third an engineering project from Make Magazine's selection of best projects.

Across cases, we discuss how learning is reflected in participants' increasing attunements (Greeno, 1994) to the affordances and constraints of materials, tools, and design, and in how they defined problems to be solved in the process of making. We argue that a focus on problem

## **Digital Media & Learning Conference 2016, UC Irvine Individual Talk Abstracts**

definition and attunement to context, rather than emphasizing the technological sophistication of tools, will help us better understand the potential value of “everyday” engagement with STEM.