Family Learning: Intergenerational Dynamics Across Learning Spaces
Provocation: How do we increase educational and digital equity through family involvement?
Discussant: Mimi Ito

Drop In To Skatepark Design: Connected Family Physics Gaming in a Children's Museum
Jeremy Dietmeier, University of Iowa

Learning through videogame-play is often conceived of as an isolated endeavor in which players confront challenges in fantastical virtual worlds. Children's museums are connected spaces that can link learning across generations of adults and children, connect to everyday forms of play, and serve as a site for joint and collaborative activity. As a result, unique design concerns emerge for tabletop videogames in children's museums aimed at fostering joint play and learning that bridges generations of players as well as physical and digital exhibit elements.

In this session we will present our approach to crafting a collaborative digital tabletop videogame that engages players with the physics of skatepark design. Part of a cooperative development effort between children's museum practitioners, game developers, and scholars of playful learning and child development, this project is aimed at helping families make connections between physics, skatepark design, and engineering. This presentation introduces the collaborative skatepark game on an interactive tabletop, too difficult and expensive to transport for showcase. Created for children ages 5-8, this game, part of an exhibit development project sponsored by the National Science Foundation, aims to create a connected learning experience that: a) links in-game design activities to physical exhibit elements using tangible blocks; and b) fosters intergenerational play using a multi-user, multi-touch interface.

The design of museum learning experiences often focuses on sparking interest and making connections to everyday practices, in part because visitors freely move between exhibits elements. Using both complementary tangible blocks and physics scenarios, the tabletop game design connects game play with surrounding physical exhibit interactives. These material blocks can be used to design toy-like physical skatepark models and virtual skatepark environments on the tabletop. The tabletop reads the fiducial element on the block and creates a skatepark feature in the game environment.

Our design approach also focuses on supporting intergenerational and collaborative play, activities often central to children's learning in museums. The game employs differentiated interface layers to challenge mentors to collaborate with children as they solve open-ended game problems, while supporting young players' capacity for creative engagement and reciprocal teaching.

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Contextualizing Connectivity: How Internet Quality and Parental Factors Impact Lower-Income Children's Technology Use
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In this presentation, we will link largely distinct strands of scholarship: on digital inequality, which focuses on connection quality and its outcomes for under-connected individuals, and parental mediation, which

focuses on parents' influence on children's technology experiences. With data from the first nationally representative survey of lower-income US parents raising school-age children, we examine how,separately and collectively,families' internet connection type, lower-income parents' own technology experiences, and parents' perceptions of opportunities that technology use offers their children, influence the frequency and scope of their school-age children's technology use.

We find that contextualizing children's connectivity to account for infrastructural, socio-demographic, and relational influences provides new insights into variations among lower-income children's technology experiences. Our first set of findings suggest that the point of change,that is, where parents start deriving considerable direct benefit from increased connectivity,are most evident for groups of lower-income parents who tend to face the greatest digital equity challenges: parents with the lowest household incomes, lowest levels of education, and whose dominant language is not English. These effects remain after controlling for other socio-demographic factors.

The second set of results show that greater connectivity increases how frequently both children and parents use the internet, but is only associated with parents' internet activity scope. We also find that the scope of parents' online activities is particularly important for their children's online experiences, as it directly predicts children's internet use frequency and activity scope. High-scope parents were also significantly more likely to see digital opportunities in their children's internet use, which also predicted both greater scope of children's online activities and more frequent internet use.

We discuss the practical implications of these findings for designers and developers of digital equity initiatives and programs seeking to leverage families' existing practices to better serve the needs of low-income children and their parents.

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Building A Stronger Connection: Low-income Parents Fostering Connected Learning
Melissa Brough, Cal State University, Northridge

Research to date has documented many cases of families with 'connected learning' practices using digital media (for example Ito et al. 2009; Ito et al. 2013; Rafalow & Larson 2014; Pfister 2014). Yet the majority of these pertain primarily to families of relative privilege. Additionally, researchers have found that parental supports can be critical to young people deriving learning benefits from digital environments, but there is limited research about low-income families of color (Katz & Levine 2015). A narrative of deficit about low-income families remains predominant; they are most often discussed in terms of what they lack (Alper, Katz & Schofield 2016). Yet some under-resourced parents are finding ways to foster connected learning, even with limited digital literacy themselves. This study challenges the dominant narrative of deficit typically used to describe low-income families by documenting cases of students who are successfully engaging with and learning from digital media, and the supportive practices of their parents. The broad aim of the research is to improve our understanding of how some low-income parents are cultivating connected learning in the face of ongoing resource and structural inequalities. This talk presents key findings of a study of 40 families in Southern California, based on in-depth interviews and surveys. The analysis focuses attention on parents who have developed productive strategies for enhancing their children's digital learning, and identifying those practices that could be adopted more broadly by families in similar circumstances.

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Embrace, Balance, Resist: How Parents Engage with Connected Learning
Alicia Blum-Ross

As part of our project Parenting for a Digital Future we interviewed 73 London families in-depth. Across these interviews we heard repeating but often opposing discourses about children's use of digital media. On the one hand, parents worried that digital media were distracting their children from opportunities for formal and informal learning, that they were 'wasting time' by playing games or using social media (Blum-Ross & Livingstone 2016). On the other, many parents were developing their own narratives around 'connected learning' (Ito et al 2013) in which they recognized how their children's digital interests contributed not only to academic achievement, but also children's participation in their families and family culture. In our study we interviewed parents who were proactively choosing to embrace the role of digital media in helping their children learn and create, and others who tried everything to resist what they saw as an incursion into their family lives. In between these two extremes lay the majority of families, balancing between digital and non-digital pursuits.

In this paper we show how parents alternately embrace, balance and resist the prospect of integrating digital media into their children's learning. Drawing on empirical examples from across our interviews we show how for some parents platforms and apps are vital to help their children access academic knowledge or gain new skills (knitting, hairdressing, even religious practice) whereas others worry when their children become invested in types of learning they do not fully understand (games tutorials). We will focus especially on how diverse parents interpret the same digital practices given their own digital interests, skills and existing 'funds of knowledge' (Gutierrez & Rogoff 2003). In order to do this we will concentrate on popular and oft-referenced practices including Minecraft and YouTube tutorials in order to explore how parents understand what the current and future potential is for connected learning in their children's lives.

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Families, Learning, and Pokemon Go
Kelly Tran, Arizona State University

While many families have concerns over how games and other digital media might displace activities such exercise and socializing (Takeuchi 2011), PokÌ©mon Go presents a unique opportunity for families to learn, bond, and explore together. This talk covers the findings of a study in which I interviewed three focal families who play the game. While the families are all different from each other- a single mother, a young “gamer”family, and a professional with two daughters- there were common themes among how the families viewed the game’s impact on their family.

Sobel et al. (2017) found in their research on PokÌ©mon Go that parents would scaffold their children’s learning about the game by taking turns and helping them with more difficult tasks. Here, parents took this a step further and used the game as a springboard for teaching about historical sites and Internet research. The parents did have different perceptions about the safety issues of the game, but all three saw the game as providing crucial bonding time, such the single mother who stated it was hard to bond with a teenager and saw the game as providing her with “something to talk about”with her daughter.

Finally, Gee & Gee (2016) note how important parents are in providing access to resources such as classes, workshops, and the Internet, and here parents play a crucial role not only in providing this access but in actively participating in learning around the game. Issues of equity and how this participation might vary in families with differential access to technology will also be discussed.

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