Digital-Mediated Experiences of Next Generation Youth:

Recommendations for Future investment

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To assist the Program on Human and Community Development at The John D. and Catherine T. MacArthur Foundation, the Exploratorium convened a series of working meetings to identify the emergent practices of youth (ages 8-18) who use digital media technologies in out-of-school settings and to identify promising areas of further investigation and investment. Additionally, white papers were commissioned to survey literature, capture retrospective design histories in commercial educational software development, and understand where the world of educational software has been and might go, given the right support.

As a whole, these activities have pointed to the fact that today's youth are not only fluent and playful with digital technologies, they are also developing alternative, sophisticated, reflective literacies while at the same time establishing new cultural norms and social practices. It is clear that the education of digitally-savvy youth will require new design partnerships to study and take advantage of this capacity not only because traditional literacies and "ways of knowing" are being challenged, but also because the needs of society and the public participating in that society are shifting.

Our current findings indicate:

- Studies about out of school informal learning experiences and interest-driven activities are sparse in comparison to studies of design and use of technology for schooling and legitimate educational activities.

- Communications networks, whether organized by the mobile phone or the Internet, are changing the scale, national boundaries, institutional rules, scope and dynamics of kids' social worlds.

- New media enable a broader variety of personal expression by youth and enable youth to share these expressions with a wider audience, who in turn, may interact with the original creators to promote shared expression in variety of new and unexpected ways.

- There are few efforts that systematically study the design and affordances of physical spaces to support digital youth experiences, meaningful play, and their development. Place and social context may be very important in shaping disadvantaged kids' experience of digital media, particularly access to public learning places and digital tools outside of school.

- There have been no systematic longitudinal study of kids' cumulative experience with digital media from childhood to adulthood, nor of the cumulative effects of digital media upon learning and development.

- There are few studies on the impact of the vendors and other commercial entities that have an economic interest in youth involvement with digital media. Similarly, there are few forecasts of the likely evolution of personal information technology, with assessments of implications for youth and their education.

- Relatively little is known about the learning affordances or the developmental impact of computer games through the life course of the use of the game, or about the transference of skills from games to other environments. Thus, inquiry into learning and games must explore in tandem the characteristics of the game itself, especially multimedia content and interaction and the learning communities that kids build around gaming.

- There are relatively few studies that describe how digital media are changing the learning experiences of families, between siblings or between the parent and the child, as well as immigrant children who navigate cultural boundaries and speak multiple languages.

- There are more broad survey-type studies of reported use and fewer qualitative design studies, especially those that employ design-based research to concurrently study the use and learning from digital technologies in context as it is being developed. Participation tends to be defined naively as limited technology access, rather than a fuller description of the resource designs, interactions, and social supports provided by uses of digital tools.

- Research on social networks of groups of 5-7 is more common and better understood. Less is known about larger social networks and groups (30 – 40), and how network theory might help us understand social relationships and educational activities.

Based upon these activities, we recommend the following:

1. A significant investment be made to pursue a strategy of supporting design-based research projects tightly coupled with naturalistic studies of technology use in a few targeted areas to systematically study the impact of interest-driven learning and play, emergent social networks and social practices, and narrative construction in both scripted/mediated and unscripted situations. This will provide knowledge of what motivates youth to learn, participate, communicate, and engage; and how youth use digital tools to construct new meaning, a personal knowledge base, and new digital fluencies.

2. New initiatives should explore the potential development of new hybrid spaces that blend physical and virtual environments and digital tools where youth-centered activities can share power with competent adults to encourage all youth to learn. Support for hybrid spaces can enable partnerships with after school centers, museums, libraries, malls, and other informal learning environments to complement school activities.

3. Finally, an exploration of new design partnerships with the appropriate sustainable education distribution channels can reach kids in their spaces including exploring commercial sector marketing and dissemination mechanisms, as well as with established community-based organizations, and other online venues such as virtual schools, open content repositories, and public media broadcasting and media publishing.