Using Design Thinking to Empower Ethnic Minority Immigrant Youth in their Roles as Information and Technology Mediaries

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Abstract

In the United States, almost one in nine people are foreign born (2010 U.S. Census). While diversity brings incredible richness, it also belies responsibility for helping immigrants participate fully in American life and culture versus isolating themselves within ethnic communities.

Our past work funded by the U. S. Institute of Museum and Library Services and the Bill & Melinda Gates Foundation shows two-thirds of people use library computers to search for information on behalf of someone else (US Impact Study, 2011). These Information Mediaries (Infomediaries) tend to be young, non-white, non-native English speakers, suggesting ethnic minority youth are key for understanding the information needs of their respective populations, passing on needed information to otherwise hidden users (especially non-English speaking, non-library users).

Our current research is over two phases supported by Microsoft and the Institute of Museum and Library Services we are employing design thinking (Brown, 2008, HBR, 2008), to study how ethnic minority youth serve as technology and information mediaries within their social networks. Our approach brings in perspectives from computer science, information science, design, information behavior, and uses research methods such as participatory design, action research, social networking analysis, rapid prototyping, and engineering. Our method integrates these perspectives and methods into a multi-day workshop format called "teen design days."

Keywords: design thinking, teen design days, immigrants, infomediaries, cultural probes

In the United States, almost one in nine people are foreign born (2010 U.S. Census). While diversity brings incredible richness, it also belies responsibility for helping immigrants participate fully in American life and culture versus isolating themselves within ethnic communities. However, the needs for help with everyday life, particularly through effective information services and technologies, are acute due to an influx of immigrants from new countries, settlements outside traditional gateways, and increasingly complex language, technological, cultural, social, physical and financial barriers.

Our past work funded by the U. S. Institute of Museum and Library Services and the Bill & Melinda Gates Foundation shows two-thirds of people use library computers to search for information on behalf of someone else (US Impact Study, 2011). These Information Mediaries (Info-Mediaries) tend to be young, non-white, non-native English speakers, suggesting ethnic minority youth are key for understanding the information needs of their respective populations, passing on needed information to otherwise hidden users (especially non-English speaking, nonlibrary users), and identifying the greater range of how libraries help.

In our current work funded over two phases supported by Microsoft and the Institute of Museum and Library Services we are employing design thinking to study how ethnic minority youth serve as infomediaries within their social networks. Design thinking originated from the design discipline and was coined by Dave Kelly and Tim Brown of IDEO in 2001. It was later popularized in a Harvard Business Review article by Tim Brown (HBR, 2008) when IDEO was called to solve a variety of problems outside the traditional realm of most design firms. Since then, design thinking has been used to solve problems in

business and product design spaces. Design thinking involves 3 major steps: Inspiration, Ideation, and rapid prototyping (Brown, 2008).

Our approach brings in perspectives computer science, information science, design, information behavior and uses research methods such as participatory design, action research, social networking analysis, rapid prototyping, and engineering. Our method integrated these perspectives and methods into a multi-day workshop format called "design days." These workshops are designed to gain an understanding of how and why immigrant and refugee youth act as Infomediaries to members of their social networks, especially their ethnic communities (and elders), and how they can be supported through technology and services.

The core theoretical framework used in the design day workshops is based on a modified version of Meyers, Fisher and Marcoux's (2007) Tween Day Methodology to understand how:

(1) Ethnic minority youth surface the needs of others, communicate/provide information and technical help, and how they create, remix and manage information;
(2) How elders and others engage with youth and benefit from provided assistance; and,
(3) How these behaviors can be supported by design thinking (Brown, 2008, 2009).

The Teen Design Days are being held at near-by community centers. These centers are gathering places or "information grounds" (Fisher, Landry & Naumer, 2007) for many immigrant communities across the United States. At the Teen Design Days, participants reflect on their info mediary behavior using social network mapping tools, rapid prototyping, and cultural probes (Gaver, et al., 1999; Graham, et al., 2007) which involve storytelling, images, and dramatic play, as well as design, prototyping, and programming principles. Smart phones, laptops, Kinect controllers, and other devices are also being used along with technology experts from the University of Washington and Microsoft Research which together devise ways of facilitating teens' current and future infomediary behaviors. At the our Teen Design Days, community members are meeting the teens' needs for physical activity, competence and achievement, self-definition, creative expression, positive social interaction, structure and clear limits, meaningful participation in cross-culturally and gender appropriate ways through African dance class, beading, cooking, drumming, athletics, etc. The first phase of our Teen Design Days ends with a community showcase where the participants share their experience with their parents, project funders, instructors, and city staff, who select prototype designs for further development and implementation.

Phase Two broadens the use of design thinking and draws on the findings from the innovative Teen Design Day method honed in Phase One. We are carrying-out a mixed-method investigation with immigrant and refugee youth in the Seattle area that focuses on public library-community agency innovation. According to Burke (2008), of the 9,214 public library systems in the United States, about 75% serve patrons from over 30 countries, some up to 200 different nationalities. Libraries are thus poised to provide solutions and local leadership that can benefit entire immigrant communities and affect policy making and provide social and economic development. Our Phase Two research thus focuses on empowering immigrant youth through information literacy, computer and Internet services and other innovations at public libraries.

Using mixed methods, the research goals of our second phase are being accomplished over three stages:

(1) Broad-Scope In-person Survey with 500 Seattle youth (ages 14-18; foreign-born, first generation immigrant, or speaking non-English language at home) to generate broad understanding of the nature of immigrant teen information mediary behavior, and,
(2) Teen Design Days with 45 youth (groups of 15, minimum 3 locations, 3 occasions each) based on modifications to the techniques honed in Phase One and include providing feedback on paper prototyping of info mediary services. In some cases the prototypes generated from Phase One will be field tested; and,
(3) Workshops with public library and community organization staff on designing services for info mediary ethnic minority youth. Project partners include the Seattle Public Library, the King County Library System, Horn of Africa Services, Vietnamese Friendship Association, and the YMCA of Greater Seattle.

Our novel research approach to understanding the relationships between information, technology, design, and empowerment in immigrant youth populations, who act as information mediaries, is poised to make significant future contributions to the fields of information science, computer science, human computer interaction, and design.

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