

Youth as knowledge brokers across learning environments: Social capital as a catalyst for cross-setting learning

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Theory and Background

How youth connect and build upon positive experiences gained in OST environments to other contexts in their lives, such as school, future work, home, or online communities, is a burgeoning area of study within the informal learning space. This study explores new questions around how youth act as knowledge brokers across different environments to construct and build capital that facilitates gaining and building skills and interests. The employment of social network analysis, with individual youth as the unit of analysis, allows for a new lens on understanding the role social capital plays in learning across multiple settings.

Traditional conceptions of learning as a within person cognitive phenomenon fail to adequately account for the social and contextual aspects of learning processes. This research explores, identifies, and measures the ways in which youth act as brokers of connected learning activities across both physical settings and distinct social groups. The research explores questions of an individual learner's choice, participation, and collaboration across connected learning activities and OST/IST programs.

This study used Putnam's (2000) conceptualization of social capital as a bridging/bonding mechanism as a foundation to understand the role of relationships in youths' connected learning experience. This theoretical framework is applied to an OST environment to better understand how the three design principles of connected learning (production-centered, openly networked, and shared purpose) relate to the three core values of connected learning (equity, social connection, and full participation).

Research-Practitioner Partnership Approach

SRI International partnered with ARTLAB+ on this research project. ARTLAB+ is an innovative, free after-school program of the Smithsonian Institution Hirshhorn Museum and Sculpture Garden that offers teenagers the opportunity to acquire technical skills in new media while gaining the 21st century learning skills necessary for today's workforce. ARTLAB+ engages teens using digital arts media, exposing them to career opportunities, and affording them access to practicing professionals.

ARTLAB+ serves youth 13 to 19 years of age within the Washington metropolitan area. It primarily serves young people from D.C.'s Wards 7 and 8, particularly from the Anacostia area, with approximately 50% of participants living in high-poverty neighborhoods and zoned for Title I schools such as McKinley Technology High School and Anacostia High School. Approximately half of ARTLAB+ teens come from hardship and face uninvolved caretakers, homelessness, and neighborhood violence. In addition, ARTLAB+ consistently provides opportunities for youth with cognitive and physical disabilities to participate in programs.

At ARTLAB+, teens learn to use the same cutting-edge music production software, 3D design programs, digital photography equipment, and video editing software that professional musicians, designers, and artists rely on today. Sessions are taught by artist Mentors who come with a wealth of expertise and experiences ranging from art education to video game development. Each member of the six-member team plays an integral role in supporting the program and develops curriculum, implements programs, recruits new teens, leads outreach initiatives, and co-creates programs in partnership with other museums and community organizations.

ARTLAB+ provides an introduction to professional industries and demonstrates to students how skills can be transferred to an education or work environment, a message that is often lost in traditional formal education. While the opportunity to work with cutting-edge technologies and produce their own creative work attracts teens to ARTLAB+, the ultimate goal of the program is to inspire teens to play an active role in their own education and professional development – be it in the arts, the classroom, or at work. Teens leave ARTLAB+ with resumes that include 21st century skills like 3D modeling and graphic design. They also hone soft skills sought by employers such as collaboration, creative problem solving, and leadership.

Because of ARTLAB+'s wealth of offerings and reliance on a mentor-based and peer-to-peer learning models, both ARTLAB+ and SRI thought it would be important understand how the social relationships formulated through participation in their program enhance the opportunities and confidence of the participants. ARTLAB+ was crucial to the design of the questions asked in the social network analysis survey. They were also important to the joint sense-making of the results of the analyses.

Research Questions and Methods

This research was conducted using a mixed-methods approach that integrated quantitative social network analysis surveys with qualitative ethnographic interviews. Data come from interviews, network surveys, and observations of 20 participants at a connected learning program in the metropolitan Washington DC area. Researchers spent time as participant-observers at the program site for a week. Informal interviews with youth participants and adult mentors guided the network surveys that were then constructed and administered. The sample was comprised of 14 youth participants between the ages of 13-19 (5 female and 9 male) and 6 adult mentors (4 female and 2 male). This site was chosen because of the wide offerings associated with the program, as well as the ethnic and economic diversity of participants and mentors. When analysis of the personal networks was complete, researchers returned to the site and conducted follow-up interviews with each participant where they explained their network results in detail.

Research questions include:

- Is there evidence that interest-driven learning is more likely to be of import to youth when the learning is cross-setting?
- What do the social support networks look like in the lives of program youth across these different settings?
- What role do social relationships play in sustained participation in connected learning activities?

Results

Results from this work were compelling and outlined many of the ways that youth utilize their peers and mentors to build new opportunities for future careers and academic pursuits, as well as build their social networks to support their interests across settings.

Research Question 1

Analysis from interviews with youth demonstrated that on the whole, when they saw how a certain set of skills were transferable across settings and in different situations, they were more interested in learning these skills. Not only did we find that there was a higher degree of interest in developing these skills, but that the desire to become expert in these skills was also more prevalent. From a networks perspective, we found youth who felt the skills or activities they were involved in at the program were transferable, the more likely they were to develop networks of similarly interested or capable peers and mentors. When the skill or activity was perceived as less transferable, there was less conscientious development of networks around this activity.

Research Question 2

The network composition of all respondents (with the exception of one) was weighted heavily toward that of peers, or people of similar age sets. The team expected to see network relationships where interaction occurred across many different settings (the afterschool program, school, friends from the neighborhood, etc.), however we found that social supports varied greatly based on location of interaction. As we interviewed youth about the fragmentation of their networks based on geographies of interaction, many youth referenced the fact that the free, drop-in program was held at a central location, and did not bias any particular neighborhood. Therefore, youth from Maryland, Virginia, and Washington DC all came together at the site afterschool, however on weekends and during the summer, it was much less likely for these social groups to persist in a different geographical space. Mentors were omnipresent in youth networks, and although limited with respect to their degree centrality, often had a high betweenness score, meaning they were essential brokers to other actors in youths' networks. Parents and family were also very present in youth networks, however played a decidedly less important role when it came to skill development. Only one youth mentioned a non-mentor adult that provided support with an interest pursued in the program.

Research Question 3

The original hypothesis for this research, based on the design principle of production-centered work, was that youth would stay engaged in connected learning activities at the site as they "leveled up" in skill development and in their need to find necessary technical supports. The network analyses revealed dense social cohesion, and in some cases, maximally connected cliques of youth who all participated in the program. This finding reveals that while skill development did initially drive them to the site, the peer supported aspect of Connected Learning activities is what unanimously kept all of the youth coming back throughout the year.

Discussion

This work lays out an approach to understanding the importance of youth agency to create learning opportunities across settings, and how brokering and the creation of social capital across multiple environments support productive persistence for themselves and others in these

activities. This work also contributes to the body of knowledge around learning ecologies, by providing methods by which researchers can identify the role of certain individuals in brokering experiences across learning environments.

Social network analysis confirms program developers' belief that learning must be relevant and connected to as many real-world applications and settings as possible. This analysis surfaces the concrete qualities of this program that make it a successful learning environment. The peer-to-peer mentorship is clearly a huge driver of teens' comfort and connection to the program and becomes a consideration when developing new programs.

This type of study is helping to change the dialogue on success and measurements of OST programs, providing an alternative positive impact to test scores. The use of SNA can illustrate how a successful program is a crucial element of youths' learning ecology and social and academic success.

References

Putnam, R. D. (2000). *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon & Schuster.