

**Synchronous Ideation Workshop with Rural Library Professionals
to Envision Future Makerspaces**

Soo Hyeon Kim

Assistant Professor, Indiana University- Purdue University Indianapolis
skim541@iu.edu

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Abstract

Ideation can support the development of educational programs and services at public libraries. Prior studies on ideation workshops focus on face-to-face settings; less is known about synchronous ideation workshops with library professionals with limited design experience. This paper reports on the results of a reflective case study of an online ideation workshop with three rural library professionals to envision future makerspaces. Preliminary findings suggest design considerations for a synchronous ideation workshop around librarian experience, design space, and technology.

Keywords: ideation, rural library, makerspace, synchronous workshop

Introduction

Ideation—a collaborative approach in design thinking to brainstorm ideas—is increasingly recognized as a valuable tool to develop innovative products and services. Academic communities and public libraries used ideation to design new educational programs and services (Bowler, 2014; Carroll et al., 2010). While prior work exists on how to develop face-to-face ideation workshops; less is known about how synchronous online workshop can be conducted particularly with rural library professionals with limited design experience. Therefore, this study tested a prototype for a synchronous ideation workshop using Mural™—a digital workspace for visual collaboration with available frameworks—and conducted a reflective case study (Hamilton & Corbett-Whittier, 2012) to develop design considerations for conducting synchronous ideation workshop with library professionals.

Related Work

A key challenge for an online ideation workshop is translating the process of idea divergence and convergence in which people organically share and adapt ideas in real-time at close proximity into a digitally-mediated setting (Hollan & Stornetta, 1992). The instant sharing of ideas and variety of interaction can be sacrificed in an online setting due to limited screen size and the limited capacity to share, categorize, and sort ideas. To explore the challenges involved in synchronous ideation workshop, this study adopted the framework developed by Walsh et al. (2013) and considered four dimensions: partner experience (how much design experience is needed before participation), need for accommodation (age and cognitive ability), design space (how specific the design is defined), and the level of technology. This study particularly focused on understanding how much design (or other) experience library professionals would need before participating in the ideation workshop, how specific the design space should be, and how participants experienced the technology in the online workshop.

Methodology

Three rural library professionals and two research team members participated in the workshop that lasted three hours. Participants (all females) were full-time library professionals in the youth services department with an average of 5 years of experience, serving a legal service area population less than 10,000. They had bachelor's degrees in education, but none obtained Master of Library and Information Science degrees. The ideation workshop included the following activities: 1) connecting activity, 2) introduction of the platform and rules of engagement, 3) define your goals, 4) ask five whys, 5) identify and map driving and restraining forces, 6) select your top priorities and ideate.

We collected a video record of the online workshop, participant-generated artifacts and fieldnotes taken by the researcher immediately after the workshop. The video record of the workshop was fully transcribed and the artifacts were digitized, which were analyzed to understand how the design space provided a productive direction for envisioning future maker programming ideas. Participants' debriefs and engagement were also analyzed to explore how the Mural platform supported or hindered them during ideation. Emergent themes were summarized through a reflective case study in which the first author iteratively refined the analytical memos prompted by the analysis based on the transcripts, artifacts and fieldnotes.

Findings

Analysis findings highlighted that participants' narrow conceptualization of making—predominantly emphasizing STEM and technology—constrained the scope of their idea generation to be around STEM programming. 42.5% of the ideas in the last ideation activity had explicit connection to STEM and technology. Participants also expressed that their goals for establishing makerspaces were to follow the trend and offer STEM programs. During the *ask five whys* activity when participants were prompted to share why rural library professionals may find it challenging to create partnerships for maker programming, they immediately interpreted maker programming as STEM programming and described challenges related to creating partnerships with organizations in STEM domain. Findings demonstrated that participants' understanding of maker programming was heavily centered around STEM, which influenced the type of ideas they could generate. In this regard, findings emphasized the need to broaden the participants' perception of the design space to envision different ways to create maker programming beyond STEM.

Findings also highlighted the tension between the external push to offer STEM programming at public libraries and the library professionals' internal struggle as they experienced limited competencies in STEM. The underlying root cause for library professionals' lack of confidence in STEM and technology was related to current expectations to lead technologically-oriented STEM programs at libraries without prior training in STEM or technology. Participants expressed their roles to lead STEM programs as “one more iron in the fire” and “one more thing to try to figure out and master.” In addition, the three most unfavorable restraining forces that participants identified were “fear of trying new things,” “limited knowledge and ability in STEM,” and “minimal technological resources” at the libraries. As such, findings suggest that rural library professionals' current approach towards envisioning STEM maker programming will likely have challenges as they already feel overwhelmed in providing these programs.

The analysis of participants' debrief and their engagement during the online design thinking workshop illustrated that the Mural platform facilitated participants to generate ideas on digital post-its, support them to move and group ideas together, and select ideas by highlighting them in different colors. All three participants had no prior experience using the Mural platform. However, they expressed that it was easy to use and did not experience many challenges while utilizing new features in the platform.

Discussion and Conclusion

Preliminary findings from a reflective case study suggest considerations for future online ideation workshop with rural library professionals around librarian experience, design space, and technology. Walsh et al. (2013) have proposed to consider the participants' age and cognitive

ability to determine how much design experience might be needed before participating in a design workshop and explore how specific the design space should be. This study illustrated the importance of first understanding library professionals' conceptualization of the ideation topic (in our case, makerspace) as it has direct influence over determining the design space. Practical design consideration for the future workshop is to understand the prior experience of the participating librarians and include a primer activity to broaden their conceptualization of making before participating in the workshop.

Design process is emergent. It is neither strictly bottom-up nor top-down. Design also involves the discovery of new goals. By conducting this prototype workshop, the new goals for the future ideation workshop were discovered: 1) support rural library professionals to find their strengths in making and use them as departures for envisioning future maker programming, 2) broaden their ideation approach informed by past endeavors and the interests of the rural community members, 3) prototype maker programming ideas. Barton, Tan, and Greenberg (2016) pointed out that the current conceptualization of making as providing access to digital fabrication tools and production process can marginalize populations that do not connect with the opportunities, needs, and goals afforded by these tools. While makerspaces at public schools, science centers, or museums may focus more heavily on STEM and technology, public library makerspaces are well-positioned to reconceptualize entry points and pathways toward making by leveraging different needs and interests in the community. In future, the research team will further investigate ways to develop context-relevant maker programming at small-town and rural libraries by implementing the study findings from our prototype workshop to prepare the future design thinking workshop.

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References

- Calabrese Barton, A., Tan, E., & Greenberg, D. (2016). Equity oriented makerspaces. *Teachers College Record*.
- Bowler, L. (2014). Creativity Through “Maker” Experiences And Design Thinking In The Education Of Librarians. *Knowledge Quest*, 42(5), 5.
- Carroll, M., Goldman, S., Britos, L., Koh, J., Royalty, A., & Hornstein, M. (2010). Destination, imagination and the fires within: Design thinking in a middle school classroom. *International Journal of Art & Design Education*, 29(1), 37–53.
<https://doi.org/10.1145/1640233.1640306>
- Hamilton, L., & Corbett-Whittier, C. (2012). *Using case study in education research*. Sage.
- Hollan, J., & Stornetta, S. (1992). Beyond being there. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 119–125. <https://doi.org/10.1145/142750.142769>
- Walsh, G., Foss, E., Yip, J., & Druin, A. (2013). FACIT PD: A framework for analysis and creation of intergenerational techniques for participatory design. *Conference on Human Factors in Computing Systems - Proceedings*, 2893–2902. <https://doi.org/10.1145/2470654.2481400>