

High Risk, (with Hope for) High Reward: Lessons Learned from Planning and Hosting an Unconference

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Abstract

Often in diversity and inclusion research, the goal is to represent the perspectives of those who are ‘not at the table,’ but seldom do research methods provide the participants an actual seat ‘at the table.’ Informed by a participatory action research approach, we partnered with study participants, positioning them as our co-researchers. Together, we employed an unconference (also known as an Open Space Technology workshop) as a research method in order to elevate the voices of study participants, provide space for them to create a meaningful network, and maximize their collective expertise. Unconferences are gatherings that have no pre-set agenda; instead participants are convened around a central theme and the agenda is collaboratively designed by the attendees. This open-ended structure allows participants to initiate sessions on topics that matter to them; engage in inquiry, reflection, and learning; and develop plans, recommendations, and a record of the proceedings as the process unfolds.

In the context of a research study, an unconference poses a high risk, high reward situation. The researcher/facilitator has very little control over the direction of the event and the types of data produced (i.e., high risk), whereas giving participants ownership and control generates insights that may be impossible to gather using other research methods (i.e., high reward). In June 2018, we held the ‘Unconference on Making Liberatory Spaces,’ bringing together representatives from diverse, inclusive, liberatory maker spaces from around the country to share their organizations’ stories and exchange best practices regarding inclusion of diverse populations in maker spaces. In this paper, we will share our planning process and the lessons we learned through planning and hosting our unconference — including event planning decisions, recruitment of participants, facilitation techniques, data collection methods, and IRB procedures — and discuss how an unconference could be employed by other researchers, especially those exploring emerging topics.

Project Context

The ‘Unconference on Making Liberatory Spaces’ was held as part of a larger project, funded by the National Science Foundation (NSF). This project uses qualitative methods to explore diverse, liberatory makerspaces that are actively engaging populations historically underrepresented and minoritized in Engineering and making. Our qualitative approach included three phases: content analysis, ethnographically-informed participant observation, and finally the unconference [1]. The study’s sample includes seven community makerspaces (our ‘partner sites’) distributed throughout the U.S. in rural and urban environments.

‘Unconference on Making Liberatory Spaces’

With support from the NSF grant and in collaboration with the Nation of Makers non-profit network, our team hosted the ‘Unconference on Making Liberatory Spaces’ in June 2018. The event was held at the Santa Fe Community Conference Center in Santa Fe, NM as a pre-conference to our collaborators’ inaugural conference, the Nation of Makers Convening (NOMCON).

The ‘Unconference on Making Liberatory Spaces’ brought representatives from diverse, inclusive, liberatory maker spaces from around the United States together to share their organizations’ stories and exchange best practices regarding inclusion of diverse populations in maker spaces. Following the unconference model, the agenda was determined by those present. The goals of our unconference were two-fold:

1. Build and strengthen a network of diverse makerspaces who can share information and practices, build relationships, and serve as a resource to others seeking to form makerspaces that are liberatory.
2. Identify practices and artifacts that can be adopted by both community and campus spaces in order to ensure broader participation among members from underrepresented groups.

Background

Open Space Technology

History of open space. The practice of Open Space Technology workshops, or unconferences, date back to 1985 when individuals “gathered in Monterey for the Third Annual International Symposium on Organization Transformation [2].” Organizer Harrison Owen recalls,

“At the point of arrival, the participants knew only when things would start, when it would conclude, and generally what the theme might be. There was no agenda, no planning committee, no management committee, and the only facilitator in evidence essentially disappeared after several hours. Just 85 people sitting in a circle. Much to the amazement of everybody, 2½ hours later we had a three day agenda totally planned out including multiple workshops, all with conveners, times, places and participants [2].”

Unconference event. An unconference is typically a gathering that has no pre-set agenda and where space is created for peer-to-peer learning [3]. Instead of a conventional program, attendees decide what discussions they want to lead and/or participate in. Anyone interested in initiating discussion on a topic has the freedom to claim space and time to do so.

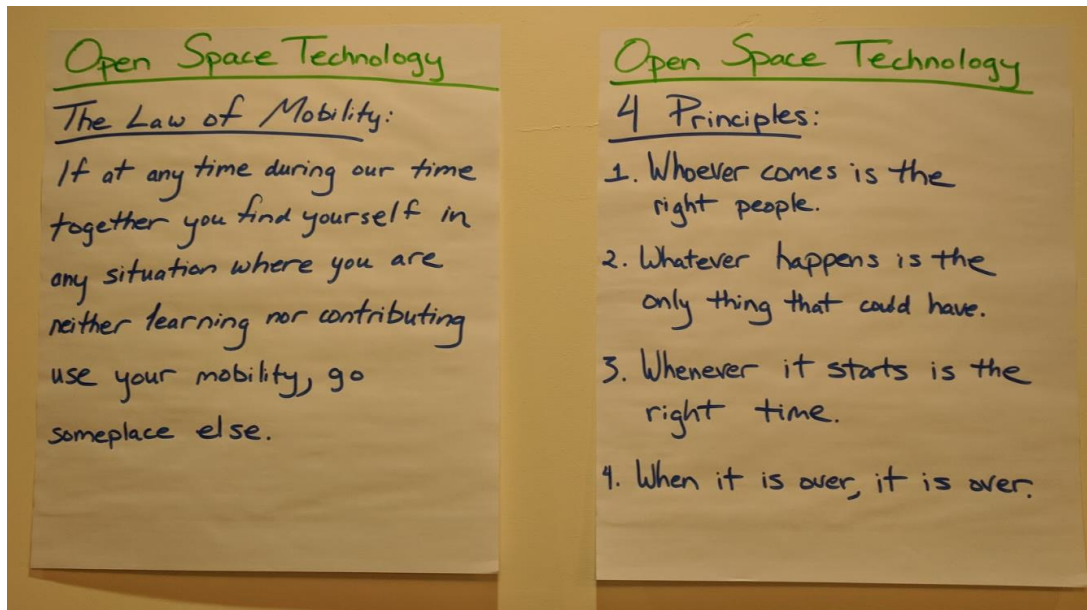
Guiding principles and law of open space. Unconferences are guided by four Principles and one Law. The four Principles include:

1. “Whoever comes is the right people,
2. Whatever happens is the only thing that could have,
3. Whenever it starts is the right time,
4. When it is over, it is over [4].”

The one guiding Law, called “the law of two feet” or sometimes “the law of mobility,” is as follows: “If at any time during our time together you find yourself in any situation where you are neither learning nor contributing, use your two feet, go someplace else [4].” Recognizing the compulsory able-bodied nature of the term “the law of two feet” and its definition (i.e., that you use “your two feet” to move, when not all people have two feet, or two mobile feet), we used the alternate title, “the law of mobility,” as a more inclusive, general term at our event.

Following the Principles and Law, unconference participants have autonomy as well as the responsibility to manage their own learning and contribution [5]. At our event, we hung posters detailing the Principles and Law in all event rooms (see Figure 1).

Figure 1: Unconferences are guided by four Principles and one Law; these guiding ideas were noted on posters in the event space.



Open space procedures. In organizing an unconference, it is important to encourage and facilitate participation of attendees. Thus, seats are positioned in a circle so that participants can face each other, as shown in Figure 2.

As mentioned, the event has no pre-set agenda, so a wide, open space is provided on the wall for attendees to manually create the day's schedule. At our event, we lined a wall with white bulletin board paper; it became the event's agenda. Participants were provided with 8.5"x11" pieces of paper on which they could propose discussion sessions to be posted on the agenda. This agenda-wall is shown in the background of Figure 2.

Figure 2: At our unconference, seats were situated in a circle allowing attendees to face one another. In the background, the open agenda (created using white bulletin board paper) can be seen on the wall.



When prompting participants to think about what sessions they want to hold during the unconference, Owen encourages the facilitator to say,

“Keeping the Four Principles in mind, along with the One Law, it is now time to get to work. Along that line, there is one question to start. *What are the issues and opportunities around our theme, for which you have real passion and will take genuine responsibility?* And when you have identified an issue or area, give it a short title, write it down on the paper provided and sign it. Leave some room at the bottom for others to sign [up to attend] [4].”

In our event, our facilitator incorporated this prompt into their introductory comments; a more detailed discussion of facilitation is provided in later sections of this paper.

Use of Open Space/Unconference in Engineering Education

Unconferences have been used in engineering education research to bring experts together and leverage their collective expertise to achieve research goals. Examples of unconference structures in engineering education include the PEER Collaborative [6], which was designed as a vehicle for assistant professors and recently tenured faculty to support each other in navigating academic careers; and a three-year reform effort in which Finnish engineers and architects engaged in participatory approaches to promoting sustainable development in engineering education countrywide [7]. Other approaches seeking to draw on collective expertise and participatory action have been used in Adams et al.’s Design Thinking Research Symposium, featuring a shared data-set analyzed by an interdisciplinary group of participants [8], Walther’s early formulation of interpretive research methods [9], and Paretti and McNair’s participatory panel sessions for the 2012 NSF EEC Grantees meeting [10]. Each of these applications of the unconference model have focused on areas of emergent research and practice, and have embraced the hallmark of open space technology to pursue consensus in contexts with high risk for conflict.

Action Versus Inaction

Managing Expectations: The Implications of Action

Recruitment of participants. In preparing for an unconference, determining the roster may be the most impactful set of decisions organizers make. Our roster was partially curated; we invited our seven partner sites to each send 2 representatives to our unconference with all expenses covered by the NSF grant. Then, in the style of chain-referral sampling [11], we reached out to additional maker practitioners and researchers doing work relevant to our theme, offering an invitation with partial financial support provided by the NSF grant. We also invited the members of the NSF grant project advisory board.

Originally, we intended to have a small group exclusively made up of representatives from sites we'd partnered with for the grant project, but in partnering with Nation of Makers, our network expanded along with interest in our event. At the recommendation of Nation of Makers, we offered ten ticketed seats to the unconference to any interested Nation of Makers members. Tickets carried a \$100 ticket charge (paid directly to Nation of Makers) to cover each individual's share of food and venue costs; this fee was also assigned to discourage people from signing up but then not attending. The ten spots sold out quickly and as interest spiked, we were faced with a wait-list of interested attendees.

We debated capping the event without exploring the waitlist, especially since we didn't have information about waitlisted, interested parties' backgrounds or existing knowledge of the event theme. Ultimately, we decided to include other interested attendees in the interest of broadening participation beyond our existing network. We did however cap the event at 50 people total, including the research team, so as to respect fire codes and our rooms' seating capacity. As shown by Table 1, we had 44 attendees; with a four people from our research team in the room, attendance totaled 48 people.

The mixed nature of our roster – some being curated attendees and some independently interested individuals (referred to as 'independent attendees' in this paper) – led to some surprising occurrences at our unconference; more on that in a following section.

Table 1: Participants by support type.

Participant Type	# of People	Type of fee (covered? yes/no)		
		Hotel	Travel	Food + Event registration
Fully supported participants (partner site representatives)	10	yes	yes	yes
Partially supported participants	9	yes	no	yes
Independent attendees	25	no	no	no

Pre-event communication with participants. Another important action our team took in preparing to host the unconference was pre-event communication. We developed a website

(<https://sites.google.com/vt.edu/makingliberatoryspaces>) containing information on the unconference model, attendance list, and location information (such as venue and city accessibility), as well as a shared file repository (i.e., a Google Team Drive), and shared these online resources with participants via email in the weeks prior to the event. Providing these resources to all participants acted as a norming process, giving them a primer on what an unconference is, and helping them prepare for the event's format [3], [12].

Additionally, pre-event resources included a shared introduction slide deck meant to (1) allow participants to decide how they wanted to introduce themselves to their peers, and (2) facilitate the development of relationships and community. Guidance (see Figure 3) was given to ensure attendees included relevant information in an accessible format. Specific formatting decisions were left up to attendees, thus, each attendee's introduction slide took on a unique format (see Figure 4 for an example).

Figure 3: Guidance provided to attendees in regard to the introduction slide deck.

Instructions: Tell the group more about who you are!

Find the slide with your name on it and add more details:

Definitely include:

- Your name and gender pronouns (she, her, they, etc.),
- Your affiliations (maker/hacker/bio space, work, school, etc.), city & state
- A headshot photo,
- What you want to learn at the Unconference,
- What you want to/can share (i.e. experiences and expertise) at the Unconference,

Consider including:

- What you make,
- What you care about,
- Contact info (such as email address, twitter handle) if you're comfortable sharing it
- Photos (examples: show things you've made, your space, organization logo, etc.)

Do not edit any slide that is not yours.

Instructions: Formatting

- Feel free to be creative with the slide's format, but no more than 1 slide per person.
- Make your slide clear and easy to read: use a minimum of font size 12.
- **Please DO NOT use an image as your background behind text;** this design can make it challenging to read, especially for folks with visual impairments. Instead, please be sure text sits on a solid, contrasting colored background.
- Here's a helpful tool you can use to check whether your font & background colors are contrasting enough: <https://webaim.org/resources/contrastchecker/>

Do not edit any slide that is not yours.

Figure 4: Author 1’s unconference introduction slide is provided here as an example.

Adam S. Masters (they/them/theirs), Virginia Tech

I co-planned the Unconference!

I am a PhD Student in Engineering Education and a mechanical engineer by training.

I am looking forward to learning from the expertise of all our attendees at the Unconference.

I can share my experience visiting a number of the maker spaces represented at the Unconference and my perspective as a queer, trans, disabled person.

I care deeply about inclusion and social justice.

I love learning about other people’s passions and going to museums.

I make less now than I used to... in high school, I painted, drew portraits, and built robots; in college, I built and tested nanocarbon-infused fiberglass structures. Now, in my free time, I craft: glass etching, drawing, latch-hooking.

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Participant-supplied responses about what they hoped to learn and share at the unconference gave organizers a sense of what to expect, and also sparked group dialogue. The slide deck now serves as an artifact of the event.

Intentionality in facilitation. Facilitation of an unconference does not require much action, but whatever is done serves to set the tone for the event. In the introductory sessions at the start of the event, Masters (Author 1) served as our facilitator. After introducing themselves, Masters welcomed the group by expressing how thankful we were to have everyone present, acknowledging the sacrifices people had likely made in order to be present (such as, taking off from work, having to be away from family/kids, subjecting themselves to long travel days). Participant feedback indicated that this place setting and acknowledgement made people feel comfortable and ‘seen.’

Next, Masters shared safety and accessibility information: the location of fire exits and physical accessibility of the various exits, as well as the locations of gendered and gender-neutral bathrooms. Additionally, Masters made a remark about body autonomy, encouraging attendees to take breaks whenever they needed a break and to position themselves in the space in whatever way was most comfortable (i.e., sitting, standing, stretching, or moving as needed).

These decisions, to express gratitude, and present safety and accessibility information at the beginning of our gathering, were made intentionally. We wanted attendees to feel welcome to be their whole selves in our space and wanted them to feel comfortable approaching us with any needs during our time together.

IRB procedures. Our unconference was held as part of a larger study informed by participatory action research, so IRB consent forms had to align with the unique dynamic of participants as co-

researchers. As co-researchers, participants are co-authors of the data produced and collected at the unconference. We designed flexible consent forms for the unconference, allowing participants to either (1) retain co-authorship rights and forfeit participant anonymity, or (2) forfeit co-authorship rights and retain participant anonymity. Selection did not impact participation in the unconference event in any way.

Letting Go (of Control): The Implications of Inaction

Unconference facilitation. A hallmark of the unconference model is that it is community-driven and decisions are made by participants, so facilitation of such a space can be tricky to those who understand leadership as control [4]. “Leadership in Open Space requires that one set the direction, define and honor the space, and let go” [4]. Following Owen’s recommendation, after introducing the event and engaging the group in agenda setting, Masters (our unconference’s facilitator) left the event space to highlight participants’ responsibility for the space. Shortly before leaving, participants were peppering Masters with questions, asking permission to act. But then, in the absence of a facilitator, participants engaged with each other to reach a sense of consensus and make decisions.

Masters reflected that it felt both awkward and relieving to shift from facilitating to leaving the room in the height of the action. It required trust, not only in the participants, who were invested in sharing expertise and having meaningful conversations, but also self-trust – especially considering Masters had been responsible for coordinating the roster and setting the tone by introducing the event that morning. Facilitator absence lasted for 30 minutes, long enough for the participants to coordinate an agenda and self-organize into discussion groups.

Upon returning to the event space, the facilitator role was different. At that point in the event, instead of addressing the attendees, the facilitator is responsible for the shared, public space [4]. As other members of our research team observed discussions and took field notes, Masters removed trash, cleared aisles between seats, and ensured the caterers served lunch on time. These responsibilities “may seem trivial and non-useful, but at the symbolic level it is a powerful statement of the leader’s concern for the common space [4].” Masters remained in the main event room throughout the day, as participants roamed in and out to check the agenda posted on the wall, look for someone to talk to, or find a moment of quiet. The main event room played “the role of ‘Mission Control’ ... it is the place where everybody, sooner or later, drops by to see what’s happening or where to go next. Simply by being there, it is possible to keep tabs on how everything is coming along [4].”

Data collection. Following the unconference model [4] and participatory action research methodology [13], [14] in which participants act as co-researchers, data was collected by both traditional researchers and participant-co-researchers. Data was collected on the conversations (both the formally organized discussions and hallway chats) participants chose to engage in. Thus, the types of data and content of the data gathered depended largely on participants’ interests and represented participants’ priorities. Data collected by researchers and participants included audio recordings, photos, videos, observer field notes, participant notes, setting schematics, demographics, and artifacts [15]. Occurrences and the related data reflect the second Principle of Open Space: “whatever happens is the only thing that could happen [3].”

Lessons Learned

What Went According to Plan

Participation and data collection. Relinquishing control in the context of a research study can be nerve-wracking, but during our unconference many aspects fell into place, allowing our research team to gain rich insights.

Participants generated, proposed and hosted discussions centered on topics we would not/did not expect. Approximately fifteen attendee-sessions were held over the course of the day; examples include making in rural environments, mental health, white privilege, sustainable organizational growth, designing for accessibility, and innovation [15]. In the various sessions that occurred, people had conversations that truly represented different points of view; we believe this is because our initial group of partner sites was intentionally convened to bring broad perspectives, and the participants we welcomed as independent attendees brought different, often more business-focused perspectives.

Additionally, attendees fully engaged not only in conversations, but also took responsibility for rich data collection by taking notes and keeping track of audio recorders throughout the day.

Event venue and catering service. We were fortunate to work with extraordinary people who helped make our event possible, and who supported our event's accessibility goals. The conference center/meeting space had indoor and outdoor environments for attendees to gather, ADA-accessible gendered and gender-neutral restrooms facilities, and attentive staff. The catering organization we partnered with was a makerspace in its own rite, so their staff fit in well with our attendee group. Caterers responded well to organizers' requests for allergy-friendly meals and labelled all served food.

What Did Not Go According to Plan

Positives. At the onset of our planning, we intended to host an independent event, but we were fortunate to develop a strong, mutually-beneficial partnership with Nation of Makers. The partnership allowed us to host our event in conjunction with the national NOMCON event and financially support our partner site representatives' attendance at NOMCON. Additionally, our relationship with Nation of Makers allowed us to reach more people, further diversify our roster and connect us with experts we were not previously in touch with. But this reach also led to some unexpected challenges.

Negatives. With expanding interest in the unconference event, it was challenging for our team to manage the event roster's growth. We had never intended to have a waiting list, especially one where we had little to no control over who was selected for attendance. We also realized after-the-fact that the \$100 ticket fee had presented a financial barrier for some, and thus affected who chose to attend the unconference as an independent attendee. On the other hand, even though the ticket cost was meant to be a cancellation deterrent, we had some people pay the \$100 ticket price, reserve spots, and then cancel at the last minute leaving us with open chairs.

The larger group size affected group dynamics and didn't meet some attendees' expectations. Some partner site representatives in attendance reflected on the group size, saying it was not as "intimate" as they had thought it might be; they had anticipated the group would be exclusively made up of partner site representatives.

Also, we underestimated the kinds of work participants would be forced to do during our event. Without structured facilitation, traditional power dynamics surfaced, quashing the exact voices we hoped to hear and elevate. Additionally, we found through observation and participant feedback that some attendees were not yet aware of the importance of intentional inclusion in equity work. Thus, attendees who were more aware of issues related to systematic oppression (often due to their own lived experiences of discrimination) had to engage in the emotional labor of facilitating the interpersonal dynamics of more complex discussions. This led to visible burn-out of certain attendees.

Lastly, we are grateful funding was available to support participants, but we experienced unexpected challenges at our university as we processed the finances associated with the unconference. The design of our event was unique, when compared to other university events, in that we provided financial support to a large number of individuals unassociated with our institution. These differences were flagged by different university financial officials in charge of handling reimbursement requests, necessitating timely justifications and review periods. If we had the opportunity to go back and address the finances differently, we would have made every attempt to partner with a single university financial official to reduce confusion.

Recommendations for Other Researchers

Unconference events hold promise for the investigation of emerging research topics because they empower expert participants/attendees to guide and direct the discussions based on their priorities while encouraging organic emergence of novel topics. In the context of equity, diversity, and inclusion, unconferences hold particular promise as they provide opportunities for minoritized populations to join the conversation as both participants and researchers.

Based on our experience hosting the 'Unconference on Making Liberatory Spaces,' we offer the following recommendations to those who hope to host an unconference themselves:

- Develop a clear theme for your event but let the topics of conversation be determined by participants.
- Curate a roster of individuals who are invested in your theme and will respect one another.
- Don't enter the event with expectations regarding the types of data you will collect, be open to emergent topics, and have trust that participants can and will work through conflicts.
- Work closely (and early on) with institutional officials (such as financial offices and IRB), and collaborators (such as venues and partner organizations).
- Be intentional about the tone you set through your actions facilitating the unconference (consider how you address topics such as power, accessibility, and autonomy).
- Provide frequent breaks that not only supply food and downtime, but also quiet/safe spaces for participants to decompress and reflect.

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References

- [1] A. S. Masters, L. D. McNair, and D. M. Riley, "Liberatory methodologies: Participatory action research strategies for discovering inclusive maker space practices," presented at the Frontiers in Education Conference (FIE), 2018 IEEE, San Jose, CA, 2018, pp. 978-1-5386-1174-6/18.
- [2] H. Owen, "Brief history," *Open Space World*. [Online]. Available: http://openspaceworld.com/brief_history.htm. [Accessed: 04-Dec-2018].
- [3] K. Young, "Unconferencing – how to prepare to attend an unconference," *unconference.net*, 07-Sep-2009. [Online]. Available: <http://unconference.net/unconferencing-how-to-prepare-to-attend-an-unconference/>. [Accessed: 04-Dec-2018].
- [4] H. Owen, "A brief user's guide to open space technology." [Online]. Available: http://www.openspaceworld.com/users_guide.htm. [Accessed: 05-Feb-2018].
- [5] EODF, "What is open space?," 15-Jul-2018. .
- [6] A. L. Pawley *et al.*, "The PEER Collaborative: Supporting Engineering Education Research Faculty with Near-peer Mentoring Unconference Workshops," presented at the 2014 ASEE Annual Conference & Exposition, 2014, pp. 24.1237.1-24.1237.19.
- [7] A. Takala and K. Korhonen-Yrjänheikki, "A National Collaboration Process: Finnish Engineering Education for the Benefit of People and Environment," *Sci Eng Ethics*, vol. 19, no. 4, pp. 1557–1569, Dec. 2013.
- [8] R. S. Adams *et al.*, "Catalyzing research-to-practice conversations: A global, interdisciplinary and emergent symposium in the context of learning to design," in *2014 IEEE Frontiers in Education Conference (FIE) Proceedings*, Madrid, Spain, 2014, pp. 1–7.
- [9] J. Walther and N. Sochacka, "Qualifying qualitative research quality (The Q3 project): An interactive discourse around research quality in interpretive approaches to engineering education research," in *2014 IEEE Frontiers in Education Conference (FIE) Proceedings*, 2014, pp. 1–4.
- [10] National Science Foundation and Virginia Tech, "Program," presented at the National Science Foundation Engineering Education Awardees Conference, Arlington, VA, 2012, p. 53.
- [11] D. R. Krathwohl, *Methods of educational and social science research*, 3rd ed. Long Grove, IL: Waveland Press, 2009.
- [12] K. Young, "Introduction to open space," presented at the ITU-T FGIdM, Geneva, 24-Apr-2007.
- [13] P. Reason and H. Bradbury, *The SAGE handbook of action research*. London: SAGE Publications Ltd, 2008.
- [14] P. Freire, "Creating alternative research methods: Learning to do it by doing it," in *Creating Knowledge: A Monopoly? Participatory Research in Development*, B. Hall, A. Gillette, and R. Tandon, Eds. New Delhi: Society for Participatory Research in Asia, 1982, pp. 29–37.
- [15] A. S. Masters, E. K. Foster, C. McCall-Groen, L. D. McNair, and D. M. Riley, "Exploring liberatory makerspaces: Preliminary results and future directions," *Manuscript Submitted for Publication*, 2019.