

# Participatory Design as an Approach for Library Assessment and Student Engagement

**Hailley Fargo**

*Head of Education & Outreach Services, Northern Kentucky University*

**Scott W. H. Young**

*User Experience & Assessment Librarian, Montana State University*

**ABSTRACT:** This paper presents participatory design as an approach for co-creating services and engaging with students in an academic library context. The practice of participation allows members of diverse groups to work together to build social relationships and achieve shared goals, while advancing values such as mutual learning, power sharing, and self-reflection. To demonstrate the practice and potential of participation, the authors describe two case studies for co-designing inclusive library services and engaging with students. Principles, procedures, benefits, and limitations of this approach are discussed, along with practical recommendations for implementing participatory practices in libraries.

**Keywords:** participatory design, student engagement, library assessment, academic libraries



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## Introduction

Within academic libraries, there is a lot of thought put into our services and how they meet the needs of our students. In attempting to gather feedback and make changes, sometimes decisions are made without understanding the student experience or involving student voices. In this paper, we propose that participatory design can be one approach for engaging student voice in library decision-making. The participatory design methodology supports co-creation, power sharing, and transformative relationships between the library and its students. In applying participatory design, libraries can generate meaningful engagement that results in more inclusive services and decision-making and deeply engaged relationships with students. This paper provides an overview of participatory design and student engagement with a detailed description of two parallel projects that implemented this approach. To conclude the paper, we share recommendations for implementing participatory design as a method for cultivating student engagement in the library.

## Background and Context: Student Engagement, Participatory Design, and Assessment

Our project of participatory design and student engagement is underpinned by three intersecting areas: student engagement and inclusion, participatory design, and critical library assessment. We provide an overview of each area below, along with a synthesis of these three interconnected areas. In short, we posit participatory design as an effective approach for 1) critically addressing the existing status quo of library decision-making that often does not involve users, and 2) cultivating meaningful student engagement in the library. Ultimately, participatory design can be applied as a method for cultivating meaningful student engagement experiences in the library.

## Student Engagement & Inclusion

For over seventy years, higher education has talked about the student engagement construct (Kuh, 2009). Scholars and educators have discovered that when students devote significant time, energy, and motivation in work, activities, or experiences outside of the classroom, they are more likely to graduate from the institution, build stronger relationships with faculty, staff, and their peers, and have meaningful educational experiences. A crucial part of this construct is the institutional commitment to creating these experiences and providing the necessary resources (personnel, funding, time) to ensure a structured, scaffolded, and meaningful opportunity (Groccia, 2018; Kuh, 2009). Examples of student engagement include undergraduate research, internships, service learning, and study abroad.

Institutions often have their own definitions of what counts as student engagement (Vuroi, 2014), and might use a scale such as the National Survey of Student Engagement (NSSE) to measure how successfully they are offering these opportunities. In addition, the Association of American Colleges and Universities (AAC&U) has identified “high-impact practices,” opportunities that promote retention and student engagement (Kuh, 2008). These activities include the student engagement examples listed above as well as learning communities, first-year seminars, common intellectual experiences, and writing-intensive courses. A *Journal of Radical Librarianship*, 9 (2023) pp.11–47

common thread between these experiences is that they share six common characteristics (Kuh, 2008):

- Time and effort
- Faculty and peer interaction
- Diversity
- Formal and informal feedback
- Integration, synthesis, and application
- Connection

Knowing these characteristics can assist in developing, enhancing, and providing student engagement opportunities. Student engagement opportunities that utilize these characteristics have a stronger chance of impacting the students and ensuring the student gets the most out of this experience.

Beyond the behavioral aspects of student engagement, scholars have also begun to identify the cognitive and psychosocial elements that also contribute to these experiences. Kahu and Nelson (2018) present a concept where the student engagement experience is influenced by the structural and psychosocial influences of both the university and the student. They propose an educational interface (the experience itself), which is “[...] a dynamic place where students live and learn -- formed by the interplay between student characteristics and university practices” (Kahu et al., 2017, p. 56). This experience creates immediate and long-term outcomes for the student, and this whole process is influenced by the sociocultural context of the time. This framework is helpful in understanding how students get involved with student engagement experiences and the other structures, contexts, and dynamics that might make it easier or more difficult for a student to engage in this space.

When reviewing the scholars who have laid the foundation for student engagement, many represent the dominant racial and gender perspectives of white men who talk about this concept through a “raceless approach” (Harris et al., 2018, p. 138). Despite claiming racelessness, this “colorblind” approach to student engagement erases the experiences and needs of students of color who possess distinctive cultural and racial identities. Through data collected from the NSSE, studies have shown that engagement differs between white students and students of color, including multiracial students (Finley & McNair, 2013; Kuh, 2008; Harris, et al., 2018). Other research suggests that students of color use so much of their time, energy, and resources confronting racism and expending their labor for activism that they are not able to pursue traditional student engagement experiences (Givens, 2016; Linder et al., 2019). As national attention has re-focused on the work of student activists, institutions could do more to support and recognize this work as student engagement. This support will need institutions to understand and engage in a more power-conscious, intersectional framework to support and mentor student activists (Linder, 2019). More research should be done that centers students of color, pays attention to the “minority tax” that pushes students of color to balance their school with their activism (Amuzie & Jia, 2021) and understands their experiences within higher education and participation in student engagement opportunities.

Part of the complication of the limited view of non-white students within student engagement is the larger discussion in higher education that has focused on deficit thinking and how institutions privilege those who have parents who attended college. Within this mindset, students of color are seen as lacking, and any failure they experience is due to their internal deficits, not due to institutional barriers and failures (Picower, 2009; Tewell, 2020; Valencia, 1997). To combat deficit thinking, higher education can look towards concepts such as culturally relevant pedagogy or strengths-based thinking, where we value the experiences that our students bring to us and allow them to maintain and further develop those identities and experiences (Foster, 2018; Heinbach et al., 2019; Ladson-Billings, 1995). If our student engagement practices are not reflecting our students of color, for example, we should work towards making the necessary changes to ensure our students are supported and heard in these experiences.

Considering the context for student engagement and its challenges, how can libraries support these opportunities and create a space for distinctive populations of students to use their voice? In what ways can libraries center different student voices that not only provides a student engagement experience, but also improves the overall services and resources available in the library? From this point of inquiry, we turn to participatory design as one possible approach for cultivating meaningful student engagement experiences in the library.

## **Participatory Design**

Participatory Design (PD) is a methodology for collaborative decision-making among diverse stakeholders. Through this process, participants work as equals to cultivate a co-creative environment of mutual learning, power sharing, and equity, with the objective of advancing together toward shared goals. PD is motivated by practical and political factors. Practically, PD projects typically aim to co-design a product or service, guided democratically by input from a variety of stakeholders. Politically, PD is committed to ensuring that the voices of traditionally marginalized communities are heard and heeded in the decision-making processes that affect them (Robertson & Simonsen, 2013). PD is rooted in the social democratic culture of 1970s Scandinavia. Early projects that showcase the ethical grounding of PD include the DEMOS project, in which Swedish computer scientists, sociologists, economists, and engineers collaborated with workers and trade union representatives from local newspapers, locomotive repair shops, metal factories, and department stores to co-design a new computer system across these industries (Ehn, 1993). Similarly, the FLORENCE project brought together Norwegian computer scientists and anthropologists with local hospital nurses to prototype and design a new computer system that the nurses would use in their daily work (Bjerknes & Bratteteig, 1987). In the FLORENCE project, the nurses were able to recognize their voice in the final design as it was an implementation of their own prototype. By focusing on workers whose voices were not conventionally heard in decision-making processes, DEMOS and FLORENCE demonstrated the inclusive purpose and liberatory potential of participatory design (Kensing & Greenbaum, 2013).

As a methodology concerned with justice and the empowerment of traditionally disempowered populations, participatory design is well suited for working with

diverse and distinct populations. Examples of participatory design projects that involve distinctive groups include aging populations (Leong & Robertson, 2016), youth (Kia-Keating et al., 2017; Parsai et al., 2011), disabled persons (Hendrikset al., 2013; Hendriks et al., 2015), urban citizens (Gooch et al., 2018), transfer students (Whang et al., 2017), and Indigenous peoples (Grant, et al., 2010; Thorpe, 2019). In the context of libraries, participation has been recognized for its potential to transform and deepen library engagement with users (Delaney & Bates, 2015), particularly with a view towards librarians serving as agents of social activism in solidarity with their communities (Bats, 2016). The practice of PD has been applied in libraries toward web and technology services (Costantino et al., 2014; Wood & Kompare, 2018), online search interfaces (Buck & Nichols, 2012), virtual and chat reference (Shah et al., 2015), space design (Dalsgaard & Eriksson, 2013; ; Santos, Ali, & Hill, 2016; Watkins & Kuglitsch, 2015), information literacy (Greyson et al., 2017; Yost, 2018), and user engagement (Dindler et al., 2016; Gröschel et al., 2018).

Participatory design shares similarities with related approaches such as service design and design thinking. It will be helpful to briefly discuss these approaches to orient participatory design within this landscape. Service design is methodology that aims to deliver high-quality library services by including all relevant stakeholders in a process of design and assessment (Marquez & Downey, 2016). Participatory design and service design share tools, such as journey mapping, but service design includes further tools that do not strictly involve users, such as service blueprinting. Service design and participatory design thus differ mainly in that participatory design is characterized by the involvement and empowerment of users. In recent years, the concept of design thinking has also gained prominence in our professional practice (Meier & Miller, 2016). Design thinking relates to participatory design in that it shares a similar lifecycle, described by the Nielsen Norman Group as Understand, Explore, Materialize (Gibbons, 2018). Service design and design thinking have been intertwined to produce “service design thinking”—a process that seeks to involve users in holistically improving a library’s service ecosystem (Luca & Ulyannikova, 2020). Such approaches show the interrelatedness of different design approaches.

Service design and design thinking are just two examples of an expansive network of approaches that involve participatory methods in varying degrees (Guía et al., 2017). Within this wider context, participatory design is distinguished by its historical roots in trade unions and the democratic process in Scandinavia, and by its central purpose of directly involving the users of a service in the creation of that service. By empowering users as co-creators, participatory design is further distinguished by an engagement with social justice. Socially-engaged and politically-aware approaches find further intersections with critical assessment practices, described in more detail in the following section.

## **Critical Library Assessment**

Critical assessment of library services is an emerging area of theory and practice, in which the assessment practitioner turns a critical eye towards the standard practices of assessment, noting for example the capitalistic motivations of value-oriented assessment, the overrepresentation of quantitative measures, and the urge to implement immediate service improvements. The critical assessment practitioner

works to realize the core values of librarianship, especially democracy, diversity, and social responsibility. With these principles as a foundation, critical assessment proceeds with a view towards anti-racism, power sharing, and social justice, utilizing techniques such as self-reflection, inclusive recruitment, ethnographies, and participatory practices with diverse stakeholders (Magnus, Belanger, & Faber, 2018).

Participatory and reflective approaches are two aspects of critical assessment. Whereas traditional assessment practices typically involve one-way, quantitative data gathering in a process ultimately controlled by a library professional, critical assessment encourages a community-based, qualitative, human-centered approach that engages stakeholders as equals throughout the assessment lifecycle. For example, McCartin & Dineen (2018) detail a critical assessment practice that engages students in the assessment of their own learning. For critical assessment, the growth-oriented act of self-reflection becomes a legitimate tool (Graf & Harris, 2016; Sen & McKinney, 2014). Such qualitative, reflective, participatory approaches are definitional for critical assessment.

As an additional dimension of participation, critical assessment engages existing tensions in power relations that are present in assessment practice with a view toward a more inclusive assessment practice (Magnus et al., 2019). Inclusive methods for engaging distinctive communities, for example, can be seen in the photo-elicitation project from Neurohr & Bailey (2016), who engaged Native American students in assessing library experiences through image-based, qualitative discussion sessions. Similarly, Tewell (2019) applied a Photovoice, a participatory method that combines photography, interviews, and group discussion, in the assessment of reference services involving students with marginalized identities.

The values-orientation of critical assessment can be seen through the Humane Metrics Initiative (HuMetricsHSS, 2019), an assessment framework for humanities scholars that seeks to evaluate scholarly impact based on the realization of six values: collegiality, quality, access, equity, openness, and community. As an initiative that critically interrogates the status quo of assessment by developing alternative models based on qualitative, values-based approaches, HuMetricsHSS represents a leading critical assessment approach. Other critical assessment practitioners actively interweave cross-disciplinary approaches in developing new assessment techniques, as with Douglas et al. (2018), who apply Relational-Cultural Theory as a method for assessing and reflecting on an ethic of care, empathy, connection, and relationship-building in librarianship.

Critical assessment provides the motivation and direction for developing a participatory design and student engagement practice that is principled, qualitative, inclusive, and justice-oriented. The projects described in the rest of the paper showcase a novel synthesis of student engagement, participatory design, and critical library assessment.

## **Participatory Design and Student Engagement in Practice**

In our case studies below, we describe two participatory design projects. The first

case study involves Native American students at Montana State University (MSU), and the second involves first-generation students at the Pennsylvania State University, University Park campus (PSU). Our two case studies follow the same structure, and we present the case studies together in this article to demonstrate the applicability of the participatory design process in different institutional settings and involving different user populations. In this article, we build upon our prior research (Young & Brownotter 2018; Young et al., 2019) by presenting our case studies with new detail and analysis, focusing on the adaptability of participatory approaches for designing services and engaging students from distinctive populations.

## **Project Background**

Our dual case studies were motivated by a desire for both project teams to practice and apply participatory design. The MSU project was called “UXUP: User Experience with Underrepresented Populations.” The PSU project was called “UX1G: User Experience with First-Generation Students.” UXUP took place during the spring 2017 academic term, and UX1G took place in the spring 2018 academic term. Both project teams met with their respective students for 10 sessions, each session an hour in length. The time sequence allowed our two project teams to follow an asynchronous parallel design process, defined as follows: “With the parallel design technique, several people create an initial design from the same set of requirements. Each designer works independently and, when finished, shares his or her concepts with the group. Then, the design team considers each solution, and each designer uses the best ideas to further improve their own solution” (Assistant Secretary for Public Affairs, 2014). The UX1G team followed the same overall process of UXUP. Once completed, the two design teams discussed our independent but shared process, leading ultimately to new practical insights about participatory design in libraries.

### **UXUP: User Experience with Underrepresented Populations**

The UXUP project involved Native American students at MSU. Native American students comprise 5% of the student population at MSU and are an important strategic focus of the institution.<sup>1</sup> Consequently, the university makes funds available for projects that involve and support Native student success. UXUP was initiated in response to an internal grant program from the Office of the Provost focusing on recruitment and retention of Native students. As a participatory project that had students and professionals to work alongside and with each other, UXUP was envisioned to improve Native student success by creating library services with and for Native students. In terms of group composition, UXUP was comprised of one librarian facilitator and four undergraduate student participants, with one student participant also serving as a student lead and co-facilitator. Participants were recruited via the American Indian Center, a central hub on campus for Indigenous student support. For compensation, participants were hired as student employees and paid an hourly wage for their time working on the project.

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<sup>1</sup> For more information related to enrollment:  
<http://www.montana.edu/opa/nativeamerican/nativeenrollment.html>  
*Journal of Radical Librarianship*, 9 (2023) pp.11–47

## UX1G: User Experience with First-Generation Populations

The UX1G project involved first-generation students at PSU.<sup>2</sup> Based on results from a 2016 Ithaca survey, PSU's Libraries Assessment department noticed differences between first-generation and non-first-generation undergraduate students in their use and perception of the library. A team was formed at the University Park campus to investigate why that difference existed. Further motivation for engaging first-generation students related to the specific barriers that first-generation students are known to face in higher education (Arch & Gilman, 2019). Using the team's connections with partners across the campus, six first-generation students were selected for this project. This group of six, along with two librarian facilitators each session, met twice a week for five weeks during the spring semester in 2018. Participants were recruited via university listservs. Interested students filled out a questionnaire that determined which students were invited to be part of the project. Each student was compensated with \$10 cash for each individual session, plus a bonus of \$50 for attending all 10 sessions.

### Overview of the Participatory Design Process

Our participatory design process features three main stages: Investigation, Generation, and Evaluation. A sequence of participatory activities is completed within each stage. In these activities, participants work together to articulate the landscape of the student experience, identify problems or issues, determine the right problem to focus on, generate different solutions or ideas in response to the problems, and finally co-create an outcome by deciding together which idea is the most feasible and impactful. The process involves mutual learning, equal recognition of expertise among participants, and an ethic of care where participants engage deeply with one another and build social bonds by co-creatively expressing ideas for a better future.

Participatory design is characterized by the application of tools and techniques to encourage active engagement (Kensing & Greenbaum, 2013, p. 33). In the following sections, we refer to participatory tools and techniques collectively as *activities*. Our activities are drawn from a number of different design resources, and we apply the activities in a workshop setting with participants. We present our workshop case studies and activities in this paper as a blueprint for further practice. We recommend three key resources that provide the source material for adopting or adapting participatory activities:

- 75 Tools for Creative Thinking, <http://75toolsforcreativethinking.com/>
- Design Method Kit, <https://toolkits.dss.cloud/design/>
- Gamestorming, <https://gamestorming.com/>

Furthermore, using assessment practices throughout the duration of the project can help capture the experience of the participants and facilitators, evaluate the type and extent of participation, advance group relationship-building, explore new concepts,

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<sup>2</sup> Penn State defines first-generation students as someone whose immediate parents or legal guardians have not received a baccalaureate degree. For more information see: <https://success.psu.edu/first-generation-psu>  
*Journal of Radical Librarianship*, 9 (2023) pp.11–47



and spur conversation. In-process assessments include session recordings, design artifacts, and self-reflections on the activities and group dynamics. At the conclusion of each session, for example, a version of a “one minute paper” can be applied as a formative assessment to evaluate participant likes, dislikes, and surprises. All these pieces can be used to ensure that the student voice is uplifted and meaningfully integrated as an essential factor for co-determining the direction of the project.

## Detailed Description of the Participatory Process: Two Case Studies in Action

In the following sections, we provide practical walkthroughs of the participatory process for our two projects. The walkthrough is organized by the three stages of the design process. To help illustrate the process, we include descriptions of representative activities, data gathered via the activities, and assessment questions. Table 1 provides an overview of the process.

Table 1. Participatory design process overview

Design Stage	Purpose	Data Gathered	Key Assessment Questions
Investigation	Build trust; understand perspectives; develop rapport.	Getting-to-know-you information about the daily life of participants; general experiences in the library	Have we developed a rapport and established trust? Do we have a shared sense of the library and of potential problem areas to address?
Generation	Generating ideas based on the problems or key themes identified in the first stage.	Evidence that points to the most critical problems to address and the potential solutions; at least one practical outcome to evaluate in the next stage.	Do we have ideas for new services or products that we think are practical and have the potential to be implemented?

Evaluation	Reviewing ideas generated in prior stages; selecting the best ideas	Ranking data for different ideas; implementation planning	Do we have enough information about an idea to make it a reality?
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We would like to note that there is no set number of activities for each stage, and there is no predetermined point for moving to a new stage. The sequence of stages offers a general structure for approaching a participatory design project, with flexibility within the structure for adapting to different needs, such as time constraints. To help practitioners in deciding when to conclude a stage and move ahead in the process, we provide guidance in each subsection below for knowing when to move from one stage to the next. Facilitators should feel empowered to move within and between stages in collaboration with participants. Specific answers and directions are determined with each unique group of participants.

Our two case studies follow the three-stage process of investigating, generating, and evaluating. Within that process, our case studies each apply a similar sequence of activities, based on a parallel design model. We discuss our two case studies together in a single thread below, and we present evidence from participants side-by-side, referring to our two case studies—UXUP and UX1G—as we move through the process. We discuss our case studies together as a demonstration of the applicability of the three-stage design structure for different settings and populations.

### **Stage 1: Investigation**

Activities in this first *investigation stage* helped participants understand each other, the library, and the problems associated with participants' library experiences. The activities of the investigation stage work well together, in a variety of ways, and can work for almost any group. These activities allow participants and facilitators to form connections, discover similarities, and get to know one another, which in turn allows for deeper conversations, honest opinions, and valuable insight for the later stages.

#### **Activity: The Great Pie**

In this activity, participants are asked to reflect on how they spent their time in school, work, and leisure activities (Figure 1).

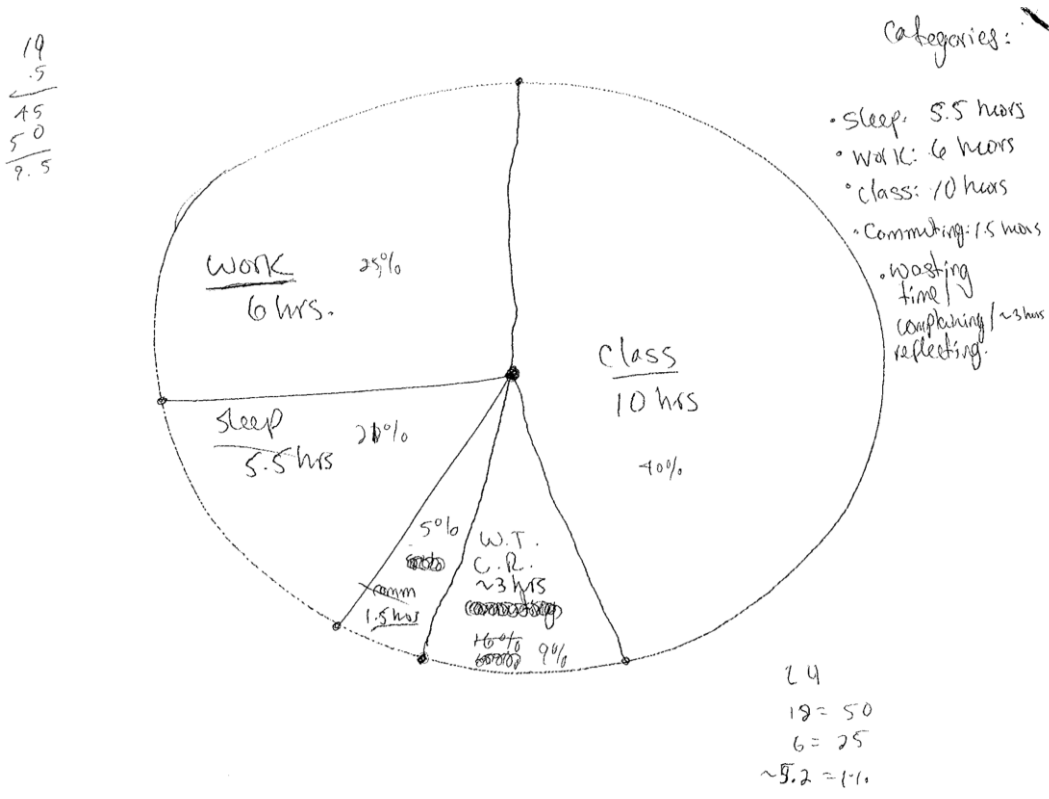
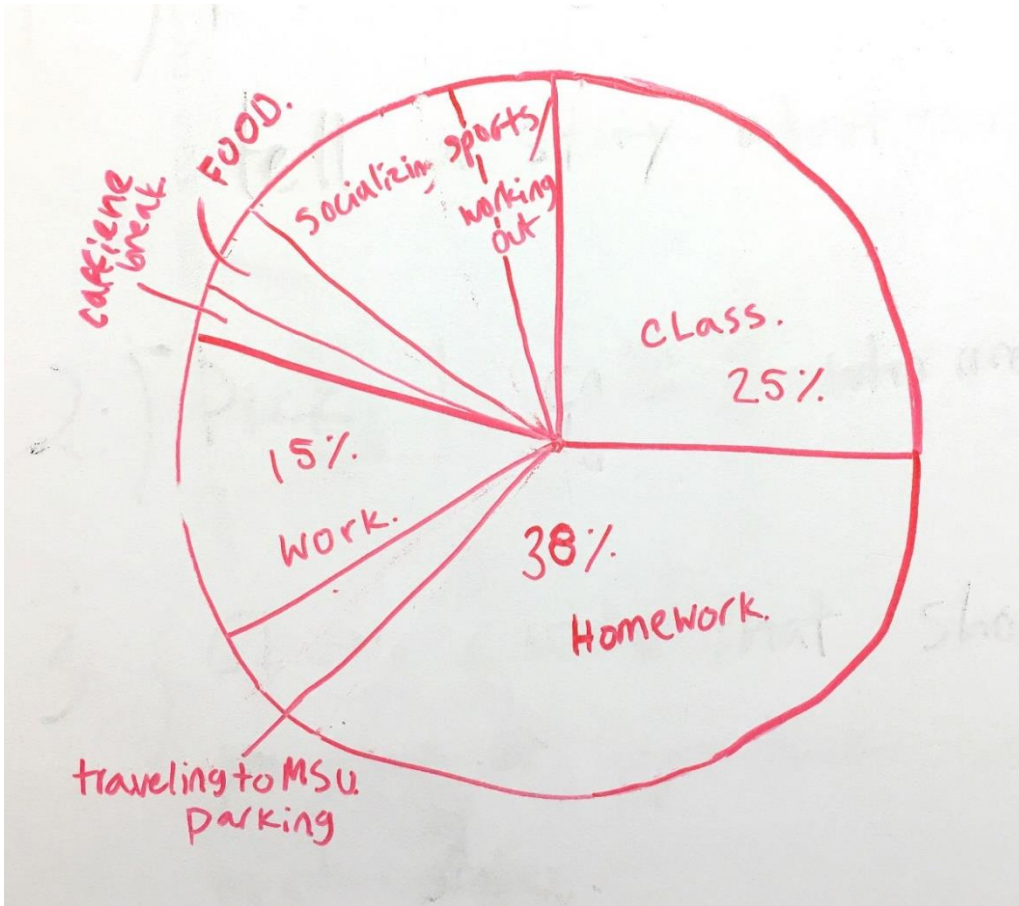


Figure 1. *The Great Pie*, UXUP (top) and UX1G (bottom). In this exercise, participants build rapport and trust by sharing a break-down of their daily activities.

*The Great Pie* activity allows participants to connect in a low-stakes way, in the sense that the activity is scoped around describing daily activities that present lower risks of disclosure. For this reason, *The Great Pie* is suitable for the early stages of developing trust and rapport among participants. This activity became a way to see how the participants thought about their days, some were very precise with the division of activities, while others said they spent 50% of their time on school and 50% of their time on something else.

### Activity: Vision Cards

To deepen the bonds of the group, a *vision card* activity can be an effective way to allow participants to share personal experiences about themselves or their feelings around the library. There are multiple types of vision decks available; regardless of the deck, participants interpret the cards and shape them into their own narrative. Introducing a vision card activity following *The Great Pie* can help participants build a sense of each other as it relates to the main topic.

In one vision card exercise, UXUP participants selected a few cards that depicted how they viewed the library (Figure 2). One participant selected three cards showing that the library was a little drab, a little bland, and not very inspiring. Then after this, UXUP participants selected a few cards that showed how they wanted the library to be: dynamic, vibrant, blossoming, and full of possibility.



Figure 2. *Vision Cards*, UXUP. In this exercise, participants selected three cards that represented the current library experience (left image) and three cards that represented a desired library experience (right). This exercise continues the social bonding process and begins to reveal problem areas in the participants' experience of the library. The photographs on these cards were taken by Elizabeth Scott, Brighter Strategies (image used with permission from author).

For UX1G, an entire session was spent using the vision cards. The group used *Intuiti Creative Cards*, which are based around tarot archetypes and provide many opportunities for creative thinking. The first prompt asked the participants to tell a story with cards they selected. For example, one participant told the story of a mission to find a plant with healing powers (Figure 3). In a follow-up prompt, participants were asked to pick three cards: one card to represent where they were right now; another card to represent who they wanted to be, and the final card to show how the participant would get to that future state.



Figure 3. *Vision Cards*, UX1G. This exercise provides an open-ended prompt for participants to share their perspectives and make shared connections. Cards are from the *Intuiti Creative Cards* (di Pascale, 2013). Image used with permission from Sefiot Srl.

Open-ended prompts demonstrated by the *vision cards* show the importance of this early stage of the design process, as they provide a way for participants to build social bonds and to become comfortable with each other and the creative process. Exercises with the vision cards can also be scaffolded to prompt continually deeper insights. These creative storytelling exercises function to establish an environment where participants can share motivations and perspectives, which in turn unlocks insight into their experiences on campus and in the library. The trust and insight developed in the *investigation stage* set a foundation for generating new ideas in the subsequent stages of the design process.

## Assessment and Moving Forward

There are a few key assessment questions that can help guide progress from stage 1 to stage 2. Activities like *The Great Pie* and *vision cards* produce evidence of participant perspectives, background, and future aims and goals. The *investigation stage* concludes when the group feels a sense of saturation from the activities, and when the group has a strong sense of the problem area. The group should be



comfortable with one another, and perhaps the participants will have shared aspects of their personal experiences that might help propel you into discussion about the problem at hand. In the case of UXUP, the group dynamic coalesced quickly and participants identified a shared problem area that related to the emotional experience of using the library including feelings of being welcome or unwelcome in the library space as students with Indigenous cultural identities. The vision card activity helped generate a dialogue that revealed this critical aspect of the students' library experience. Ways to know if it's time to move on can be as simple as checking in with the participants, and if they say things around "I feel comfortable" or "we're starting to see things together" or "I didn't expect to get so close with the other students," you can feel confident it is time to move onto the next stage.

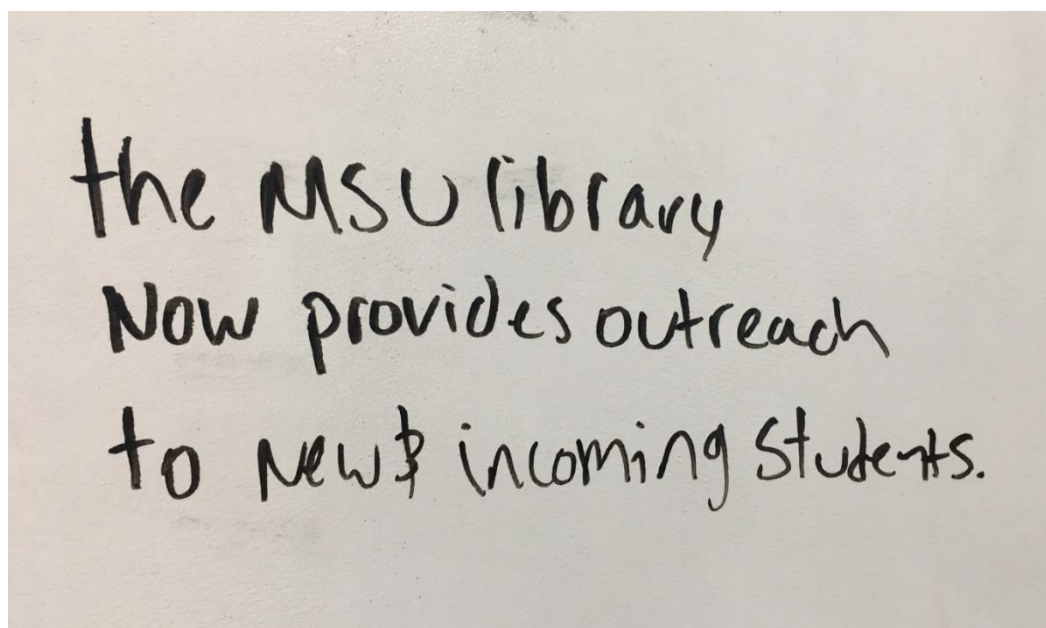
## **Stage 2: Generation**

Activities in the *generation stage* of the process function to generate ideas in response to the key themes and problems identified in the first stage. For our participants, these ideas were meant to find solutions or improvements to the participants' experience of the library. This stage builds on the foundation of safety and rapport that is established in the investigation stage. When beginning this stage, the group will have a broad focus as they brainstorm many ways forward. As this stage continues, the group will narrow down to a practical solution or outcome that can be evaluated in the final stage. There is no one "right" choice here, since it is dependent on the unique needs and desires of the group.

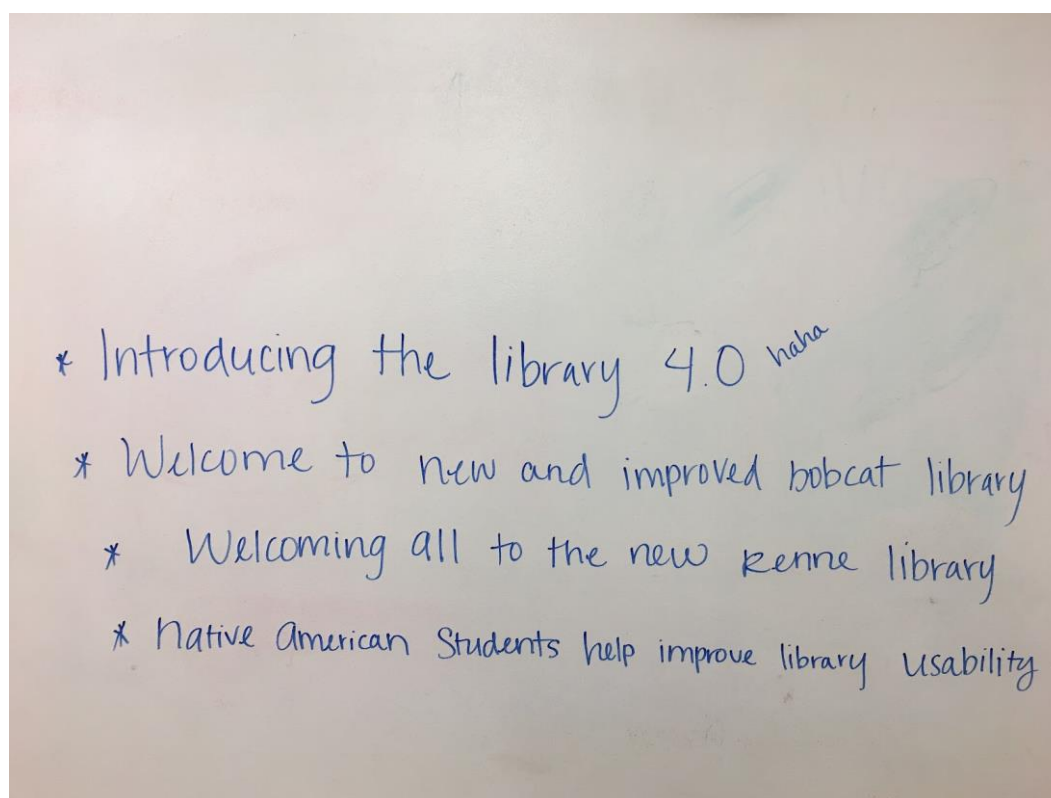
### **Activity: Predict Next Year's Headlines**

The *Predict Next Year's Headlines* activity is designed to reveal possibilities for where a project could be headed, and what would need to be accomplished to achieve shared goals. This activity also allows group members to better understand each other's goals, and to co-determine project outcomes. Participants are given the following prompt: "Imagine ahead into the future, after this project is completed. If your university were to issue a press release on the project, what would the headline say?" This exercise allows each participant to creatively identify a desired future outcomes and goals. With these potential futures articulated through the activity, the group members can come together and begin to think backwards on how to achieve those headlines.

In the UXUP group, one participant offered four possibilities for future outcomes of the project, while another participant expressed a single interest in library outreach programming (Figure 4).



the MSU library  
Now provides outreach  
to new & incoming students.



- \* Introducing the library 4.0 <sup>haha</sup>
- \* Welcome to new and improved bobcat library
- \* Welcoming all to the new Kenne library
- \* Native American Students help improve library usability

Figure 4 *Predict Next Year's Headlines, UXUP*. This exercise asks participants to imagine future outcomes for the participatory process.

After all the participants shared their headlines, the group talked together about which headlines represented the most desirable or impactful outcomes. The conversation around this exercise helped define a shared understanding of the

*Journal of Radical Librarianship*, 9 (2023) pp.11–47

potential project goals.

For UX1G, the participants identified a headline around new library services (Figure 5). From the collection of headlines, participants communicated an interest in space, learning types and needs, collections, and outreach. This showed facilitators that while the participants were thinking about the libraries in a variety of ways, each headline focused on promoting a service that was perhaps more hidden than the libraries would have liked. Within the group, some students were aware of services and resources offered by the library and others were hearing about these opportunities for the first time. As the group thought about the collective first-generation student population, the idea of raising awareness of library services and support became a common thread in this project.

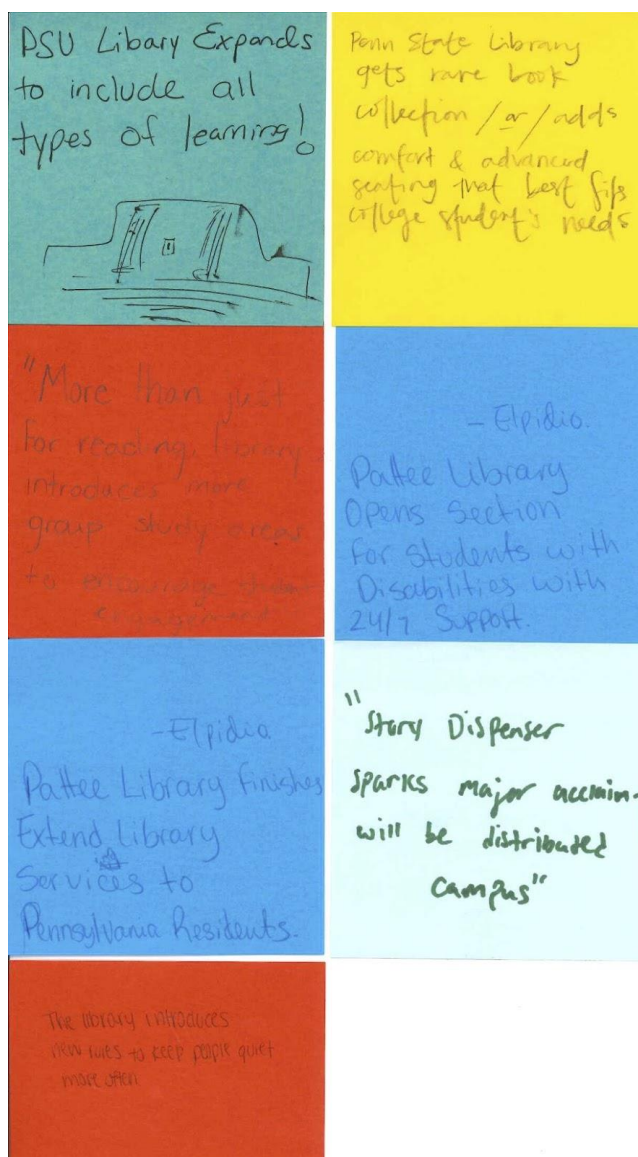


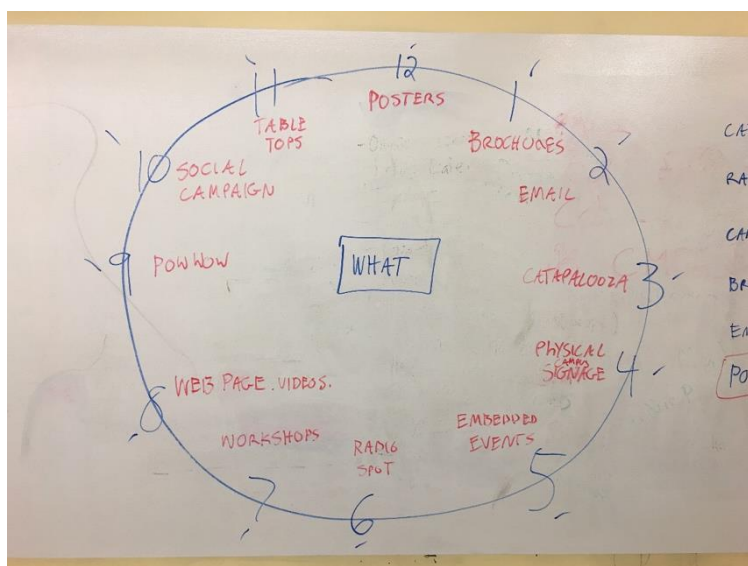
Figure 5. Predict Next Year's Headlines, UX1G.



## Activity: Clockwise

The *Clockwise* activity can be a great bridge between the *generation stage* and *evaluation stage*. This activity can be completed once your group has generated at least 12 ideas through conversations and previous activities such as *Predict Next Year's Headlines*. With 12 ideas, the group places each idea around the edge of a circle in the style of a clock face. Participants roll a die and randomly combine two ideas together. By being asked to creatively think of ways to put ideas together, the group can envision new ideas and possibilities. This remixing of ideas can lead to clever and innovative solutions to the problem or theme.

For UXUP, the group decided to build on the idea of library outreach identified through *Predict Next Year's Headlines*. Using the results from the Headlines activity as direction, participants nominated 12 ideas for library outreach, such as brochures, email, posters, and a social media campaign. The 12 ideas are placed around the clock face, with the mixed-and-matched ideas written alongside (Figure 6).



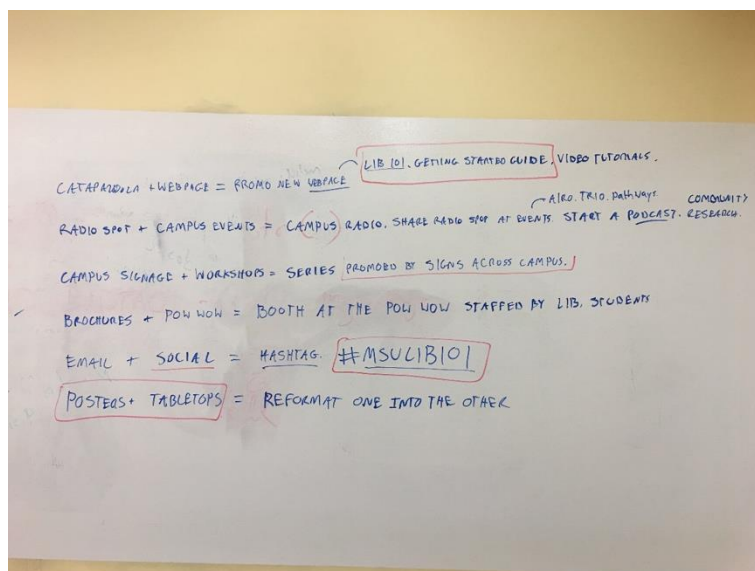


Figure 6. *Clockwise*, UXUP. In this exercise, participants brainstorm a set of ideas and then mix-and-match to generate new and unexpected juxtapositions.

For example, a roll of 1 and a roll of 9 brought together brochures and powwows. The group then discussed what this combination would look like: a booth at the annual campus powwow event staffed by library students. This exercise of randomly merging separate ideas provides an opportunity for unexpected and serendipitous revelations. For UXUP, talking through a number of new ideas led the group to intentionally combine the ideas of a poster series and social media campaign. This provided a launching point for the final stage of the design process, described in the following *evaluation stage*.

From UX1G's *Clockwise* activity, the group used a prompt to first generate ideas for the clock itself. The prompt was developed in response to the data produced through previous activities such as the *vision cards* and *Predict Next Year's Headlines*. It read: "There's a ton of stuff available in the libraries. By not knowing what's available we end up missing out on taking advantage of library spaces, resources, and services that could help us." From those brainstormed ideas, participants combined them together to envision even more ways forward (Figure 7). These ideas provided the foundation for the final *evaluation stage*.

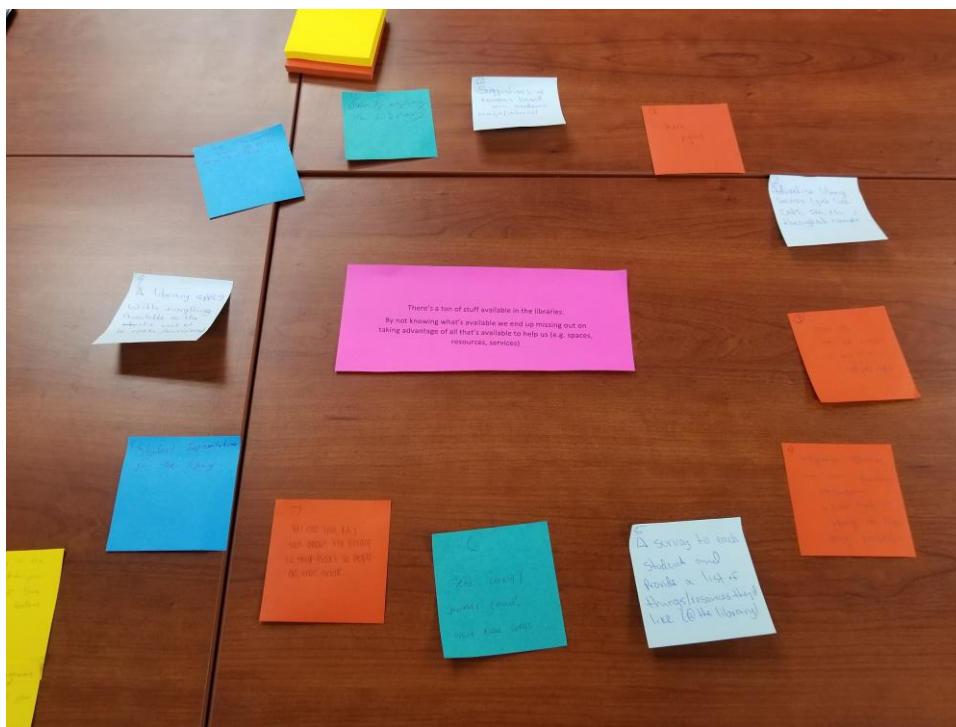


Figure 7. Clockwise, UX1G

## Assessment and Moving Forward

In this stage, the key question to ask is “Do we have enough ideas that we want to evaluate?” or “Have we produced ideas that are exciting and feasible?” Similar to the *investigation stage*, at the end of this stage, you will begin to feel a saturation of ideas. You are especially looking for when the group begins to rally behind an idea and this idea continues to pop up in your conversations. This signals that the group is passionate about the idea and is motivated to move forward—exactly the kind of energy you want as you move into the *evaluation stage*. If there is some divide among the group with the ideas, at the very least you will want to feel confident that you have enough ideas on the table that one or more could move forward. Again, you could move forward with just one idea or a couple, but regardless, the motivated energy of the group is an important signal for progress.

As a facilitator, the one thing to be aware of in this stage is your role and power. Since you have insider knowledge of your organization and what might or might not work, you will want to balance those priorities with the student’s passion. Ultimately, you want to move forward ideas that are feasible and desirable in your institution, but also ideas that amplify the group’s motivations and desires. This can be a tricky situation to find yourself in. You might be trying to challenge the organization but also want to make sure the ideas being put forward can actually happen in a meaningful way. We encourage you to talk through any challenges you see with colleagues and the student participants themselves to come up with an approach if you feel like you’re in a difficult spot with the student ideas and your organizational constraints.

### Stage 3: Evaluation

In the third stage of the design process—evaluation—activities are sequenced to help the group arrive at a co-determined endpoint. The endpoint will look different based on the different needs and direction of a particular group. Our experiences with UXUP and UX1G demonstrate this difference. The participants of UXUP were motivated and ready to select one new service idea to implement from the set of ideas produced during Stage 2. UXUP started Stage 3 with a new service idea selected via Clockwise—a promotional poster series with social media hashtag—and worked in the evaluation stage to refine that idea by selecting individual parts and aspects to be included in the poster series. Activities in Stage 3 were then focused around developing that one idea into action. The participants of UX1G, alternatively, focused their attention during Stage 3 on continuing to evaluate several ideas from Stage 2. In this approach, several ideas were evaluated and selected, with a few ideas moving forward for further consideration beyond the end of the project. Our two divergent experiences highlight the variations produced through an open-ended participatory design process.

#### Activity: Dot Voting

In a *Dot Voting* exercise, participants apply dots as a voting mechanism to identify the most desirable items from a list of possibilities. This activity demonstrates the evaluative function typical of Stage 3 activities. In the example from the UXUP group, participants chose to apply smiley faces in place of dots to communicate their selection (Figure 8).

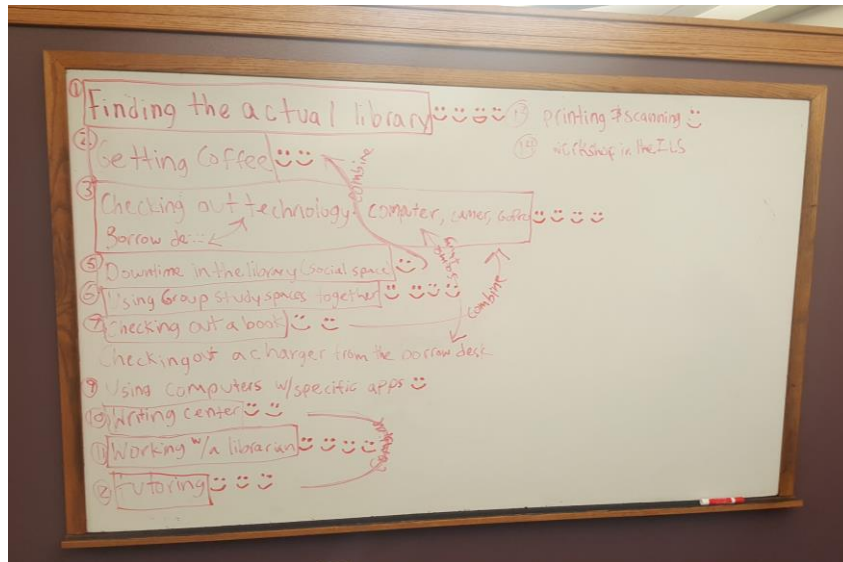


Figure 8. *Dot Voting*, UXUP. In this exercise, participants expressed their preferences among a set of options by voting with smiley faces.

The list contains several services that students could access in the library, such as getting coffee, checking out technology, and working with a librarian. Participants used the *Dot Voting* activity to select which actions would be included in the poster series. To complete the activity, each participant applied one “dot” to any service that should be included in the next step of the project. *Dot Voting* is a useful activity at the *Journal of Radical Librarianship*, 9 (2023) pp.11–47

*evaluation stage* because of the visibility of the votes (and in our case, the smiley dots amplified the visual engagement of the activity). With the “dots” on the board for the group to review together, participants can see the votes and discuss why different options received more or less votes. In this way, *Dot Voting* can help to democratically determine the various parts of a single idea.

## Activity: Checklist

For UX1G, the *Checklist* activity was used to explore some of the ideas the group had generated, all around leveraging the student voice. The two ideas we explored were visiting general education courses to promote the library and forming a library student club (Figure 9).

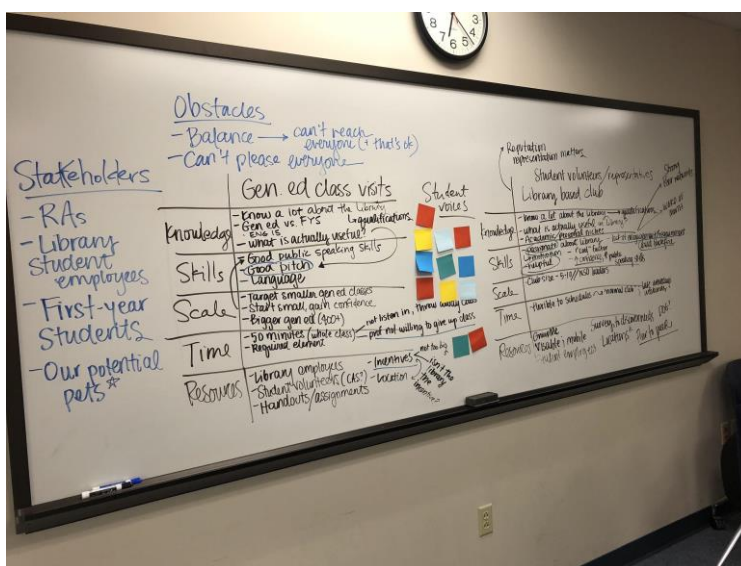


Figure 9. *Checklist*, UX1G. In this exercise, participants evaluated several different service ideas.

The group worked through these two ideas, identifying the knowledge, skills, scale, time, resources, stakeholders, and obstacles we might encounter along the way. For the general education course visit, the participants envisioned a scenario similar to the current library one-shot instruction sessions but focused more time and energy discussing the “pitch” than teaching information literacy skills. For them, if the library pitch was not engaging and exciting, they knew their peers would zone out. For the participants, going straight to general education courses was the way to reach the largest number of students, in the quickest way possible.

The second idea explored was creating a student club focused on promoting the library and all its services. The club would ideally be composed of a range of students, representing many different experiences at PSU. The student members could do a variety of things, such as providing feedback to the library, promoting the library services to their peers, or even going to courses to let students know about the library. Like the general education course visit, the students in this club needed the right “pitch,” and needed to be helpful, knowledgeable, and passionate about the library. The *Checklist* activity was appropriate for the *evaluation stage*, as it helped the participants of UX1G to add additional perspective and data on the new service



ideas that had been generated in prior stages.

## Assessment and Moving Forward

Determining an end point to a project involves considerations related to time and evidence. First, time constraints can naturally define a conclusion, in that a limited series of meetings or personnel budget can conclude the project. Working within those resource constraints, the second aspect considers the evidence produced during the project. Do the participants and facilitators feel that enough information about an idea has been produced so that the idea can become a reality? Does the evidence indicate that participation occurred through the process, and that participatory values were achieved? For the facilitator, has there been coordination with key partners who can influence the success of the idea? As an example, the UXUP facilitator connected with public service librarians and campus partners to ensure that the promotional posters could appear in public spaces. Ultimately, the conclusion of a project will depend on the unique needs and desires of the participants and of the ideas that the group produces together.

## Results

After following the parallel design process, our two groups produced two different results from the same sequence of activities. This represents the variable nature of design—following the same design process, two groups each went in their own directions.

The UXUP project produced a tangible design product: a seven-part promotional poster series with a social media hashtag. The poster series was designed by the participants to meet a need of the Native student community, namely, to communicate that the library can be a safe, productive place for studying and socializing. This need was identified as a problem in the *investigation stage*, with the idea for the poster identified as a solution in the *generation stage*. In the final *evaluation stage*, participants turned the poster idea into a reality. Participants first created paper prototypes of the posters (Figure 11), before creating a final design using the web service Canva (Figure 11). The full series of posters may be viewed at the following URL: <https://www.lib.montana.edu/about/msulib101/>.

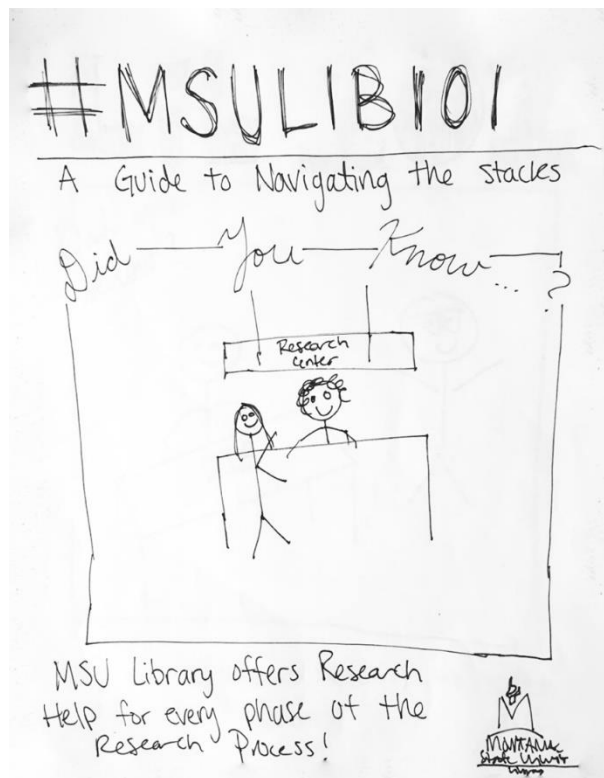


Figure 11. *Paper Prototyping, UXUP*. In this exercise, participants sketched potential layouts for the promotional poster series.

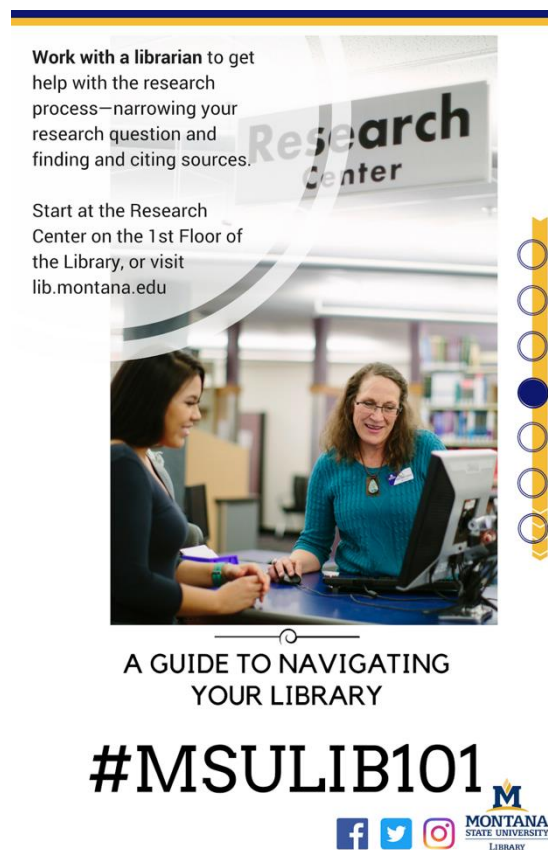


Figure 12. Final design product, UXUP, a promotional poster series to connect library services  
*Journal of Radical Librarianship*, 9 (2023) pp.11–47

with the university's Indigenous student population.

The posters work together as a sequential series that conveys a storyline of student activity through the library, beginning with finding the building on campus and ending with checking out technology. Each poster may also function independently to communicate a specific service. Importantly, the students appearing in the posters are the participants of the UXUP project themselves. In this way, the project participants are directly represented in the project outcome. This was an important aspect, as Native underrepresentation in the library was a primary issue identified by the student participants. In addition to supporting engagement and participation, the poster series was produced as one small contribution towards advancing Indigenous diversity and inclusion in our library.

The UX1G results were more abstract. The student participants gained a larger awareness of the library's services and resources, an awareness that they hopefully passed onto their peers. Additionally, UX1G produced a new awareness of the first-generation student experience for library employees, as well as a set of new library service ideas in support of the first-generation student community. These ideas were valuable to the facilitators because they revealed the underlying structures of the student library experience. For the six participants, the five weeks together uncovered a lot of new information on the library they did not know about. It also showed the facilitators that, as those with insider knowledge of the library, they sometimes do not unpack their assumptions and provide their students with the foundational level information they need around what the library can provide. The UX1G project shows how mutual learning occurs in a participatory design process; the facilitators were impacted just as much as the students participating in this experience.

The UX1G project helped the author responsible, Fargo, name some core values they would like to hold in their position. The results of working with the six first-generation students helped to re-focus their student-centered approach and some of the work they did with students in the libraries. For example, based on the conversations around the student club, Fargo implemented some of those values into the Libraries' Student Advisory Board they had within the Libraries. This included providing more information, such as organizational charts and background information, to the group, in order to make sure those students had a complete picture in order to provide meaningful feedback. By exposing the system, Fargo hoped that students would better understand the work of the Libraries and also be able to articulate that to their peers, building the network that the UX1G students had discussed.

For both UXUP and UX1G, the same process produced different practical outcomes. UXUP produced a fully implemented service design, while UX1G produced a set of specifications for potential service designs. Our two design processes also resulted in similar participatory outcomes, in that they both achieved a transformational student engagement experience through the practice of participation. Throughout the multi-week process, facilitators and participants recounted personal experiences, developed social relationships and trust, learned from one another, self-reflected, shared power in decision-making, and developed a new appreciation for institutional



constraints and cultural identities. In this way, the process itself becomes a valuable product. In convening people of diverse groups to work together towards a shared goal, we found participatory design to be a mutually beneficial approach for student engagement in libraries.

## Principles for a Values-based Practice of Participatory Design and Student Engagement

Articulating and following principles are an important element of participatory approaches. In our own experiences, we have worked to implement and enact values through our UXUP and UX1G projects. Drawing on the three areas discussed in the opening sections above—student engagement, participatory design, and critical library assessment—we would like to further mark the intersection of these three areas in moving towards a practice of participatory design and student engagement. In applying participatory design in libraries, we can create an experience where students’ voices are heard, and their insight leads directly to improvements, enhancements, or creation of new services within the library, with the parallel outcome of organizational empowerment for participants. This approach allows students to be a part of the process, instead of simply giving one-way feedback that the library interprets and acts on. This in turn becomes a student engagement opportunity where the student is devoting time, energy, and motivation to an experience the library has provided. We ensure that our work is not tokenizing or excluding our student voices or working from an institution-focused mindset and is instead empowering our users and co-creating new knowledge, services, relationships, and social impacts. Our experience leads us to believe that participatory practices can provide an inclusive framework for co-designing library services and improving the lives of participants by engaging with student voices and centering student goals, especially when those students are from distinctive or historically underrepresented populations.

In thinking about our participatory design process, we have articulated a set of values that guide this work: participation and power sharing, process as a product, transformative and reciprocal relationships, and critical self-reflection. Table 2 provides an overview of the terms and definitions.

Table 2. Values of Participatory Design and Student Engagement

Value	Definition
Participation and Power Sharing	<p>“A commitment to designing futures that challenge power relationships and transform patterns of exclusion and social injustice.” (Robertson &amp; Wagner 2013). Facilitators and participants are attuned to power imbalances—especially as they relate to cultural identities—and work towards a more just balance. Professional facilitators recognize the expertise of the student participants as equal to their own.</p>

Process as Product	The process of participation is an outcome unto itself. The integrity of the values-based process and the resulting social impact of participation is of equal importance to the practical products that result from a participatory project.
Transformative & Reciprocal Relationships	Inclusive, self-directed, sustained student-centered engagement—a participatory and socially-aware practice that moves student engagement beyond transactional so that libraries offer transformative, student-centered engagement experiences in the library. Stakeholders commit to sustained reciprocal relationships with a view toward improving the lives of all participants.
Critical Self-Reflection	Practicing assessment qualitatively and self-reflectively “in ways that are attentive to power dynamics and questions of equity and inclusivity.” (Magnus, Belanger, & Faber, 2018)

## Participation and Power Sharing

Participation and power sharing are two fundamental and encompassing values. In our work as professional librarians, we have the power to make decisions about library service design and assessment. We can share that power by bringing students into our decision-making processes, giving those students a voice, and having that voice matter for the designs and assessments of the services that students themselves use. For UXUP and UX1G, we attempted to model the values of participation and power sharing by working alongside students in the co-creation of new service ideas. We acknowledged that students are experts in their own situations and lived experiences—especially as Indigenous students, first-generation students, and others with distinctive identities—and that their unique perspectives are critical for designing library services and engagement opportunities that can support their success on campus.

We note that true power sharing is not easy or straightforward (Bratteteig & Wagner, 2012). Motivation for working to achieve this complicated value is threefold: improving knowledge through mutual learning; enabling all participants to develop an understanding of system constraints; and empowering participants by giving members of an organization the political opportunity to have a say in the decisions that affect them (Bjerknes & Bratteteig, 1995). By sharing our power as library professionals with the student participants, we can help ensure that the design products are representative of the participants and will serve a relevant need expressed by the participants themselves during the process.

Throughout this process, the student participants and the librarian facilitators learn from one another. The students had an opportunity to learn how the library works and build community with those around them experiencing similar situations, and they began to

learn about some of the librarians' constraints in implementing ideas at a university. As librarian facilitators, we learned how students see and use the library and had our assumptions challenged about what works and what is meaningful for our students. Through both projects, the authors felt transformed from our work with the student participants. In working so closely with a small group of students, we learned about their experiences in navigating life and academia, along with their thoughts on the library. Our day-to-day work is still influenced by this project and the ideas we learned from the participants.

### **The Process as a Product**

The participatory process can itself be a product (Bratteteig & Wagner, 2016). Our values are enacted through the process, and the realization of those values—including power sharing, caring, and self-reflection—is an important goal to strive toward. In this way, the social impacts related to student engagement and political empowerment that result from the participatory process can be understood as a project outcome. In addition to the practical products—such as the poster series produced by UXUP—the social relationships and empowerment that results from the practice of participation is a valuable political outcome on par with the practical outcomes. One UXUP student, for example, shared the following message after the project ended: “It was a joy working with everyone and to be able to be part of this amazing project.” In this message we see the student engagement and social value of the participatory process—the sense of being a part of a shared endeavor and working together in co-creation.

### **Transformative and Reciprocal Relationships**

The library can be a leader in creating space for student engagement opportunities through projects such as UXUP and UX1G. In creating these projects, we help to center the student voice and experience, while grounding the projects squarely within the library's domain. By moving away from transactional interactions with our students, we can collaborate deeply with our students in ways that produce material and social benefits. In building sustained, reciprocal relationships, the facilitators are transformed by understanding their students' day-to-days and the students are transformed as their definition and understanding of a library broadens. For example, in the UX1G group, a student reflected on their assumptions at the beginning of this project: “Okay, going into this you had me at \$10. That's the only thing I knew. I didn't even like know what the heck gamestorming was...I didn't realize it was about the library, I just thought it was at the library...” In this example, the student shares that their \$10 per-session compensation was initially their primary understanding of the project, yet after completing all the sessions, their understanding of both the project and the library now extends beyond a monetary transaction. This redefinition serves the students going forward and influences the way they think and use the library. Furthermore, by bringing students into the decision-making process of the library, we can model a more inclusive approach for designing library services that centers student voices. In turn, students can experience their perspectives as truly important to university professionals and institutional matters. Especially for students from historically underrepresented groups, this can positively impact not only library usage, but feelings of belonging and academic success.

### **Critical Self-Reflection**

*Journal of Radical Librarianship*, 9 (2023) pp.11–47

In building these projects, we were intentional and reflective in our approach. We know that sometimes in our scholarly conversations, student experiences and voices are missing, especially from non-majority populations. As we put together these projects, we used our knowledge of our institutions to identify the key student voices we wanted to leverage and amplify.

We also took a slow-paced, qualitative approach to this work, that included regular reflection-in-action. We believed that we needed to be practicing assessment qualitatively and self-reflectively “in ways that are attentive to power dynamics and questions of equity and inclusivity” (Magnus, Belanger, & Faber, 2018). In examining those power dynamics, we needed to ask ourselves what we, as facilitators, needed to do this work well and with intention. This meant that we had to reflect, identify and articulate our positionality, and think about how that would influence our interactions. As we continued throughout the process, we reflected after sessions, once again to be aware of our positionality and the dynamics that were happening within the group. For example, Fargo would keep regular reflections after each session. They began to identify the dynamics within the group and that in turn, influenced how they facilitated and how they found new ways to make sure all the students in the group had a chance to speak and participate.

## Practical Recommendations for Implementing Participatory Practices

To help get started practicing participation, we provide an overview of a few key areas of concern for implementing participatory projects: recruitment, assessment, and sustainability. We further provide a getting-started checklist for guiding practical implementation, available in the appendix.

### Finding the Right Team

An important element of a participatory project is that the students selected will be the core, essential factor in co-creating knowledge and generating new ideas. One aspect to consider is the ways in which participants are recruited. In working with underrepresented populations, consider how students are organized and recognized on campus, and if there are existing units or offices that can provide connections to relevant groups. And to understand the nuances of the recruitment process, it is crucial to build a facilitator team with relevant expertise and cultural background or competencies.

- Recommendation: Assemble a facilitator team that has existing relationships with the user population that will be involved on the project; be attuned to any relevant cultural protocols when recruiting and collaborating with students.

### Assessment

When embarking on your own participatory project, it is important to keep in mind that assessment will be integrated throughout the entire design process. The practice of *reflection-in-action* is critical for self-assessing positionality and making mutually agreeable decisions throughout the process (Frauenberger, Good, Fitzpatrick, & Iversen, 2015). Reflective practice provides a structure for pausing the action,

*Journal of Radical Librarianship*, 9 (2023) pp.11–47

reviewing progress, and deciding next steps together (Nilsson & Johansson, 2010). Assessment and reflection are applied to two main areas: the design process and the design product.

First, we assess the process by asking, “did we achieve engagement and participation from our students?” We hope that throughout the process our participants were empowered and were able to make meaning from each session. For UX1G, we recorded each session to help our facilitators keep in touch with the progression of work. In rewatching these videos, we were able to see and hear from our student participants and could use this information to evaluate engagement and participation. Ultimately, to assess the process, we can ask, “Whose project is this? Have the participants been empowered to truly co-direct the activities? Does the process benefit the participants?” These questions can be answered in dialogue with the participants themselves, who can speak from their own experience about how the project impacted or changed their attitudes, knowledge, and relationships.

Second, we assess the final design product by asking: “Did we build something effective and meaningful to the community? Does the outcome benefit the participants?” Community here is not one defined community, but rather the community identified by the participants. Some of this product assessment will happen shortly after the project has concluded and additional assessment will take place many months and maybe even years after the project if social relationships are maintained with the participants and the participant communities.

Through the full duration of a project, a variety of assessment data may be produced that can be used to communicate to different stakeholder groups, including students, administration, and wider publics and other groups outside the library.

- Recommendation: For a participatory design project, make a plan to assess both the ongoing participatory process and the final design product. Planning for the Future: Sustainability and Social Impacts

## **Planning for the Future: Sustainability and Social Impacts**

The participatory process aims to achieve lasting change in the lives of participants but sustaining beneficial impacts can be difficult. The participatory approach—slow and costly with uncertain outcomes—is not standard in libraries nor indeed in most organizations, and so participatory projects often remain relatively closed off in experimental spaces (Smith & Iversen, 2018). The challenge of sustainability is about how to scale up social and organizational change within the context of a parent entity such as a university that may prioritize competing values like efficiency and return-on-investment. We find that maintaining strong relationships with our fellow facilitators and participants can be affirming and heartening. Sustaining social relationships with student participants, finding solidarity in a struggle for change, and living the values of participatory design following the conclusion of a project can contribute to lasting effects in the educational experiences of all involved.

- Recommendation: Look to achieve sustainability through long-term relationship-building with fellow facilitators and participants.

## Conclusion and Future Directions

When student voices are elevated through participatory design, we are able to better serve our students by providing inclusive library services and mutually beneficial engagement experiences. In positioning participatory practices as a student engagement opportunity, the library professionals can transform the relationship they have with the students in a way that produces positive social impacts for both librarians and student participants. As we have discovered in our work with Native American students and first-generation students, participation takes time, critical self-reflection, and genuine power sharing. We believe this work not only provides value and improved services but is socially transformational to all involved. Going forward, the authors of this paper want to continue applying participatory practices to engage deeply with students and to incorporate student voices in library decision-making. We hope that this discussion of participation and engagement has sparked something in you, our reader, and encourages you to explore participatory approaches within your institutional context.

## Acknowledgements

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## Appendix: Getting Started Checklist for Participatory Design and Student Engagement

The list below provides a set of getting-started steps and prompts for implementing participatory design and student engagement.

### Learn by Doing

- Begin by taking exploratory or experimental steps forward, starting with low-stakes, getting-to-know-you activities.
- Define a general path forward that can get you from start to finish, and let the group produce the details.
- Feel out the group. Knowing when to move on is not obvious and depends on the unique participants. Focus on values as a guide through the process. The end result won't be obvious from the beginning.

### Assembling the Right Stakeholders

- Look to assemble a facilitation team that brings together various professional expertises and social connections.
- Identify a student population based on survey data, strategic priorities, available funding, or existing relationships.
- Contact relevant student organizations to identify potential participants.
- Be clear with recruitment language, including timeline, workload, compensation
- Prepare participants with background readings that are relevant to participatory design, for example:
  - Robertson, T., & Simonsen, J. (2013). Participatory Design: An Introduction. In J. Simonsen & T. Robertson (Eds.), *Routledge International Handbook of Participatory Design* (pp. 1–17). New York: Routledge.
  - Gray, D., Brown, S., & Macanufo, J. (2010). Chapter 1: What is a game? In *Gamestorming: A Playbook for Innovators, Rulebreakers, and Change-makers*. O'Reilly Media.

### Articulating Roles, Responsibilities, and Compensation

- Identify a lead facilitator. This person will take on a majority of the work in setting up each session.
- With the rest of the facilitation team, identify roles. Someone might be in charge of reminding participants of an upcoming session. You might assign a rotating second facilitator for each session who assists with activities, notetaking, and could even take photos of the work being completed. You

might also decide to ask one participant to serve as a student leader who can serve as a bridge between the student participants and the professional facilitator.

- Session reflections. These reflections can be extremely useful during and after the participatory project. Decide at the start of the project if the facilitation team will use reflections and how frequently they will be completed. If done after each session, these are also useful for a rotating secondary facilitator, so they understand the group dynamics better.
- Identify and secure funding so as to compensate participants for the essential labor they contribute to the project.

## **Project Planning**

- Time and resources: does the facilitation team have the necessary time and resources to devote to this project?
- Structuring and sequencing: How many sessions will you complete? How often will you meet, and over what amount of time? How long will each session be? Which activities will you complete, and in which order? Do the results from one activity help inform subsequent activity?
- Identify assessment tools and techniques that will operate alongside the participatory activities

Prepare a communication plan for sharing the work of the project to internal and external audiences

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