

Designing restoration: protecting and restoring our attention through participatory design

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A dissertation
submitted in partial fulfillment of the
requirements for the degree of

Doctor of Philosophy

University of Washington

2022

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Program Authorized to Offer Degree:

Information Science

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Abstract

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We live in an attention economy where many of our interactions are mediated by technologies incentivized to exploit our attention. The consequences of this exploitation, so far as they are known, affect how we spend our time, and also our capacity for reflection and self-awareness, which can have lasting effects across our life and relationships. This dissertation looks to attention restoration theory (ART) and participatory design (PD) for help in addressing the harms of the attention economy. ART is an empirically validated theory that addresses how attention can be depleted and also restored. PD gives us an experiential and democratic framing for helping people have a say in the technology that affects their lives. In three qualitative research studies across two populations of co-designers—undergraduates (n=86) and library workers (n=38)—ART and PD were used to explore and understand the effects of designing for restoration.

In the first study, students in an undergraduate design methods course found the work of designing restorative environments personally restorative. It helped them connect with one another, be more self-aware, slow down and notice the world around them, see their campus with new eyes, and, in some cases, use technology differently. In the second study, undergraduate students describe how the class, itself, restored them. They describe a generous classroom culture that foregrounded their humanity and modeled care. In the third study, library workers used the design curricula and findings from the first two studies to co-create a set of library-specific tools for engaging the restorative potential of their libraries. These tools—a guidebook, set of design activity cards, and companion website—are available at <http://restorativelibrary.org>.

Across these studies, this dissertation provides insights for addressing the resignation we can feel at the end of an hour, or day, lost to technology. It stretches the idea of what a “restorative environment” can be and shows that what we make when we design from a place of wholeness has the potential to change us as individuals and as a collective.

DESIGNING RESTORATION

PROTECTING AND RESTORING OUR ATTENTION
THROUGH PARTICIPATORY DESIGN

Beck Tench

GRATITUDE

Thank you, first, to my **students** and **research participants**. My heart opens when I think of you and a big smile spreads across my face. Your willingness to be real and vulnerable imbued this work with wholeness and gave it life.

To my **museum** and **library colleagues**, you might be surprised to know how much I have thought of you and drawn upon our work together while writing this dissertation. Getting my PhD may have seemed to be a departure from the field, but it was really just a scenic detour. To Kris and Andrea in particular, you two changed the course of my life through your generosity and friendship. Thank you for that.

To my **support squad**—Hailey, Erin, Nina, Jim and Lisa, Janice, Julie, Dale, Chris and Charlotte, Ellen, Cevin, Erica, Susan, Amber, Emily and Carrie—whether it was for a short spell or practically every step of the way, thank you for your unshakable confidence that I could do this.

To my **mom** and **dad** and **Renee'**—you have loved and supported me through everything I have ever tried to do, even when you didn't understand it, or it may have scared you. (Like moving over 3,000 miles away to study “information,” for example.) I know you are proud of me. I hope you are also proud of yourselves.

To my **committee**, you are the best dissertation committee in the whole world. Thank you for holding space for me to learn in the ways I wanted and needed. You are each a beautiful example of the kind of scholar I aspire to be—generous, curious, and brilliant.

To **David**, we did it. And, before you ask what I mean by “it,” I mean so many things. But mostly, I mean we became great friends. I will be grateful for the rest of my life for the opportunity to spend these years learning with and from you.

And last, to my wife, **Marilyn**. I have thought of what I would write in this space thousands of times over the past seven years, and that's because you have helped me in thousands of ways. Now that the time has come to fill this space, I am at a loss for words. I think that is because I have so much to say and also because I know that any words I use to express my gratitude will fall short. Here are a few: I have loved doing this with you because I love doing anything with you.



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Life consists in learning to live on one's own, spontaneous, freewheeling: to do this one must recognize what is one's own—be familiar and at home with oneself.

This means basically learning who one is, and learning what one has to offer to the contemporary world, and then learning how to make that offering valid.

Thomas Merton in “Learning to Live”
(Merton, 1965, p. 3)

THE OFFERING

This dissertation reflects what I've learned in seven years of doctoral study, but it is more than that. It also reflects the sensibilities and skills I've developed in my career as a designer and technologist, the courage I've demonstrated from living life as my true self, and the awareness and compassion I've cultivated through contemplative practice. In other words, this dissertation is an affirmation of what I've learned in my life so far, what matters to me, and what I think matters to others. It is an offering, to use Merton's word, an offering to myself, to you, and to us. For you and me, it offers a way to come back to ourselves. For us, it offers a way for classrooms and libraries to become one of those rare places where we slow down and notice the world, our inner life, and each other. Before I dive deep into intellectual arguments explaining how and why it does this, you should know from the start that such arguments are a disguise for work that is and always will be about knowing myself and using that knowledge to love the world.

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1 THE SPARK

Before my doctoral coursework, I worked as a museum experience designer. I designed exhibits and digital experiences that invited people to slow down and notice the world around them, but despite many measures of success, the only person whom I could say for sure was slowing down was me.

Three years ago, however, an insight struck when I noticed that students were slowing down in a class I taught, *INFO 360: Design Methods*. I created a curriculum that used participatory design to explore the attention economy, attention restoration theory, and a problem space relevant to most every student: undergraduate stress. In the class, we worked together to build a map of restorative spaces on the University of Washington's campus. Students spent much of their class time roaming campus, finding restorative spots, and researching, prototyping, and testing contemplative practices to do in those places. It seemed some students were slowing down as a consequence of designing something to slow others down—exactly as I'd done in my own career. It was working for us both.

I want to be clear: this is not an intellectual sense of slowing down—it is a knowing of what happens when we do. Here is an example from a student reflection. For context, the student is writing about a quarter-long practice of noticing an object (this student picked the shape of a star) and documenting it once a week via photo.

What started out as me keeping my eyes open for stars turned into me paying more attention to my environment and surroundings and really seeing everything I pass by. I notice things now, not just stars. I notice small tattoos and spelling errors and dust on the dumbbells. I am so much more aware of everything around me. My noticing of stars turned into noticing my surroundings which turned into so much more. I began noticing things about myself. I have really started noticing moments of gratitude. And not only that, I take the time to reflect on them and appreciate what I am grateful for. I truly think that I am more appreciative of even the small things because I have learned to slow down and be aware of not only what is going on around me, but also what is going on with myself. I think this has been so important for me and I want to continue to live life with my eyes wide open, reflecting and appreciating my moments of happiness. With this being said, I think I can grow to be

Figure 1.1
Moments of noticing
documented by student.



able to notice moments that aren't so great. There is also value in taking the time to appreciate times when I may not be as happy or grateful.

To pick out the detail “dust on the dumbbells” is surely evidence of having actually noticed dust on dumbbells, which has nothing to do with stars, and unless the dust was egregious, it seems to require a moment of slowing down. The student's realization that slowing down might mean noticing “times that aren't so great” suggests an awareness of our interior complexity, and a contrast to the blissful messages of mindfulness typically marketed to us.

While not all students wrote in ways that indicated such knowing, many did, and their reflections sparked the line of inquiry that guides this dissertation. I became curious about the nature of the change they experienced in the class, if that change was common among them, and what, specifically, catalyzed it. I was also curious to know if what worked for my students would work elsewhere. I was especially eager to understand these things because we live in an incredibly and increasingly demanding world. Our devices—phones, computers, watches, voice assistants—operate within economic forces that trade on our attention. This economy, “the attention economy,” makes it harder and harder for us to notice the world around and inside of us. Thirty years ago, political scientist and economist Herbert Simon called this problem a “poverty of attention.” He wrote:

In an information-rich world, the wealth of information means a dearth of something else: a scarcity of whatever it is that information consumes. What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention and a need to allocate that attention efficiently among the overabundance of information sources that might consume it (Simon et al., 1971, pp. 40–41).

The student quoted above credits noticing stars with helping her cultivate gratitude and be more attuned to moments of happiness and sadness. She describes an intention to, “live life with my eyes wide open.” If the economic forces that compete for her attention win, the “dearth of something else” in Simon's logic is, at least in part, a dearth of wisdom that comes from cultivating a rich and complex interior life. I had to know—was something happening in this course that might help with this? And if so, could it be applied outside of the classroom? In particular,

I wondered how this experience might work in libraries—public spaces teeming with restorative potential, democratic values, and institutional power. I formulated the following research questions:

- Q1) How can individuals protect and restore their attention when many of their interactions are mediated by technologies incentivized to exploit it?
- Q2) How can the design process itself be restorative?
- Q3) How can we inspire library workers to engage the restorative potential of their libraries?

Through this dissertation, I have found answers to these questions, which is kind of amazing to me. Before doing this work, I hadn't realized that the fruits of rigorous and sustained research produce not only deeper understanding, but also humbling gratitude. There were 124 research participants, four doctoral advisors, and a handful of friends and family who walked this seven-year-long path with me. Through our efforts, we have new ways to repair some of the harms of digital culture. Used over time, and in community, these answers may help us realize the power we have to resist an economy that threatens our values, well-being, and collective wisdom.

2 THE PROBLEM

The problem this dissertation addresses is the harvesting, commoditizing, and trading of human attention. The most effective term that describes this problem today is “the attention economy.”

Viewing attention in economic terms of supply and demand is largely credited to Simon (quoted in Chapter 1), who wrote about the phenomenon (Simon et al., 1971) nearly thirty years before it became a popular business strategy, particularly with internet and media companies. In the 1980s, psychology professor Warren Thorngate proposed six principles of “attentional economics” and presciently envisioned its future consequences:

The result [of competition for attention] is triumph of container over content, medium over message, percept over concept, style over substance, symbol over referent, logo over logic (Thorngate, 1988, p. 257).

In the 2000s, business and management scholars Thomas Davenport and John Beck proposed capturing and sustaining attention, specifically using the internet:

With an enormous boost from the Internet, we were successful beyond our wildest dreams. Now it’s human attention that’s scarce, and our entire view of business needs to change. When we ask ourselves what’s the constraining factor in the success of new business strategies, marketing campaigns, or knowledge management initiatives, the answer is likely to be attention. In the attention economy, we will have to evaluate every action with regard to how much attention it will consume and how we can get and keep the attention we need (Davenport & Beck, 2000, para. 44).

At first, paying with attention was argued to be an economic equalizer, and that it might encourage human creativity and connection (Dyson, 2013), but those arguments fail to acknowledge the effects race, class, and gender have on how much time and skill people have to use such tools in the first place (Norris, 2001; Bucy, 2000; Hargittai 2002). Also, they do not factor in the unprecedented, unseen, and unregulated use of Information and Communications Technologies (ICT) to distract us and manipulate our behavior. The consequences of the attention economy, so far as they are known, are far-reaching in our own lives and across our society.

At the same time, we know things are amiss. We struggle every day to, as Simon says, “allocate our attention efficiently among the overabundance of information sources.” The following reflection from one of my students describes this experience well:

When I get overwhelmed or stressed, I tend to use my phone to escape my problems. For example, if there is something I don't want to do or think about, I will spend hours scrolling through Instagram and Facebook and/or watching videos on YouTube. If I run out of relevant content I will watch random videos on YouTube that serve me no purpose. Doing this initially helps with my stress but in the end, I often feel worse about myself because I wasted my entire day and didn't solve any of my problems. I try to avoid doing this by uninstalling my social media apps but that only stops me for so long. Eventually, I end up reinstalling and doing the same thing.

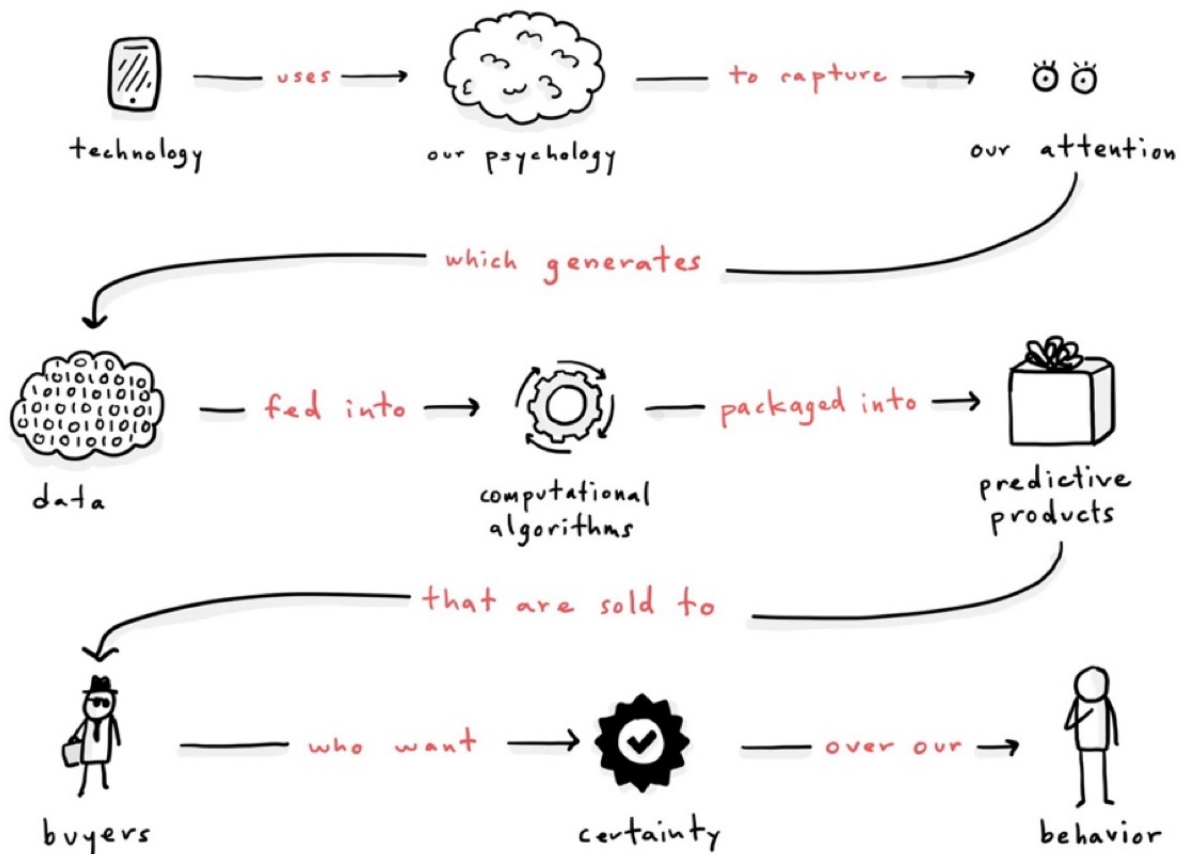
It is tempting to look at this student's experience and point to the student's behaviors as the problem. But that is a symptom, not the problem itself. To understand the problem, we must understand an incredibly complex and evolving system that uses our attention to generate data about us. Those data produce predictions of what we will do, where we will go, or what we will believe. Those predictions are sold in a marketplace to buyers who want certainty over our behavior. The greater the certainty, the greater the price. This economy incentivizes corporations to gather more data from us, which, when fed into algorithms, increases their certainty, and thus the value of their predictions. The illustration on the next page walks us through the system as we understand it today.

2.1 EXPLOITING ATTENTION

Understanding the economic forces that have created a market and monetary value for human attention explains why a business would intentionally design its products to create the scenario my student describes:

I will spend hours scrolling through Instagram and Facebook and/or watching videos on YouTube. If I run out of relevant content I will watch random videos on YouTube that serve me no purpose.

We tend to think we know what we are giving and getting in exchange for our attention when we use ICT. Take Google’s popular email service, Gmail, as an example. As a Gmail user, I know that Google can read every email message I send. When I first realized this as an early adopter in 2004, I was disconcerted, but that concern was dwarfed by my delight at using the service. Gmail was so much more robust and reliable than any other email service available. My concerns faded over time because I didn’t feel negatively impacted by the consequences of this invasion of my privacy. Sure, I often saw advertisements for things I emailed someone about and vice versa, but I felt it was a fair price to pay and mostly ignored them. What I didn’t understand at the time was the value my Gmail account created for Google.



In her book, *Surveillance Capitalism* (Zuboff, 2019), Harvard Business School professor and social psychologist, Shoshana Zuboff explains that it’s not only the tracking of what we write or watch that’s valuable; rather, it’s the predictive potential hiding in the seemingly irrelevant details of how we do so. Early tech companies used to call these data “digital exhaust” before they realized their predictive power. Now that they do, they collect everything they can about how we use software

Figure 2.1
Illustration of The
Attention Economy

(how long we linger here or there, the sort of punctuation we use, how we misspell phrases). They feed these data into algorithms that make sense of them, sometimes in ways we don't yet understand. These algorithms paint a continually evolving picture of who we are. Companies use these pictures of us to generate predictions of our behavior with varying degrees of certainty.

Companies often say that they use these data to improve their services, but that's a very small percentage of their value. The predictions our data generate are far more lucrative as products sold to businesses or political campaigns that want to sell us something. The more data companies collect, the more certainty they have over when we will be most receptive (or vulnerable) to their offers or ideologies.

The literature of marketing scholars offers a glimpse into what it took to build the marketplace that drives the attention economy. For example, in *The Attention Economy and How Media Works: Simple Truths for Marketers* (Nelson-Field, 2020), marketing professor Karen Nelson-Field compares the early days of the attention economy to the time period after the Revolutionary War, when the United States had to agree on a common currency in order to trade with each other. There was much chaos and several currencies before the US dollar won out. Businesses trading in attention had to reach a similar agreement on the currency of human attention. They're still working on it. Nelson-Field writes:

We ultimately need to work towards a place where an accurate, theoretically grounded, independent "true north" measurement is created for trading. Where gaze data from real humans (who experience all levels of attention across all boundary conditions) provides continuous learning to the model. That day will come (Nelson-Field, 2020, p. 83).

To wrap our minds around the attention economy, let's go back to the example of the lost day my student described. Their experience was not a failure of individual will, it was the consequence of unrelenting efforts from multiple, very powerful corporations, to generate as much data about them as possible in order to manufacture predictions of their future behavior. These corporations "accumulate vast domains of new knowledge from us but not for us. They predict our futures for the sake of others' gain, not ours" (Zuboff, 2019, p. 11).

2.2 EXPLOITING VULNERABILITY

When market forces incentivize companies to get better and better at predicting what we will do, a competitive advantage can be had by manipulating our behavior. To do this, companies use an evolving branch of psychological research called *behavior design*. Formerly named *captology*, then called *persuasive technology*, behavior design is Stanford professor, BJ Fogg's technosocial application of BF Skinner's *operant conditioning* (Ferster & Skinner, 1957), a system of changing behavior through rewards and punishments. We can see this system at play in the following detail of the student's reflection:

When I get overwhelmed or stressed, I tend to use my phone to escape my problems.

Like a pigeon pressing a lever for food in one of Skinner's boxes, this student has been conditioned to press buttons on their phone for informational rewards.

Dubbed "Silicon Valley's Millionaire Maker," Fogg studied under noted scholars such as Clifford Nass, Terry Winograd, and Phil Zimbardo. His Fogg Behavior Model (FBM), states that human behavior is the product of three factors: *motivation*, *ability*, and *triggers* (Fogg, 1997; Fogg, 2002; Fogg, 2009). FBM exploits our psychological vulnerability by appealing to the basest of our needs and desires—fear and hope, acceptance and rejection, pain and pleasure. Taking the student's experience of watching YouTube as an example, we can see behavior design in the auto-play feature that makes videos easier to watch (ability). Or the algorithmically generated video recommendations that evoke outrage or curiosity, increasing their motivation to keep watching. We can see triggers at play through visually distinctive badge-style indicators that appear when there is a new comment or like or video to watch.

Psychologist Richard Freed describes how a "destructive obsession with technology is the predictable consequence of a virtually unrecognized merger between the tech industry and psychology. This alliance pairs the consumer tech industry's immense wealth with the most sophisticated psychological research, making it possible to develop social media, video games, and phones with drug-like power to seduce" (Freed, 2018, para. 7). We learn more about this alliance when whistleblowers leave corporations over ethical concerns and share trade secrets. For example, Instagram was reported to withhold showing users exactly how many "likes" their photos had in order to release them variably and in larger bursts later (CBS, 2017). These larger bursts equate to stronger chemical

responses in the reward centers of the brain. Nir Eyal, a marketer who repackaged Fogg's work for the Silicon Valley CEO in his book, *Hooked: How to Build Habit-Forming Products*, describes how behavior design uses dopamine to manipulate behavior:

When Barbra lands on Pinterest, not only does she see the image she intended to find, but she is also served a multitude of other glittering objects... The exciting juxtaposition of relevant and irrelevant, tantalizing and plain, beautiful and common, sets her brain's dopamine system aflutter with the promise of reward... Before she knows it, she's spent forty-five minutes scrolling. (Eyal, 2014, p. 15)

It is important to understand that the attention economy harvests our attention by exploiting our psychological vulnerabilities. Behavior design has given the tech industry a tool that tells them exactly how to do this through the design of our ICT.

2.3 THE CONSEQUENCES

In his book *Stand Out of Our Light: Freedom and Resistance in the Attention Economy*, James Williams describes what we really pay with our attention on days like these. He writes, "You pay with all the things you could have attended to, but didn't: all the goals you didn't pursue, all the actions you didn't take, and all the possible yous you could have been, had you attended to those other things. Attention is paid in possible futures forgone" (Williams, 2018, p. 45). We can see the student realizes this:

I wasted my entire day and didn't solve any of my problems.

But what the student may not realize is that day after day spent like this affects not only what they do, but also their goals and values and their capacity for reflection and self-awareness that determine those goals and values in the first place. Or, as Annie Dillard wrote, "How we spend our days is, of course, how we spend our lives. What we do with this hour, and that one, is what we are doing" (Dillard, 1989, p. 32). Dillard and Williams help us to see that our lives are lost to us in the minutes and hours of lost days. Put simply, when we do not live our life as the person we want to be, we do not become that person.

What's more, after a day like this one, the student will literally have less energy and attention to give on physiological and psychological levels. When William James (not to be confused with James Williams mentioned above) defined attention, he described it as either *voluntary* or *involuntary*. Voluntary attention takes effort (e.g., keeping something in focus even though it is uninteresting or something else is more interesting); involuntary attention is passive and instinctive (e.g., a car buzzing by, a wild animal, a ringing bell, a flashing light) (James, 1892). Psychologists and neurologists have since come to understand that the effortfulness of voluntary attention, now called *directed attention*, is susceptible to fatigue (Kaplan & Kaplan, 1989; Kaplan, 1995; Kaplan, 2001; Kaplan & Berman, 2010). After an entire day of stress-induced surfing on YouTube, Instagram, and Facebook, this student would be left in a state of *directed attention fatigue* (DAF). DAF could cause them to experience negative emotions and irritability. They would perform and plan poorly and would be less sensitive to others (Korpela et al., 2001). Even if they wanted to, they would lack the energy to engage with things that matter more to them.

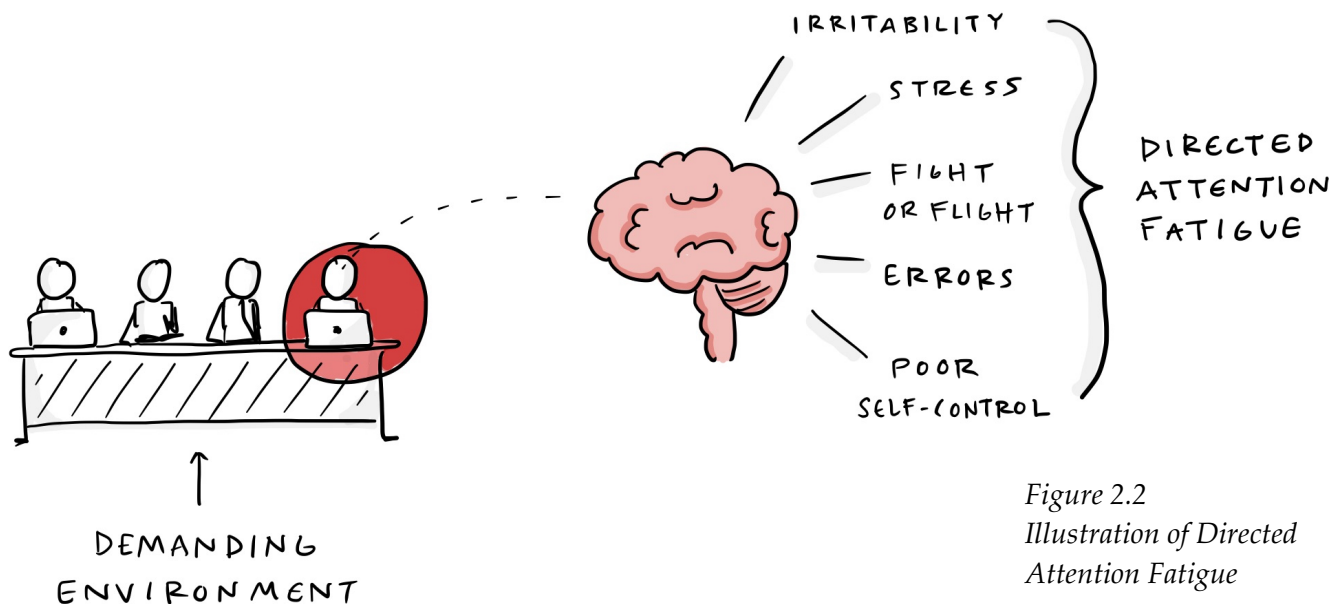


Figure 2.2
Illustration of Directed Attention Fatigue

These consequences, substantial in and of themselves, aren't the whole picture. As Shannon Vallor points out in her book *Technology and the Virtues: A Philosophical Guide to a Future Worth Wanting*, we can't fully understand the consequences of the attention economy. She writes, "our present condition seems not only to defy confident predictions about where we are heading, but even to defy the construction of a coherent narrative about where exactly we are" (Vallor, 2016, p. 5). Vallor uses the term *acute technosocial opacity* to describe the inevitable blindness we have

to how technology is changing society and vice versa. Each in their own ways, Vallor, Zuboff, and Williams warn of a future where the consequences of acute technosocial opacity and unimpeded exploitation of our privacy and attention threaten us on existential levels. Perhaps worst of all, they've resigned us to powerlessness. As my student describes:

I try to avoid doing this by uninstalling my social media apps but that only stops me for so long. Eventually, I end up reinstalling and doing the same thing.

The findings of this dissertation cannot, in and of themselves, alter economic forces, the greed that fuels them, or the use of psychological theories to powerfully manipulate our behavior by design. But these findings can make a difference in our lives. In particular, they can help us protect and restore our attention, which may be necessary in order to solve these larger issues.

3 THE HELPERS



Photograph of Fred Rogers and the Neighborhood Trolley by Walt Seng, 1988. This work is in the public domain. Accessed December 6, 2022 from <http://commons.wikimedia.org/>.

*Figure 3.1
When Mr. Rogers was a boy and was overwhelmed by what was happening in the world, his mother, Nancy McFeely Rogers would tell him to, “look for the helpers. You will always find people who are helping.”
(Rogers, 1986, para. 10)*

There is no shortage of expertise to draw from in addressing the harms of the attention economy. Many disciplines have engaged this problem in ways that are directly helpful to this dissertation. Environmental psychologists have empirically validated that attention can be depleted and how. Contemplatives, neuroscientists, and educators have helped us understand present-moment awareness and how to practice it. And countless library workers are seeking ways to further empower the communities they serve. I have helpers, as Mr. Rogers’s mom would say (Rogers, 1986), helpers in the form of theories, methods, and real-world experience (my own and others), each clearing a portion of the path set forth in the journey of this dissertation.

3.1 ATTENTION RESTORATION THEORY

In environmental psychology, a theory has emerged for restoring attention called *attention restoration theory* (ART) (Kaplan & Kaplan, 1989). In the last thirty years, environmental psychologists have moved from theory to empirically validated results demonstrating that environments with certain qualities can help clear the mind, restore directed attention fatigue (DAF), and facilitate personal reflection (Herzog et al., 1997; Kaplan, 2001). As a reminder, attention has two modes (voluntary and involuntary), and the voluntary mode, also known as directed attention, fatigues as it is used. Environments that use directed attention are called *demanding environments*. In contrast, *restorative environments* invoke involuntary attention, which gives our directed attention the opportunity to rest and restore. To be restorative, an environment must meet all of the following four conditions at the same time (Kaplan, 1995):

- *Being away*: removing oneself from the demanding environment
- *Soft fascination*: invoking involuntary attention in a gentle way
- *Compatibility*: being compatible with restorative activities
- *Extent*: having enough to do, but not so much that it overwhelms

Consider the following example. Let's say you are experiencing DAF right now because of reading this dissertation (apologies). You decide to go outside and take a walk. As you're walking, you notice dappled light created by the sun shining through the leaves of a nearby tree. A small breeze makes the light dance across the sidewalk. You stand there and watch the light and shadows. You could look away if you wanted, but you don't want to. You're content to stand there and watch.

This would be "restorative" from an ART perspective. You would be *away* from the demanding environment, in a place *compatible* with restoration, observing the *softly fascinating* light, which has enough *extent* to hold your interest without being riveting. Done for long enough, you would recover directed attention, and you might even begin to reflect on the experience or other things on your mind.

Alternatively, if one of these conditions were compromised, the experience would not be restorative. For example, if you lived on a busy street without sidewalks and did not feel safe walking alongside it, the experience would not be *compatible*. Even if all the other conditions were in place, directed attention could not rest, and restoration would be *constrained* (Hartig et al., 2007), meaning the environment would be less, or even not at all, restorative.

Restorative environments are typically studied in experimental conditions in lab and field settings. Interventions range from participants directly experiencing a restorative environment (Kaplan & Talbot, 1983; Hartig et al., 1991) to seeing photos or videos of them (de Kort et al., 2006; Laumann et al., 2003; McDonald et al., 2015; van den Berg et al., 2003) to simply bringing one to mind in their imaginations (Egan et al., 2012). Usually, participants take a battery of tests to measure attention fatigue and recovery (Ohly et al., 2016; Stevenson et al., 2018). Data collected and analyzed are most typically in the form of self-reported emotions, perceptions of restorativeness (Laumann et al., 2001; Han, 2018), test results, and to some extent biometrics like blood pressure and cortisol (Bowler et al., 2010). While there are exceptions (Staats et al., 2016; Rosenbaum, 2009), studies generally focus on restorative qualities of nature and have been criticized for using busy urban streets as representative of built or synthetic environments (Staats et al., 2016). Studies also typically focus on individuals and not social aspects of experiencing restoration, but there are exceptions (Staats & Hartig, 2004). Some studies have looked at the restorative qualities of virtual environments (Costa et al., 2019; Prpa et al., 2015; Salehzadeh Niksirat et al., 2017). These, too, tend to use nature as a predominant theme.

ART is not without its critics. In particular, criticisms fault it for a dearth of primary studies exploring the causality between nature and its effects on our health and well-being. It also has yet to clarify that those effects might vary by population and environment (Hartig et al. 2014). In general, there is agreement that people experience benefits from restorative environments, and that ART credibly explains the underlying mechanisms of why that happens, but the nuances of how environments and our lived experiences interact are yet to be understood, and in many cases yet to even be explored.

ART findings suggest that the restorative process occurs on a continuum, beginning with clearing the mind, then moving to DAF recovery, and ending with personal reflection (Herzog et al., 1997). This is especially interesting when considering that one of the consequences of the attention economy is a reduced capacity for reflection and self-awareness (Williams, 2018). Stephen Kaplan theorized that while restorative environments were traditionally understood to be passive (you enter a restorative environment and restoration happens to you), they might be more deeply restorative if a person actively cultivates a reflective state, such as engaging in meditation (Kaplan, 2001). Kaplan wrote that while the two might seem to be contradictory, they share common features, in particular, that they “avoid calling on tired cognitive patterns” and they

“avoid necessary effort.” ART accomplishes these through being away and soft fascination, while meditation and mindfulness accomplish them through cultivating specific patterns of thought, observation, or movement.

Executed properly, [meditation techniques] also serve to eliminate other content from the mind. Focusing on breathing, a Buddhist meditation technique, has a comparable effect. Closely parallel is the Zen emphasis on paying attention to the simple and often repetitive activities of daily life such as washing dishes or sweeping the floor. Another frequently encountered technique involves permitting thoughts to run through one’s head but without intervening. One simply observes passively, permitting these thoughts to occur while refraining from any attempt to manage or direct them... What is striking about these techniques is that each in a different way discourages active control of the thought process. In part, this is achieved indirectly by fascination, such as fascination with slow, patterned movements. In taking over the mental process, fascination achieves control without effort... Avoiding directed mental activity is thus tantamount to avoiding the use of directed attention. Such attempts to direct the course of thought are effortful; meditation techniques appear to replace or eliminate such effort (Kaplan, 2001, p. 484).

This connection to the contemplative broadens the opportunities of addressing the harms of the attention economy by not only using ART but also incorporating what we’ve learned from contemplative studies.

3.2 CONTEMPLATIVE STUDIES

Over the last 20 years there has been increasing attention and scholarship around notions of *contemplation* in academia and across secular culture, but it remains a broad term and has no single agreed-upon meaning. For example, we can use “contemplation” to mean thinking carefully about something, and we can also use it to mean transcending consensual reality. One evokes the hunched-over, lost-in-thought image of Rodin’s *The Thinker*, while the other evokes images of monks and mystics in meditation, awe-struck in a moment of connection with the divine. Both are accurate depictions of the word, and there are many other valid interpretations.

For the purposes of this dissertation, I want to focus on one aspect of contemplation, namely *contemplative practices*, and how they can be used to cultivate attention. Contemplative practices are a wide range of spiritual, religious, indigenous, and secular ways of cultivating the ability to be more fully and intimately present. In general, these practices seek to achieve a state of “attentiveness, awareness, compassion, concentration, presence, wisdom, and the like” (Komjathy, 2017, p. 14). There is a common idea that these practices are quiet and solitary like meditation or prayer, but in truth, they can be experienced silently or loudly, in stillness or in motion, in periods of quiet calm or in analytical thinking (Barbezat & Bush, 2013).

The Center for Contemplative Mind in Society (CMind) developed a popular tool that illustrates the extent of this range called “The Tree of Contemplative Practices” (CMind, 2021). This tree was developed by Maia Duerr, who worked as CMind’s Research Director from 2002–2004. Duerr interviewed 84 contemplatives and synthesized their practices into a common framework (Duerr, 2004) using a metaphor of a tree with roots, branches, and leaves.

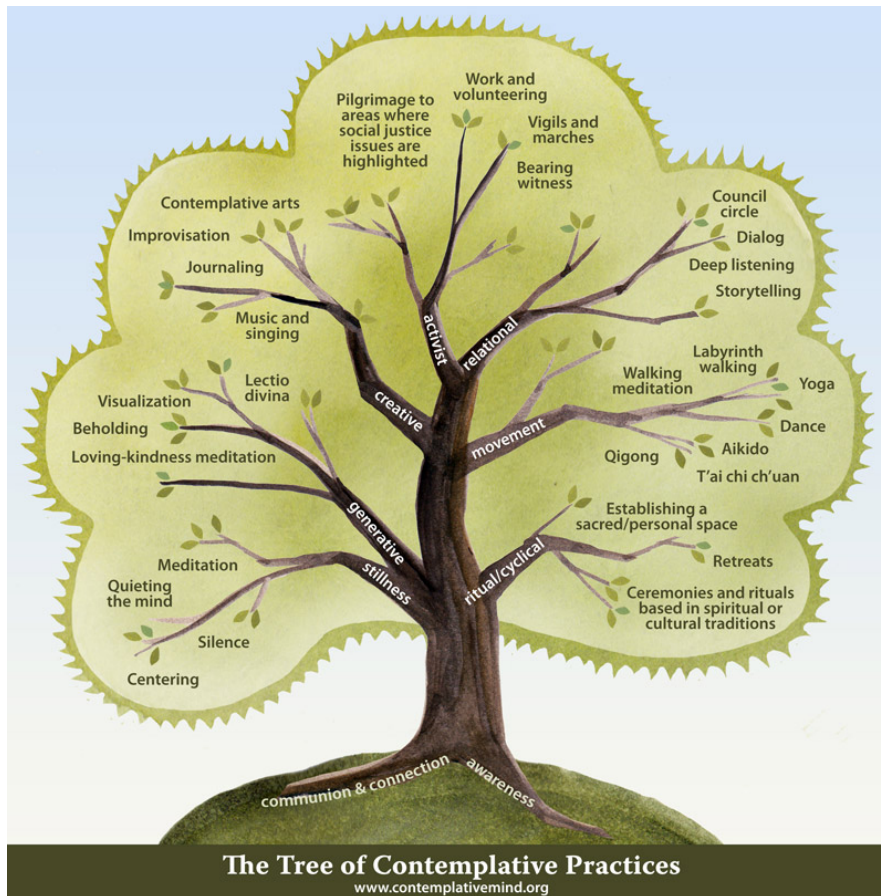


Figure 3.2
The Tree of Contemplative Practices
(CMind, 2021)

The roots of the tree—“communion and connection” and “awareness”—inform all practices on the tree. The branches group the practices across seven themes: stillness, generative, creative, activist, relational, movement, and ritual/cyclical. The leaves of the tree are the practices themselves. They emerge from their corresponding branches and illustrate that contemplative practice is not just praying or meditating (stillness); it can also be singing (creative) and dancing (movement), reading (generative) and writing (creative), listening (relational) and working (activist) with others, and more.

Take, for example, the activity of running. The purpose of going on a run, in a non-contemplative sense, would be to get some exercise. But done contemplatively, the purpose of the run becomes connection and awareness (the two roots of the tree). In this way, anything and everything we do can be contemplative.

Sometimes contemplative practices lead to *contemplative experience*, defined by Sister Mary Frohlich, a professor and Catholic nun, as:

We can define contemplative experience as awareness—whether fleeting or habitual—of that most foundational, most original depth of being. . . . Because this is our most foundational reality, contemplative experience is potentially available to every human being, at all times and in every circumstance. It can and does “happen” to people without any preparation and while they are engaged in pursuits that are not concerned with seeking it (Krinke, 2005, p. 4).

Scholarship on contemplative practice extends to nearly every academic discipline. Neuroscientists study the brainwaves of meditating monks (Davidson & Lutz, 2008) and physicians use *Mindfulness-Based Stress Reduction* to treat people with chronic pain, stress, or anxiety (Grossman et al., 2004). Educators use *contemplative pedagogy*, educational methods that help students cultivate connection and awareness while also supporting learning objectives (Zajonc, 2013), to integrate contemplative practices into the teaching and learning of nearly every subject—from writing (Kinane, 2019) to law (Magee, 2010) to physics, math, and economics (Repetti, 2010).

My doctoral advisor, Dr. David Levy’s, work using contemplative pedagogy with technology is of particular help in addressing the harms of the attention economy through contemplation. In his book, *Mindful*

Tech (Levy, 2016), Levy shares the results of over a decade of teaching a course called “Information and Contemplation,” where he engages his students in combining mindful attention and their use of technology. Levy shares practices that help students notice and choose how they interact with ICT, as well as ways to have honest conversations about how they use them. Levy’s work paves the way for a contemplative approach to the sociotechnical—how we shape technology and, in turn, how technology shapes us—and many of his methods and interventions inspired the curricula I used in the assignments and activities studied in this dissertation.

3.3 LIBRARY WORKERS

Libraries serve some of the most vulnerable individuals in our society, and library workers are often on the frontlines of our most heartbreaking and intractable problems, such as homelessness (Rey, 2018), the opioid epidemic (Ford, 2017), climate change (IFLA, 2018), civil unrest (Curry & Grimes, 2014), immigration issues (Carlton, 2018) and, most recently, the COVID-19 pandemic (Freudenberger, 2020). Due to the nature of such work, library workers are at risk for secondary trauma (Tolley, 2020) and compassion fatigue (Hodge, 2022). Vocational awe (Ettarh, 2018) perpetuates stories of how library workers overcome adversity through resilience, grit, or doing more with less (Berg et al., 2021), and toxic leadership styles can lead to burn out (Dixon, 2022) and low morale (Kendrick, 2021a), which is an increasingly significant issue across both public (Kendrick, 2021b) and academic libraries (Kendrick, 2017), especially for people of color (Kendrick & Damasco, 2019).

And yet, libraries are environments teeming with restorative potential from an ART point-of-view. While recent trends have seen libraries model their spaces after coffeeshops (Deng et al., 2019), bookstores (Cullota, 2012), and maker spaces (Fallows, 2016), there remains an unshakeable quality of reverence in these spaces. Many libraries actively support contemplative infrastructure (Samson, 2021) such as quiet spaces (Massis, 2012) with views into nature (Krinke, 2005), and dedicated spaces for mindfulness (Wachter, 2018), yoga (Lenstra, 2020), and other contemplative activities (Pyati, 2019). Books such as *The Mindful Librarian* (Moniz et al., 2015), *Recipes for Mindfulness in Your Library* (Charney et al., 2019), and *Fostering Wellness in the Workplace: A Handbook for Libraries* (Newman, 2022) have become popular options for professional development. The American Library Association’s Center for the Future of Libraries lists “unplugged”—meaning spaces, programming, and services that encourage quiet reflection or limit the use of technology—as

an important trend for libraries and the communities they serve (ALA, 2022).

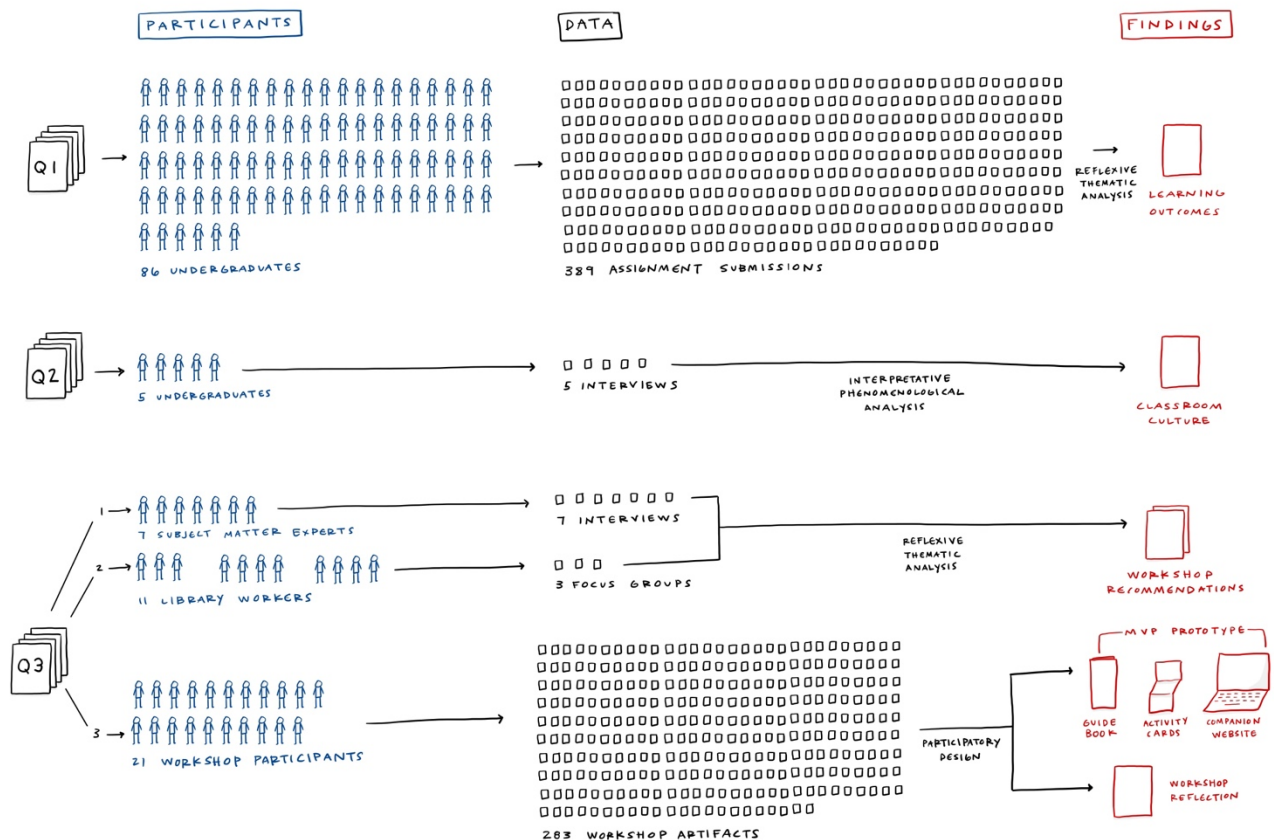
Library workers are also using design in their work. In particular, they are using design thinking (IDEO et al., 2015) to create public programming, build out their web and technical services, and design their buildings and physical spaces (Clarke et al., 2019). Some libraries are also using participatory design (PD) with their communities (Subramaniam, 2016; Yip & Lee, 2018), in particular with youth. And while most libraries aren't yet using PD, many are learning to work with communities through community engagement frameworks, such as OF/BY/FOR All (Benetua et al., 2018), Libraries Transforming Communities (ALA, 2017a), National Coalition for Dialogue & Deliberation (NCDD, 2010), and The Aspen Institute's *Rising to the Challenge: Re-Envisioning Public Libraries* (Garmer, 2014). These frameworks share similar ideals to those of PD, in particular letting partners drive the work and moving toward lasting impact for communities.

3.4 SUMMARY

The attention economy is intractable, pernicious, and evolving beyond our ability to imagine its consequences. Attention restoration theory, contemplative studies, and library workers have all turned out to be a potential source of traction, healing, and resistance. Along with the methods introduced in the next chapter, these helpers offer quietly radical ways of changing how and where we spend our time.

4 THE METHODS

Because I used a variety of methods across research questions and at different times—*reflexive thematic analysis* (RTA), *interpretative phenomenological analysis* (IPA), and *participatory design* (PD)—I have illustrated my methodological approach and briefly summarized each research question below.



My first research question (Q1) was, “**How can individuals protect and restore their attention when many of their interactions are mediated by technologies incentivized to exploit it?**” To answer this question, I used reflexive thematic analysis (RTA) to analyze 389 documents, which were assignment submissions from 86 informatics undergraduates whom I taught in INFO 360: Design Methods in the summer (n=41) and autumn (n=45) of 2019. My findings for this research question are five learning outcomes that encouraged individual restoration in my class.

My second research question (Q2) was, “**How can the design process itself be restorative?**” To answer this question, I interviewed five students from Q1. These students were selected because they wrote about the class itself being restorative to them in their final reflections. I used

Figure 4.1
Illustration of methods used in research questions.

interpretative phenomenological analysis (IPA) to conduct and analyze the interviews. My findings for this research question are three conditions that helped to establish a classroom culture that supported restoration for these five individuals.

My third research question (Q3) was, “**How can we inspire library workers to engage the restorative potential of libraries?**” I approached answering this question in three phases. First, I interviewed subject matter experts in the library field and adjacent cultural sectors. Second, I conducted focus groups with library workers. And third, I facilitated a participatory design (PD) workshop series with library workers and other creative professionals. I analyzed the interviews and focus groups using RTA. My findings from the first two phases of the research question are recommendations on how to frame and organize the workshop. In the workshop, the third phase, I used PD to co-design a minimum viable product (MVP) prototype called, “The Library Workers’ Field Guide to Designing and Discovering Restorative Environments.” This prototype includes a 48-page printed guidebook, 24 design activity cards, and a companion website. I also wrote a reflection on applying the findings from Q1 and Q2 to the design and facilitation of the workshop.

4.1 REFLEXIVE THEMATIC ANALYSIS

I used *reflexive thematic analysis* (RTA) (Braun & Clarke, 2022) to analyze three different data sets: (1) the assignment submissions in Q1, (2) the interviews with subject matter experts in phase one of Q3, and (3) the focus groups with library workers in phase two of Q3. Braun and Clarke’s seminal paper, “Using thematic analysis in psychology” (2006) defined a clear structure for how to perform thematic analysis at a time when most TA was undefined despite being widely used. The paper has since been cited over 100,000 times. The authors have written about the process in many ways since, but their most recent understanding of the method (Braun & Clarke, 2022) informs my approach. In their book, *Thematic Analysis: A Practical Guide*, they not only continue to refine the structure of TA, but they argue the critical importance of *reflexivity* in a thematic analysis.

Reflexivity is an approach that honors and acknowledges the researcher’s presence and experience and how they affect every part of the research process: from who is recruited to how those participants are affected by the research to how the data is collected and analyzed (Dodgson, 2019). The method originates in early anthropological research (Finlay, 2002), where ethnographic observations included reflections by researchers.

Reflexivity has been refined over the years in response to critiques of qualitative methods and is now seen as a fundamental part of qualitative research. My practice of reflexivity involves reflexive journaling (Nowell et al., 2017), a discipline of reflecting on my research process and documenting the decisions I made.

Before describing the RTA process I used, I would like to define a few important terms:

- *Data corpus* refers to all data collected.
- *Data set* refers to all data being used for a particular analysis.
- *Data item* refers to each individual piece of data collected.
- *Data extract* refers to an individual, coded chunk of data extracted from a data item.

The first step in RTA is **familiarizing yourself with your data**. This step involves gathering all the data you have to work with to establish your data corpus. Then, you decide which items in the corpus will comprise the data set. You review each data item in the data set. Reflexively journaling this step involves documenting your decisions and your initial impressions of the data as you review it.

The second step in RTA is **generating initial codes**. These codes are not yet “themes,” they are emerging phenomena of interest. Generating initial codes is a prolific, chaotic, and generous process. You review every data item in the data set. Reflexivity involves describing these initial codes in ways that will make sense later on and posing questions, doubts, and instincts for what you see emerging.

The third step of RTA is **searching for themes**. In this step of the process, I used data visualization tools to visually map initial codes and explore relationships between codes and also data items. The result of this phase is a tidy map of provisional themes and their relationships. Reflexivity in this step involves preserving versions of the map as they evolve, documenting decisions along the way, and describing each potential theme in detail, including one’s doubts and intuitions about it.

The fourth step of RTA is **reviewing themes**. This step involves two passes through the data set. In the first pass, you go through each theme, one by one, and review all the data extracts that belong to it. In this pass, you are journaling thoughts about coherence and lack thereof. Prior reflexive practice comes in handy in this step because you can revisit why you made certain decisions when determining coherence. The first pass

through these data yields a “final” map of the themes. Using this map, you go through a second pass of the data, this time revisiting every data item to ensure themes resonate with the data, and that missing themes or contradictions are noted and addressed. As you can imagine, this part of the process can take as much time as you give it, so it’s important to define a set number of hours to work on it. Reflexively journaling this part of the process involves reflecting on the assumptions behind each theme and the implications of those assumptions. It also involves documenting the process of revisiting all data and considering the conditions that make a certain extract “belong” to a given theme.

The fifth and final step of RTA is **naming and defining themes**. This involves writing up a detailed analysis of each theme and any subthemes and assigning exemplar extracts for each. In this step, you also tell the story of how each theme fits in the overall analysis. In the end, you have memorable titles for each theme, with short, specific descriptions and two or three exemplar extracts that represent the theme. Reflexivity in this step involves preserving versions of the theme names and definitions as they evolve, and interrogating the conclusions you draw from the analysis.

To establish trustworthiness in RTA, I ensured my process complied with the university’s institutional review board (IRB) and, since the participants were students, Family Educational Rights and Privacy Act (FERPA) guidelines. I deidentified all data, stored and archived it securely, and ensured it (and my journal) were in common file formats (TXT, RTF, OPML, JPG) so they could be accessed in the future. I also endeavored to create *thick descriptions* (Denzin, 2001) and employed various means of *memberchecking* (Birt et al., 2016; Carlson, 2010) with research participants.

4.2 INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS

I used *interpretative phenomenological analysis* (IPA) to conduct and analyze interviews in Q2. IPA’s strength as a qualitative research method is in revealing the meanings people make of their lived experiences (Smith et al., 2009). As a distinct method with a defined process, IPA began in the 1990s with the work of psychology professor, Jonathan Smith. Smith built upon centuries of understanding developed through the philosophies and practices of phenomenology and hermeneutics (Eatough & Smith, 2017). IPA recognizes that shedding light on any given phenomenon involves layers of *interpretation*; first, by the person interpreting their experience of the phenomenon, then by the researcher seeking to

understand the person's interpretation of their experience, and then by the reader making sense of the researcher's interpretation of the person's interpretation of the phenomenon (Smith et al., 2009).

While diary studies, focus groups, and ethnographic observation can be used for data collection in IPA, in-depth, qualitative interviewing (Seidman, 2006) is the gold standard (Smith et al., 2009). IPA uses homogenous, purposive sampling (Mack et al., 2005) to ensure findings are representative of a specific perspective, not a population. These sample sizes are very small, generally between 3–6 individuals. Recruiting participants on the similarity of their experience offers insights into the specifics of a particular phenomenon (Smith et al., 2009). Deciding what will create homogeneity is an important part of the process of recruiting participants, as is constructing an interview schedule that invites participants to tell stories about their experiences. Ideally, several interviews are conducted with each participant. The analysis is lengthy and exceptionally detailed, and the findings are not generalizable. The more specific the findings are, though, the more transferrable they will be to those who want to build upon the research.

The IPA process is flexible, but in general, it follows six main steps:

- Step 1) Reading and re-reading
- Step 2) Initial noting
- Step 3) Developing emergent themes
- Step 4) Searching for connections across emergent themes
- Step 5) Moving to the next case
- Step 6) Looking for patterns across cases

In the first step, **reading and re-reading**, the researcher picks one participant and immerses themselves in the interview transcript(s). This participant is the sole focus of their analysis at this point, and some researchers employ various methods for getting into the perspective of that participant. For example, in my Q2 analysis, I immersed myself not only in the transcript of my participant (a former student), but also in their assignment submissions, our email exchanges, and any photos I had of them from class. Reflexivity is a beneficial practice in IPA. In this first step, it is helpful to use reflexive journaling to clear the mind, and also to note initial impressions and instincts.

In the second step, **initial noting**, the researcher takes copious notes while re-reading the transcript. These notes can be about anything. For example, some might be descriptive, while others are linguistic or

conceptual. Excerpts from the participant are highlighted, and key points and phrases are emphasized.

The third step, **developing emergent themes**, involves reviewing annotations, excerpts, and reflections from the prior steps to map a set of themes for the participant being analyzed. These emergent themes are used in the fourth step, **searching for connections across emergent themes**, to map extracts to the themes they represent, and to come to a final interpretation of that participant's experience of the phenomenon.

In the fifth step, **moving to the next case**, steps 1–4 are repeated for each participant to produce an interpretation for each participant. In the sixth step, **looking for patterns across cases**, those interpretations and all their corresponding themes and extracts are combined in a single space and explored for commonalities and differences across all participants. At this time, some themes might be discarded, others combined or transformed. A "Table of Superordinate Themes" is created, which lists representative quotes across themes and participants. At this point, the researcher is prepared to make their full interpretation of the meaning(s) made, using extracts across all participants and themes.

To establish trustworthiness in IPA, I complied with IRB and FERPA guidelines. I referred to participants with pseudonyms and removed other identifying details, and I stored all transcripts and files related to the analysis in secure and future-proofed ways.

4.3 PARTICIPATORY DESIGN

Broadly defined, *participatory design* (PD) is a set of theories and practices (Muller, 2009) as well as a research methodology (Spinuzzi, 2005) that engages people in the design of technology that affects their lives. Both the theory and the practice inform my work. What PD looks like varies widely across three dimensions: who is invited to participate, what the nature of that participation is, and the role design plays in it. To illustrate this, consider the following two examples:

Scenario 1: Designers observe the behaviors of patrons in the library, looking specifically at how they use their phones. Designers interview several patrons to validate their assumptions and create personas based on those interviews. Using the personas and observations as a guide, they prototype a room that offers yoga mats, guided meditations via headphones, a collection of books about mindfulness, and views into a garden. They recruit several patrons to use the space, observe them, and ask them to

fill out a survey as they leave. They iterate the design of the space based on their observations and survey results. Patrons are invited to use it.

Scenario 2: Designers invite patrons to a series of design workshops. In these workshops, patrons and designers prototype spaces that patrons feel will help them use their phones more meaningfully while in the library. They iterate their ideas as a group until a single vision emerges: a room that offers yoga mats, guided meditations via headphones, a collection of books about mindfulness, and views into a garden. As patrons use the space, they continue to iterate on it based on their experiences and ideas.

Both of these scenarios are examples of PD, but they engage the method differently. In Scenario 1, the patron is treated as a user of the product and participation is in the form of feedback. Patrons are consulted at key milestones and guide the design of the product. In Scenario 2, the patron is treated as a co-designer of the product and participation is in the form of ideation, creation, and iteration. Patrons develop design skills and feel ownership over the space once it's created.

These two expressions (and the many expressions between and beyond) are byproducts of PD's branching history. PD began in 1960s Europe, where projects out of Norway inspired initiatives in London and Scandinavia. These initiatives focused specifically on the role of technology in the workplace and the democratic inclusion of workers in making decisions about what that role should be (Asaro, 2000). These projects were essentially reactions to the displacement of workers by new technology on the factory floor. They arose in a culture where employers were perceived to be exerting power over labor (Spinuzzi, 2002). PD was created in an effort to correct that balance by involving labor in the design of technologies that impacted their work. As co-designers, the idea was that labor would develop skills and feel ownership through PD, just like in Scenario 2 above.

In the 1980s, PD was brought to the US. While some US approaches to PD retained Scandinavian ideals, many uses of PD in the US were by management consultants hired to help companies with a customer-centered approach to design. Unlike in Scandinavia, where PD was generally used to empower workers to make decisions along with management, in the US, PD was used to help workers perform better at their jobs (Spinuzzi, 2002). These differences affected the activities each approach used and how they evolved. Over time, in both the US and

Scandinavia, PD lost touch with its democratic vision (Spinuzzi, 2002). It has expanded to many disciplines and, in some cases, has lost its connection to technology as well. According to some, PD has become small in scope (Bødker & Kyng, 2018) and, in some cases, the role of users is limited to feedback on systems they otherwise had little input into, as in Scenario 1.

There are scholars seeking to return PD to its democratic roots. In a special issue of *Transactions on Computer-Human Interaction*, Bødker and Kyng call forth an inspiring vision for a “New PD” that is grounded in the past and informed with hindsight (Bødker & Kyng, 2018). Bødker and Kyng do not recommend that we return to the roots of PD, so much as we continue to grow from them. This involves using PD to address dramatic, potentially negative changes in society, such as the attention economy. New PD requires that participants be partners who drive the work. It calls for PD researchers to consider themselves activists working toward a vision that has a real and lasting impact on participants, and that this work is safeguarded for the future through democratic control.

Practicing “New PD” in the co-design of restorative environments means elevating participants (students, library workers) to partners in the work. These participants must drive the work. The goal and scope of what we design must change based on their input. We use democratic decision-making processes to move the project forward and create precedents for how the work will evolve once the design is “done.” As the researcher, my job is to transfer the power given to me through my institution to those participants, in a sort of designerly *aikido** move.

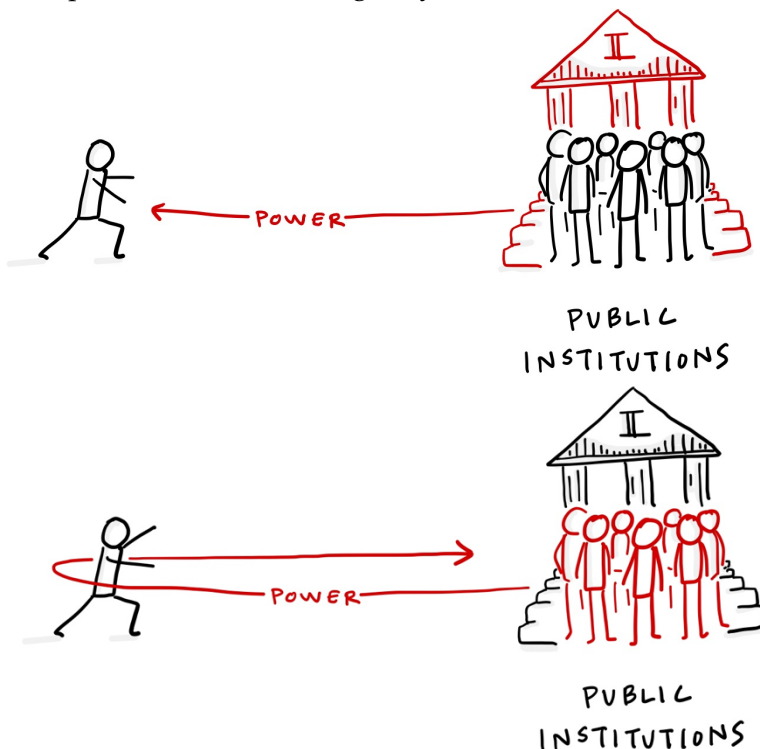


Figure 4.2
The transfer of power in participatory design.

* Aikido (合氣道) is a Japanese martial art that uses the strength and momentum of an attack against the attacker.

I used PD to co-design the minimum viable product (MVP) prototype in a six-session PD workshop with library workers and other creative professionals in phase three of Q3. “New PD” informed the design process I used to co-create our prototype, and the structure I used for the agenda of each workshop session.

Design Process

Because the majority of my co-designers were library workers, I used a design process described in *Design Thinking for Libraries* (IDEO, 2015). This process involves three main design phases: *inspiration*, *ideation*, and *iteration*.

These phases are cyclical. As ideas form, you may go from inspiration to ideation, back to inspiration, then onto ideation and iteration, before returning to ideation, or even inspiration yet again. The process doesn't have to end, though it can end by abandoning the idea or implementing and integrating it into the context for which it's designed. The IDEO guide defines the phases as follows (IDEO, 2015, p. 9):

- Inspiration is about framing a design challenge and discovering new perspectives on the opportunity.
- Ideation is about generating ideas and making them tangible.
- Iteration is about continual experimentation based on user feedback.

For the workshops, we began in the inspiration phase. We engaged in fieldwork activities that helped us understand the role of restorative environments and technology in library space. We moved into the ideation phase with brainstorming activities across several sessions. We spent the bulk of our workshop time in the iteration phase with participants giving feedback on versions of the prototype in varied ways.

Session Structure

The overall structure of the workshop and each workshop session agenda relied on co-design work I've done in other research projects. The overall structure was built on prior work co-designing LIS curriculum in university settings (Hildreth et al., 2018) and co-designing business opportunities in the sustainable seafood industry (Mages & Onafuwa, 2019). Participant recruitment was essential. The workshop structure depended on a blend of domain-area experts (in my case library workers) and “creative agitators” (experts from other fields). The workshop goal was creativity, not consensus, and participants were encouraged to externalize their thinking through sticky notes, worksheets, and flipcharts

(or in the case of a virtual workshop, digital sticky notes, Google Slides, and Google Docs). Each session followed a simple structure that I have used in prior work co-designing digital well-being tools with and for teens (Weinstein et al., 2022):

- *Opening up*: similar to an extended icebreaker, ~15-20 minutes checking in and connecting
- *Building on*: offering a design invitation based on ideas that surfaced during the prior session and inviting feedback
- *Diving in*: dedicated time for generative, creative design work, points of connection, "doing," making
- *Standing back*: considering where we are heading, assessing our feelings about the direction of the work, and taking stock of the fit within broader aims



Figure 4.2
Early planning for the workshop using IDEO's design process and Weinstein et al.'s session structure.

For example, to create the original set of workshop agendas in Q3, I created a matrix of the design process and session structures described above and mapped design activities. As the sessions unfolded, I revised our plans and created new offerings for participants to build upon. We adjusted our course through "standing back" conversations, and also through session evaluation survey responses.

As with RTA and IPA, PD benefits greatly from reflexivity. I documented my thoughts, decisions, concerns, and intuitions, as well as what

happened in each session. As with my other analyses, I stored and archived all data collected in secure locations that comply with IRB standards, used thick descriptions (Denzin, 2001) in my findings, and memberchecked (Birt et al., 2016; Carlson, 2010) my results with participants.

Now we're going to move onto how I have applied these methods to my three research questions. Each research question has its own chapter and each chapter documents the participants, data collection, data analysis, findings, and limitations of the study. In this and subsequent chapters, I have tried to document my research process meticulously. I have done this because, as a designer, I rely on process. I trust my process when I am thrown a gnarly problem and am not sure how to solve it. It is always working that process, not some brilliant stroke of insight, that gets me to a place of originality and creativity. As a scholar, I have struggled to find examples of meticulously documented research processes to help me tackle challenging research questions. With these chapters, I model the kind of sharing I would have loved to see on my own scholarly journey.

5 THE FINDINGS: LEARNING OUTCOMES THAT SUPPORT RESTORATION

My first research question was, “How can individuals protect and restore their attention when many of their interactions are mediated by technologies incentivized to exploit it?”

I approached answering this question by analyzing 389 documents, which were created by 86 informatics undergraduates at the University of Washington. These undergraduates were my students in *INFO 360: Design Methods* in the summer (n=41) and autumn (n=45) of 2019. The documents represent four of their course assignment submissions (n=344) and their responses to a follow-up questionnaire (n=45), which was distributed in July 2020, several months after the courses were completed. Documents were analyzed using reflexive thematic analysis (RTA) (Braun & Clarke, 2022).

Participants

Summer 2019	n = 41
Autumn 2019	n = 45
	n = 86 (total)

Data

Initial Reflection Assignment	n = 86
Empathy Map Assignment	n = 86
Noticing Practice Assignment	n = 86
Final Reflection Assignment	n = 86
Follow-up Questionnaire	n = 45
	n = 389 (total)

This chapter details the methods I used to recruit participants, and collect and analyze these data. It also offers my research findings, which are a set of five learning outcomes that encourage individual restoration, and the assignments that supported those outcomes. By “learning outcomes,” I mean the intentions that guide pedagogy in a learning experience.

5.1 PARTICIPANTS

The participants in this research study were INFO 360 undergraduates. The course is required for the major. All participants were informatics majors or hoped to be.

Cohort	Total	Male	Female	Sophomore	Junior	Senior
Summer	41	30 (73%)	11 (27%)	7 (17%)	19 (46%)	15 (37%)
Autumn	45	28 (62%)	17 (38%)	7 (15.5%)	25 (55.5%)	13 (29%)

Participants were invited to participate in the study on the last week of class. The consent forms, which were withheld from me until after grades were submitted, listed the types of data I might use:

- Assignment submissions
- In class studio work
- Comments on Slack, Trello, and Canvas
- Photos taken from above or behind

All but one student, who did not attend the last week of class, consented. The study was approved by the University of Washington's institutional review board (IRB). There were no incentives offered as a result of participation.

5.2 DATA COLLECTION

There were two sources of data for this study: assignment submissions and a follow-up questionnaire. The assignment submissions were collected as a natural progression of the courses. In total, there were 34 unique assignment types and thousands of assignment submissions across the 86 students. The process I used to select which assignments to analyze, and the nature of those assignments, are detailed in the data analysis section. The second data source, an anonymous follow-up questionnaire, was sent to all participants via an email to their course listserv in July 2020. The questionnaire had seven questions, all of which were optional:

- How well do you remember our INFO 360 class? (Five-point Likert scale)
- As we learned in our class, many students feel stress and attention fatigue for a host of reasons and this has no doubt compounded all the more due to recent events. When you experience stress or attention fatigue for any reason, how do you cope with it? Do you do anything to destress or protect your attention?
- One of the things we focused on in our class was the role that technology plays in our lives, both in helpful and unhelpful ways. How would you describe your relationship to technology (e.g. your laptop, phone, wearables, devices in your home or car, etc.) right now? Do you wish it were any different? If so, how?
- A major theme of our class was restorative environments and how they restore our attention when it is fatigued. Are there times you notice when your attention is depleted? At such times, have you done things to restore it? If so, what? Do you ever use

environments to restore in any way? If so, how?

- We also learned about contemplative practices in class (like being present in the moment, empathic listening, noticing, freewriting, drawing). Do you ever engage in any contemplative practices? If so, when and for what purposes? What are you actually trying to do when you make use of those practices?
- It's been a long time since our class, but without thinking too much about it, are there any experiences or concepts that arose in class or during the quarter that stick in your mind? If so, please describe.
- Is there anything else you'd like to say?

Forty-five students (52%) filled out the survey. There was balanced representation across the summer (54%) and autumn (51%) cohorts.

5.3 DATA ANALYSIS

I used Braun and Clarke's RTA method to analyze data for this study (Braun & Clarke, 2022). As a reminder, there are five steps to RTA:

- Step 1) Familiarizing yourself with your data
- Step 2) Generating initial codes
- Step 3) Searching for themes
- Step 4) Reviewing themes
- Step 5) Defining and naming themes

STEP 1: FAMILIARIZING YOURSELF WITH YOUR DATA

To familiarize myself with these data, I established a data corpus (identifying every bit of data I had from the two courses) and narrowed that to a data set (the data used for this particular analysis). This was a huge process because there were 35 data types (course assignments and the follow-up questionnaire) and thousands of potential data items (individual assignment submissions and questionnaire responses).

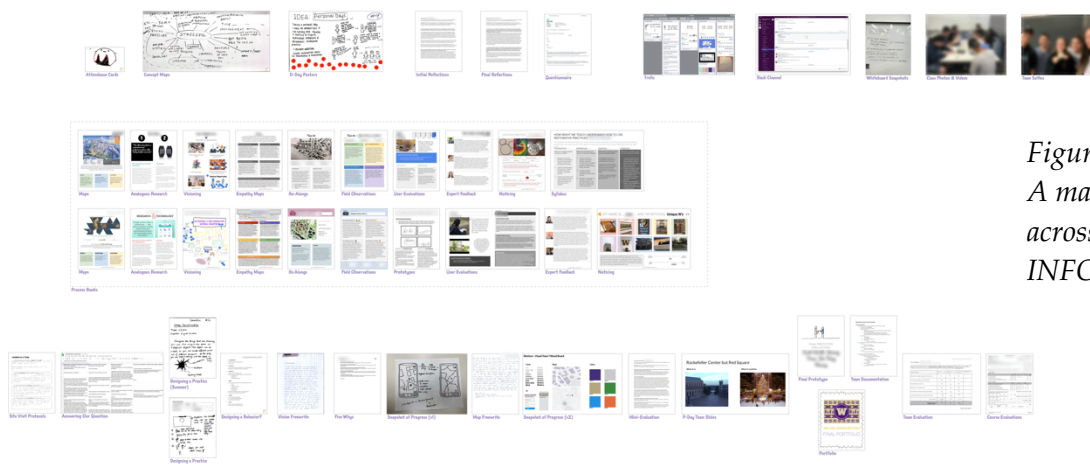


Figure 5.1
A map of the data types
across both quarters of
INFO 360.

To narrow my data set, I considered the following four criteria: (1) Are the data about restoration? (2) Are the data from individual assignments (versus group assignments) so I can observe how a particular student changed over time? (3) Are the data complete (are all students represented)? (4) Are the data consistent across both cohorts (similar assignment structure)? Three assignments met all four of these criteria (Initial Reflection, Empathy Map, Final Reflection) and two met enough criteria to be included (Noticing Practice, Follow-up Questionnaire):

	Related to Restoration	Individual Assignment	Data Set is Complete	Consistent Across Cohorts
Initial Reflection	X	X	X	X
Empathy Map	X	X	X	X
Noticing Practice	X	X	X	
Final Reflection	X	X	X	X
Follow-up Questionnaire	X	X		X

The Noticing Practice assignment was inconsistent across both cohorts because documentation requirements changed between the summer and fall cohorts based on feedback from summer students. Instead of documenting the quarter-long practice with a single picture, students in the autumn cohort documented their practice each week (10 photos in total). The follow-up questionnaire data set was incomplete (52%), as mentioned in the previous section, but its relevance to the research question was so significant, I included it. Since the four assignments listed above are central to the study, I have described them below.

Initial Reflection

In the first week of class, students were asked to answer questions about their experiences as an undergraduate at UW. The questions were:

- What, if anything, do you find stressful in your life as an undergraduate at UW? Do you suspect others experience similar or different stressors? How do you cope with this stress? How do others?
- What is your relationship to technology (e.g. laptop, phone, wearables, devices in your home, etc.) when you experience stress? How do you use (or avoid) it? Does it help?
- What is your relationship to campus environments (e.g. classrooms, libraries, common areas, green spaces, etc.) when you experience stress? How do you use (or avoid) it? Does it help?
- Optional: Is there anything else you'd like to share?

Initial Reflections were submitted as either PDFs or Microsoft Word documents via Canvas, the course learning management system. The reflections were considered private, with the instructor team (myself and the teaching assistant) as the only people with access to them. Students were required to write 400-600 words for their reflection. The assignment was worth 5 points (5% of their total grade in the course). If students met the word count, they received full points.

Empathy Map

In the third (summer co-hort) or fourth (autumn co-hort) week of class, students were asked to conduct an hour-long one-on-one interview with another undergraduate student who was not in our class. The interview explored understanding how the student being interviewed experienced restoration. The goal of the assignment was to listen empathically during the interview. Students documented their interviews with the Google Slides template to the right. They were given a bank of questions to draw from that addressed each area of the template. Empathy Maps were submitted as a single slide in a Google Slides document that was shared with the entire class. Students were required to fill out each part of the template and write a reflection in the slide notes. The assignment was worth 4 points (4% of their total grade in the course). Students received 3.5 points if they filled out each part of the slide. The remaining 0.5 points were awarded based on the quality of their answers.

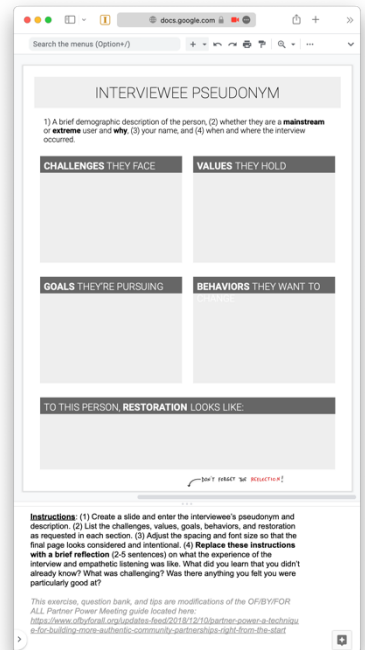


Figure 5.2
Empathy Map template.

Noticing Practice

As mentioned, the Noticing Practice assignment documentation changed from summer to autumn. The assignment itself, to pick something to notice all quarter, did not change. In the summer cohort, students documented their practice with one photo at the end of the quarter. In the fall, they documented their practice with one photo each week (10 photos in total). The assignment template changed to accommodate this shift:

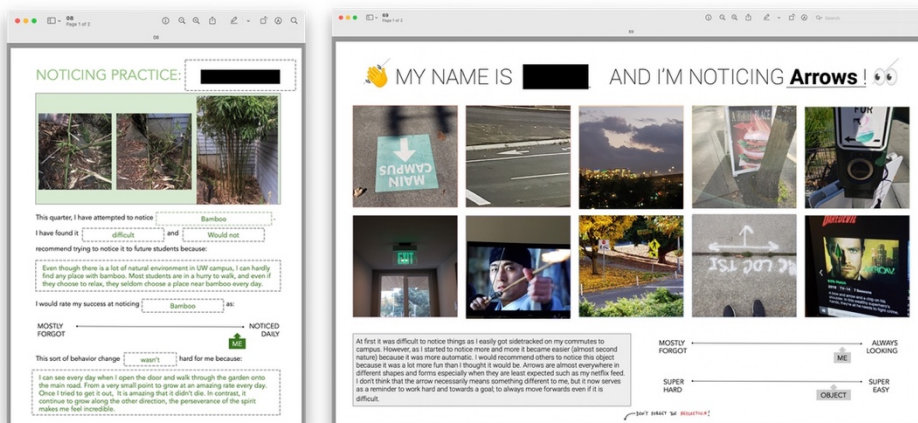


Figure 5.3
The summer (left) and autumn (right) Noticing Practice templates.

Noticing Practice assignments were submitted as a single slide in a Google Slides document that was shared with the entire class. Students were required to fill out each part of the template and write a reflection in the slide notes. The assignment was worth 4 points (4% of their total grade in the course). Students received 3.5 points if they filled out each part of the slide. The remaining 0.5 points were awarded based on the quality of their answers.

Final Reflection

In the last week of the quarter, students were asked to answer questions about their experiences in the class. The questions were:

- This quarter, we have explored undergraduate stress and designed a prototype technology that helps undergraduates cope with their stress through restorative environments and practices. What, if anything, has changed in your relationship to stress, campus environments, and technology through the design and evaluation of our map?
- Thinking through the design process (inspiration, ideation, iteration, integration) and the skills we practiced throughout the quarter (noticing, empathetic listening, divergent/convergent thinking, sketching, and prototyping), what concepts hold a “stickiness” and resonance for you? Which skills and/or elements of the process do you imagine you will carry forward in your life and work?
- Considering your classmates, specifically, what have you learned from each other? What relationships, if any, has this course helped you develop?
- Optional: Is there anything else you’d like to share?

Final Reflections were submitted as either PDFs or Microsoft Word documents via Canvas, the course learning management system. The reflections were considered private, with the instructor team (myself and the teaching assistant) as the only people with access to them. Students were required to write 500-750 words for their reflection. The assignment was worth 5 points (5% of their total grade in the course). If students met the word count, they received full points.

STEP 2: GENERATING INITIAL CODES

To generate initial codes, I reviewed all data items (n=389), which included student assignment submissions and the follow-up questionnaire responses. I reviewed assignments by type, so I reviewed every initial reflection, then every empathy map, and so on. As I

reviewed each data item, I added potential codes to a bulleted list, nesting items that seemed related. For example, here is a sample of bullets created after reviewing the Initial Reflection assignment. The “...” indicates the list of items continues.

- Stressors
 - Academics
 - Competitive Major System
 - Grades or “grading schemes” (like curves)
 - Classrooms like Kane Hall
 - ...
 - Social Pressures
 - Money
 - ...
- Coping Mechanisms
 - Consuming Media
 - Music
 - Video games
 - Watching videos
 - ...
 - Self-Care
 - Planning
 - ...
- ...

The list of initial codes across all five data types totaled 448 bullets in all:

- Initial Reflection List (120 bullets)
- Final Reflection List (133 bullets)
- Questionnaire List (79 bullets)
- Empathy Map List (69 bullets)
- Noticing Practice List (47 bullets)

I *affinity diagrammed* (Scupin, 1997) all bullets to refine the list to 22 initial codes:

Technology-related

- | | |
|-----------------------------|--|
| Tech Pessimism (n=51) | Describing technology negatively |
| Tech Optimism (n=135) | Describing technology positively |
| Tech is Complicated (n=177) | Describing technology both negatively and positively |

Power Dynamics

- | | |
|----------------------|--|
| Disempowered (n=173) | Describing feelings of powerlessness |
| Empowered (n=118) | Describing feelings of power or agency |

Change-related

I am not alone (n=53)	Realizing that others struggle as they do
Technology (n=65)	Describing using technology differently and how
Evidence (n=298)	Demonstrating actual evidence of change
Talk (n=380)	Talking, but demonstrating no evidence of change
No Change (n=95)	Describing not changing, staying the same

Topical

Noticing (n=166)	Referencing the Noticing Practice
Empathy (n=210)	Referencing the Empathy Map, or empathy in general
Doing Nothing (n=11)	Referencing the Doing Nothing assignment
Campus/Environment (n=318)	Describing experiences on campus
Slow Down/Contemplative (n=146)	Referencing contemplative practices
D-Day (n=17)	Referencing the day they decided on their project
P-Day (n=15)	Referencing the day visitors came to support students
Embodied (n=18)	Describing sensations or felt experiences
Creativity (n=32)	Describing moments of creativity
Gratitude (n=11)	Describing moments of gratitude
Social (n=149)	Referencing classmates and relationships
TBD (n=241)	Phrases that seem important but do not fit elsewhere

I carefully read each data item again, this time across each participant. So, I would read the same student's initial reflection, empathy map, noticing practice, final reflection, follow-up questionnaire, and then another student's, and so on. As I read, I extracted any phrases that seemed noteworthy and assigned codes to them. In many cases, a single extract was assigned multiple codes. For example, here are a few extracts and how they were coded:

Tech Pessimism,
Disempowered

I would say this past year up to this summer, I've always had a bad relationship with technology. I remember the first thing I would do when I woke up was to go on my phone at least for a good hour before I actually got out of bed. Not only did I feel like I wasted my morning, my head would feel "cluttered" when I would start my mornings looking at a screen and I would feel tired throughout the day.

Tech Optimism

In general, technology is something I use and interact with very often, and I believe that it is one of the things that most keeps me grounded and happy.

Evidence of Change,

While trying to look for potential items to notice, it

Noticing

forced me to notice everything else around me, going down to the smallest details like the color of people's shoes or the pattern of leaves on the ground.

Talking About Change, Noticing

I plan to continue this practice of noticing each meal, no matter what it is or who its made by so that I can force myself to slow down while eating and continue to appreciate where my food came from.

Embodied,
Creativity,
Slow Down/Contemplative

I do yoga, go on walks, and draw. I do all of these when I experience attention fatigue and can't focus or get any more meaningful progress done on work I have to do.

When I finished coding all participants, there were 1566 extracts coded across the 22 initial codes. Each extract contained metadata linking it to the participant and assignment, for cross-referencing.

STEP 3: SEARCHING FOR THEMES

Making sense of so many extracts and codes was an overwhelming task. Indeed, it even overwhelmed the software I was using:

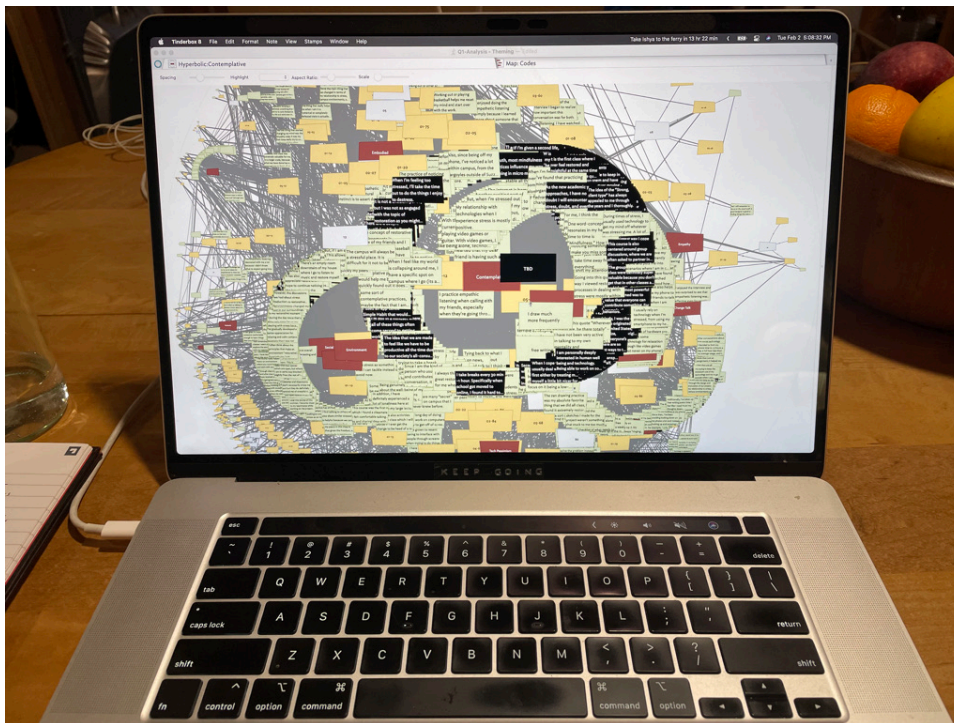


Figure 5.4
Tinderbox took 10–20 minutes to run a single query, often crashing my computer.

To cope, I used a combination of data queries, visualizations and spreadsheets to search for themes. I created network diagrams of the extracts, grouped by initial code, to find interesting areas to explore. I screengrabbed interesting observations, annotated them, and then ran data queries to dig into the specific extracts.

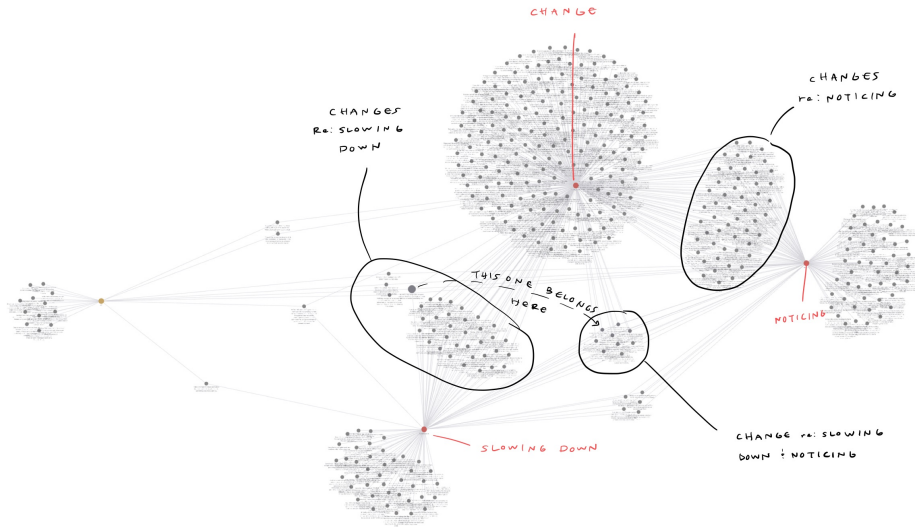


Figure 5.5
Visualizing “Evidence of Change” in “Slowing Down/Contemplation” and “Noticing” codes.

I created spreadsheet tables that helped me to see where codes overlapped, or which assignments were particularly generative for participants. These visualizations also became springboards for diving deeper into a code, assignment, or participant.

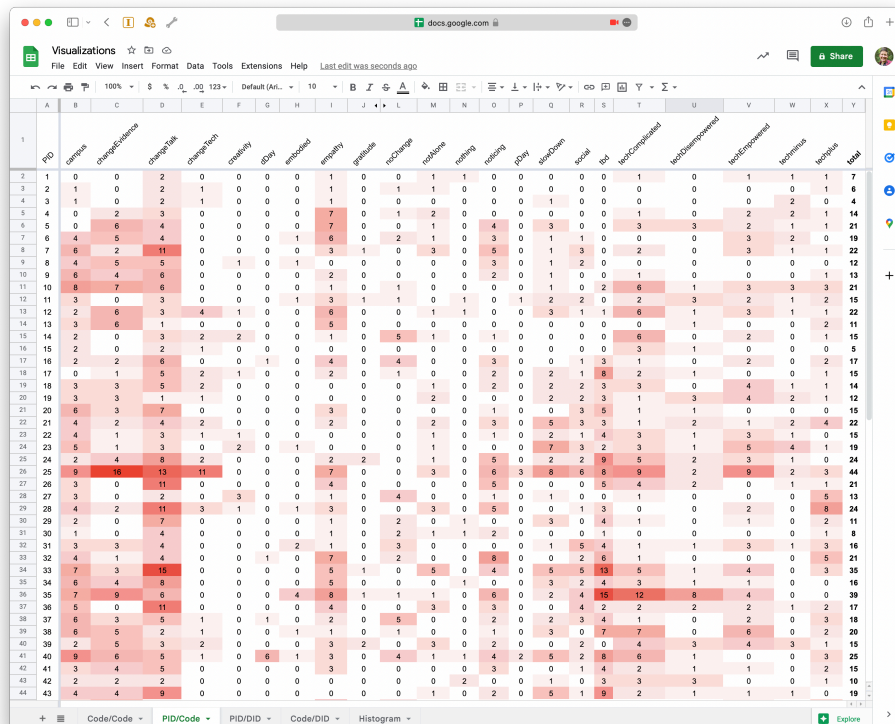


Figure 5.6
Visualizing distribution and density of codes across each participant.

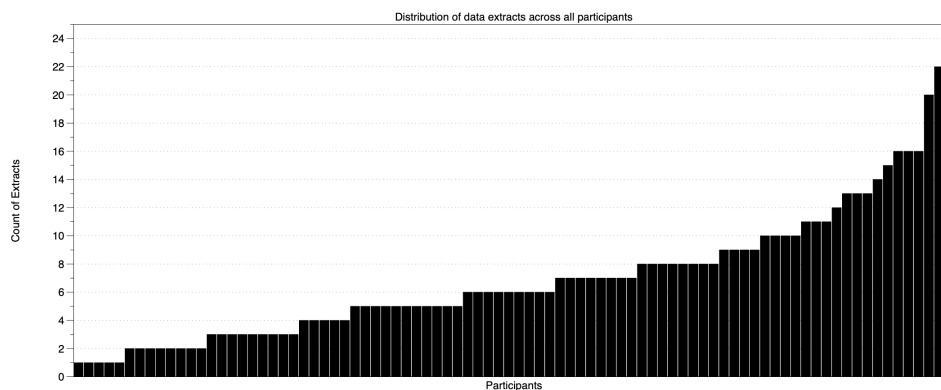
As my advisors warned me, this part of the process could go on forever, and I spent nearly a year exploring these data. At a point, my exposure to the data reached saturation and the extracts told consistent stories of change related to restoration. I labeled these provisional themes “contemplative,” “environment,” “connection,” “technology,” and “self.”

STEP 4: REVIEWING THEMES

I reviewed all data extracts again, coding them across the five provisional themes. This narrowed my data set to 531 extracts, some of which were coded to more than one theme:

Theme	Extracts	Description
Contemplative	n=226	Slowing down, noticing the world, mentioning specific contemplative practices.
Environment	n=159	Relating to campus, the classroom, or home differently.
Connection	n=123	Listening deeply, feeling empathy, connecting with classmates, friends, or family.
Technology	n=60	Using technology differently.
Self	n=53	Being more self-aware, challenging assumptions about self and others.

All 86 students were represented at least once in these themes. Some participants (n=5) were represented by only one extract, some participants (n=3) were represented by 20 or more. The histogram below displays how the extracts were distributed across all participants:

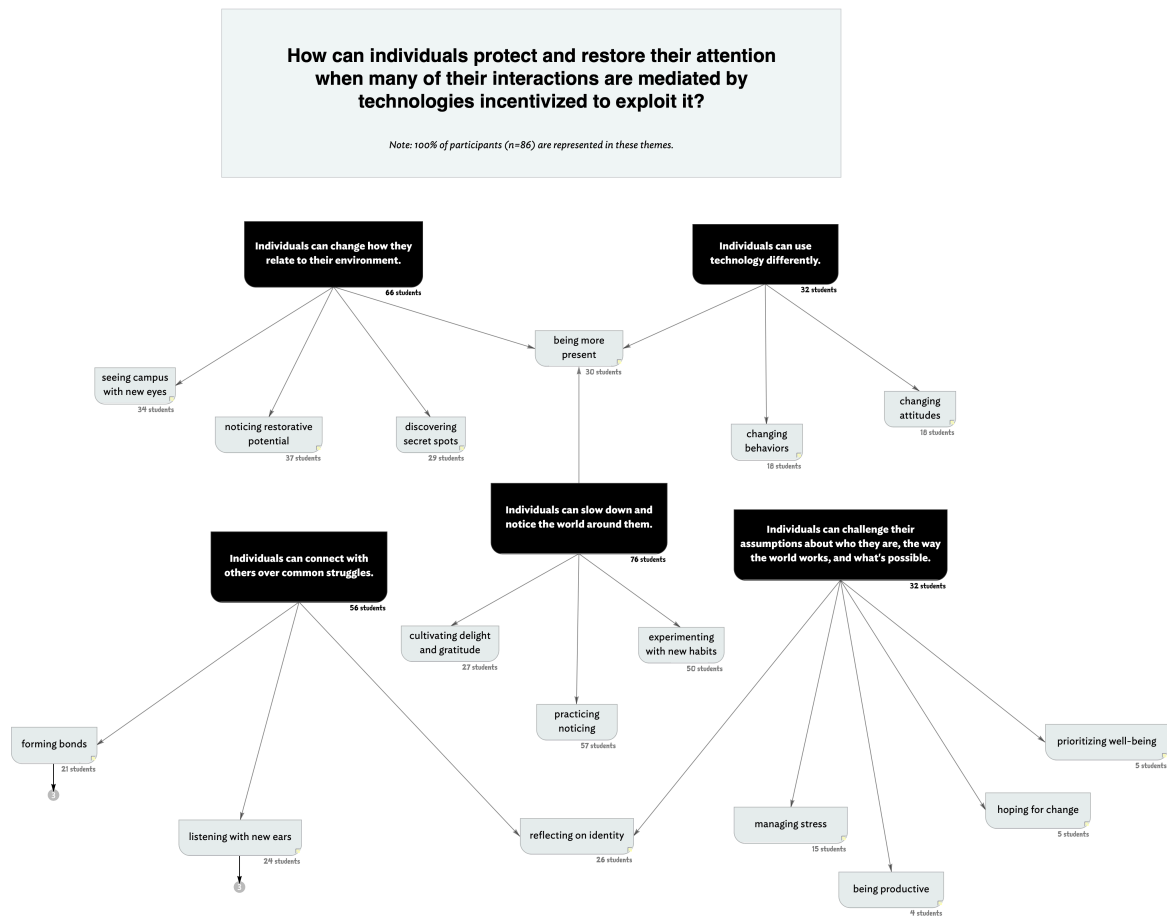


*Figure 5.7
A histogram of each participant and how many data extracts were represented in the final data set.*

STEP 5: DEFINING AND NAMING THEMES

In the final step of this analysis, I reviewed extracts under each theme and mapped those extracts into subthemes that conveyed nuance and painted

a richer picture of the themes. As you can see in the map of themes below, some subthemes are shared across themes.



5.4 FINDINGS

The findings for my research question, “How can individuals protect and restore their attention when many of their interactions are mediated by technologies incentivized to exploit it?” offer five learning outcomes that supported individual restoration in my course. I will briefly define the five outcomes below and then detail each, along with direct quotes from participants in the next section.

- Relating to the environment differently:** Noticing how the environment affects stress and attention, experiencing everyday surroundings (campus, commute, home) with new eyes, finding restorative allies, and being more present.
- Using technology differently:** Trying new behaviors, like minimizing technology use in certain situations. Having new

Figure 5.8
Final map of themes for Q1 analysis.

attitudes, such as a more nuanced view of the benefits and drawbacks of technology.

- **Connecting with others over common struggles:** Being vulnerable and open with others and listening, truly listening to them.
- **Slowing down and noticing the world:** Experimenting with a new, more present, way of being in the world. Experiencing delight and gratitude for what is.
- **Challenging assumptions:** Reconsidering one's relationship to stress, well-being, and productivity. Re-evaluating long-held beliefs about who one is, the way the world works, and feeling hopeful that change is possible.

5.4.1 RELATING TO THE ENVIRONMENT DIFFERENTLY

Many students had come to associate campus with stress and avoided it whenever possible. Through the class, their eyes were opened, or in some cases reopened, to the beauty of the campus. They not only saw campus differently, but they also used it differently, too. They visited restorative places as destinations or passed through them intentionally on their way to class. Occasionally, students changed their view of the university itself, seeing it in an altogether more positive light.

Before, I only saw campus as a place to study, which I related to stress. I was never comfortable being on campus if it was not for an academic reason, and would prefer to leave if I ever had the chance. Now, I am trying to change my mindset and find peace and beauty in my everyday environment, as I walk between classes, in the library, talking to friends. (Participant 68, Final Reflection)

Some students gained a greater awareness of the environments around them and how that influenced their attention and stress levels. This applied to campus as well as other places, such as their homes, neighborhoods, and the greater Seattle area.

I often pass places and my first thought will be 'this would be a great place to destress!' I do feel as though I have explored places on and off-campus more because through this class I have realized a large source of my stress is tied into the location of places that stress me out. I am writing

this reflection off campus at a cafe because I wanted to be in an environment that is relaxing and happy for me.
(Participant 81, Final Reflection)

They described specific moments of restoration. Sometimes they mentioned specific criteria of attention restoration theory (being away, compatibility, extent, and soft fascination). Other times they associated restoration with nature, natural light, or features of the built environment. Occasionally students mentioned the role technology plays in the environment, usually through efforts to manage/minimize distraction or perceived depletion. Some students discovered new places on campus. These places were usually discovered through field trip activities with other students.

Through the activity Going Along, I was able to discover new places like the Medicinal Herb Garden, which was hiding in plain sight on Stevens Way E, a road I walk on daily. It taught me to explore more, and since then I have discovered a few more small corners where I can sit and relax. (Participant 37, Final Reflection)

Some described the experience of being more present on campus or elsewhere. They mentioned specific examples of things they noticed while doing so (owls, sounds, wind, etc.). Sometimes they also mentioned how technology inhibits presence.

During the quarter, I spent money on headphones to block the sounds of campus, but found that leaving those headphones out while walking past passive sounds like the fountain was more enjoyable and relaxing. (Participant 56, Final Reflection)

In all, there were 124 data extracts included in this theme, and 77% of students are represented.

5.4.2 USING TECHNOLOGY DIFFERENTLY

For some students, the class inspired new behaviors and attitudes toward technology. These involved minimizing their use of technology in certain situations and/or shifting to a more nuanced view of the benefits and drawbacks of technology in their lives. For students who changed behaviors, they limited phone time, took breaks from tech, turned off notifications, and/or deleted apps.

A big thing I am trying to focus on is not using my phone as much. After thinking about designing a space that would encourage people to set technology and studying aside and interact with each other or just be present in the moment, I thought maybe I should try more of that. (Participant 38, Final Reflection)

Some engaged in restorative activities in their time away from tech, such as going outside, drawing, or journaling. Some used apps that support creative or contemplative habits.

Nowadays, I've learned how to use technology as a tool to amplify my interests/lifestyle. For example, I like using my iPad to make photo collages and edit my photos on Photoshop and Lightroom. I use the Calm app (I remember learning about this in INFO360 :D) to help me with my meditation. (Participant 25, Follow-up Questionnaire)

For students who changed attitudes, they demonstrated a more nuanced view of technology at the end of the quarter when compared to generally positive thoughts about technology at the beginning. Some students developed a mistrust of technology after learning about how companies exploit attention and use behavior design in their products. Some students realized that using technology to cope with stress wasn't actually helping them.

The notion that using technology, watching videos, playing video games, and other activities, while fun, are not actively restoring me has really lined up with my previous experiences that I could not really put to words. (Participant 10, Final Reflection)

A few students saw the possibilities of technology to help people restore, while others recognized problematic tensions with that idea, including the class's own efforts to use tech to create restorative environments.

I am still skeptical about the idea of using an application to destress. This is further reinforced by my other user testing. I realized that for many people, using technology also means not being able to restore. Our application accomplishes one thing, but at the cost of another. (Participant 67, Final Reflection)

For some students, the class inspired them to pay more attention to their surroundings and not check their phone as much. This was usually in response to the "noticing" activity, but some students seemed to generalize the practice. For example, not listening to music while they walk or just trying to be more present to the environment and to others in general.

I think this assignment was more than just an assignment; it helped me get away from my dependence on technology as a way to pass time and now I feel like I truly see more things that I wouldn't have normally seen. (Participant 69, Noticing Practice)

In all, there were 57 data extracts included in this theme, and 37% of students are represented.

5.4.3 CONNECTING WITH OTHERS OVER COMMON STRUGGLES

Some students listened in a way they never had before, and they seemed to value listening more as a result. They felt they understood people, heard and remembered things better, and connected more with others. Several students described in detail their experiences of how challenging it was to listen in this way.

The first activity I remember doing this is when we had to talk with a fellow classmate while noticing things we do and do not do. This was hard. I caught myself getting distracted and not fully listening to what they had to say. Now, when I have a conversation with someone, I am fully involved. I seek to understand why they are feeling what they are feeling without any judgment. (Participant 6, Final Reflection)

A common experience for students was realizing they weren't alone in their struggles, which often came as a surprise. Students were also surprised by what they learned about people they thought they knew well. Some seemed to appreciate the differences they noticed in others. A few noted that they simply had fun.

Coming into this class, I thought that I knew a lot about every one of [my close friends], but after spending 45 minutes to an hour with a handful of them, I was able to learn more things about them in that time period than I have in the past three years of living with them. I can count

on two hands the number of times that I have taken a weekend morning to get a coffee and go on a walk while talking about life, and most of those times come from this class's interviews. (Participant 86, Final Reflection)

Students valued, respected, and even befriended their classmates. They connected to each other through activities and teamwork, and in some instances, deeply personal conversations. Some saw the class, itself, as a community. Students described experiencing moments of connection—opening up, being vulnerable, and engaging in deep and personal conversations.

This course was the first in which I found a classmate I felt comfortable talking to and sharing ideas with. [Name Redacted] understood me, maybe not always agreed but was willing to listen and try to find value in what I chose to say. From her, I have learned to be more open, not afraid of being myself in a classroom setting. (Participant 68, Final Reflection)

Some students changed their perceptions of faculty, either through learning about ways the university provides resources or through connections they made on P-Day (a day where faculty and staff visited class to hear student presentations and offer advice).

I also have literally never felt more on top of the world since coming to college after our P-Day. I was lucky to have a really great team and a really awesome idea, but just hearing professional, expert adults be excited and willing to give us input and advice about an idea, and for them to take it seriously was so, so heartwarming and validating. (Participant 73, Final Reflection)

Some students took things they learned outside of the class, connecting more with friends, family, and even strangers. And some students reflected on the kind of person they were and described how they had grown and positively changed based on the experiences of connecting with others through the class.

Having had a tough time at UW, I developed the mindset to always expect that my peers in class will be smarter than me or better than me. It often made me too nervous to talk in class or even interact with classmates that I didn't

already know. Through our studio work, I was essentially forced to break out of my shell and collaborate in ways I haven't in a long time. These experiences almost always made me feel a sense of relief after class because I learned that my classmates are here for the same reason I am: to learn and grow. I almost never felt that sense of intimidation I used to, and I've come to realize that no one is "better" than someone else in our community, and I shouldn't be scared. (Participant 12, Final Reflection)

In all, there were 160 data extracts included in this theme, and 65% of students are represented.

5.4.4 SLOWING DOWN AND NOTICING THE WORLD

Some students described positive experiences as a result of trying contemplative practices, visiting restorative environments, or engaging in the noticing assignment. They wrote about experiencing delight or joy and expressed feeling gratitude or appreciation.

I noticed that as the weeks went by, I gradually enjoyed the mistakes that I made. I've always noticed mistakes that I've made or the mistakes around me but I never enjoyed them. Whenever I made mistakes I took myself too seriously, but after this practice I learned to accept mistakes and move on. No one plans on making a mistake and in my opinion that's the beauty of mistakes. (Participant 61, Noticing Practice)

Note: This student was noticing "mistakes."

One benefit I've experienced from this practice is that I have become more grateful. Noticing my mom's meals made me realize that I not only should be grateful that my mom is willing to cook for my family but also that our family is well-off enough to not struggle with meals. I plan to continue this practice of noticing each meal, no matter what it is or who it's made by so that I can force myself to slow down while eating and continue to appreciate where my food came from. (Participant 63, Noticing Practice)

Note: This student was noticing "homemade meals."

Many students described paying closer attention to their environment. This habit helped them notice things in greater detail and feel grounded. Some even described contemplative moments as a result of their practice. Such practices seemed to fuel a spirit of inquiry. Students were

philosophical, curious, and self-reflective about their observations.

It might be odd to say, but what this really made me do was become more aware of things around me in an abstract way. ‘What does it mean to be a container? How exactly do we define that?’ I spent a lot of time thinking about this question and it occurred to me many times that something could be a container. I also began to care not just for the container itself, but what was inside as well. Things like envelopes are unassuming, but their contents are often very precious. But for a garbage container, people would probably rather not see the inside. (Participant 59, Noticing Practice) *Note: This student was noticing “containers.”*

Some students were more aware of the stress they experienced, and many described using restorative or contemplative practices we tried in class as new ways to cope with stress. While they were exposed to these new ways through their design work, they seemed to have adopted them for personal purposes.

I find it very hard to stay in touch with my emotions and communicate my feelings effectively to other people... however through our free writing exercises, I found that I easily wrote down everything on my mind while staying honest with myself about what I was feeling... I have already bought a journal and started free writing a few times a week when I wake up in the morning and it has allowed me to be more in touch with myself. (Participant 64, Final Reflection)

Something that has stuck with me is how we used to take index cards and markers at the beginning of class to do a small rough drawing or ideation. I loved the idea of a low-pressure creative situation... I really felt free not striving for perfection. This has stuck with me and when I feel more inhibited when creating art, I start with smaller canvases and I see that really helps me relax and ease into my work. (Participant 22, Follow-up Questionnaire)

In all, there were 226 data extracts included in this theme, and 88% of students are represented.

5.4.5 CHALLENGING ASSUMPTIONS

Some students demonstrated a sense of self-awareness in their class assignments. They reflected on how they used to be and how they've changed. These changes sometimes involved habits that cultivate self-awareness, such as meditation, "doing nothing," gratitude, journaling, and being a good listener. Some students wrote about reconsidering long-held beliefs, mostly originating from their families, about who they are.

The idea of the "Strong, silent type" has always appealed to me through the years and I thoroughly convinced myself this was the best way to carry myself around in life, but upon learning all about restoration through the reading and frameworks discussed in class and applied to my project, I see that there is much benefit to undoing this philosophy and learning more about stress and restoration. (Participant 51, Final Reflection)

This quarter I have realized that I don't want to be a data analyst for a company where my job is to analyze past trends in order to figure out how the company can simply make more money. I think I would be compromising my values in order to work for maybe a big-name company just because that is what I think I am 'supposed' to do. This class has helped me realize that I want a job where I can use my passion and skills to help make the world a little better, just like our projects for this class, and it is okay for me to want something that is different than what I thought I was 'supposed' to want. (Participant 81, Final Reflection)

Some demonstrated an increased sense of confidence. Some began to reconsider their relationship to productivity. And some conveyed a sense of hopefulness that they and/or the university can change for the better.

It has given me a lot of hope and encouragement that we can make a true change at this university. (Participant 33, Final Reflection)

Some wrote about how they were now prioritizing their own well-being and, in some cases, the well-being of their friends and family.

Being genuinely curious about the well-being of my friends - Conversations with my friends, family, co-workers, and mentors that focus on the human sides of life have helped

me become more vulnerable and this has improved my sense of self. (Participant 79, Follow-up Questionnaire)

In all, there are 55 extracts included in this theme, and 37% of students are represented.

5.5 LIMITATIONS

I would like to share the limitations of this work so that the discussion section can be read with them in mind.

Participant Limitations

The participants in this study were undergraduates in an overwhelmingly tech-positive school in a prestigious R1 university. The nature of their stressors and their attitudes and behaviors toward technology are narrowed by this context. For example, many of the students in this class related to each other over their experience in the “competitive major system.” This is a system where undergraduates have to compete for admission to schools and departments in the university in order to major in that discipline. Admission to The Information School, which houses the informatics undergraduate program, is notoriously exclusive. Undergraduates in other majors at the University of Washington may not have shared this stressor or bonded in this way. The same is true for undergraduates at other universities, or people who have different stressors altogether. I tried to mitigate the risks of this limitation by describing my methods and findings in detail and by not claiming that they are generalizable beyond the scope of the students I taught in my class.

Limitations of the Data Collection

With the exception of the follow-up questionnaire responses, all the data I analyzed were from graded assignments, and I was one of the people grading those assignments. It is impossible to know what students would have written about their experiences without that power dynamic. I tried to mitigate the risks of this by waiting until the end of the quarter to ask them to participate in the study, and by promising not to review the consent forms until after grades were submitted, but there is no question these data are influenced by this dynamic, potentially to a great degree.

My role as the instructor of these classes is also a limitation (in other ways it is a strength). My personality, teaching style, and lived experience, along with student perceptions of my race, class, gender, sexuality, and abilities influenced every bit of data collected in this study. I created the syllabus, and I authored all assignments, lectures, and feedback. Even the

tone of my voice had an influence. To quote a student, “More than just the class, Beck is an incredible teacher and is the first teacher to make me enjoy 2-hour long classes and also, she has such a relaxing voice too.” Untangling curriculum, pedagogy, personality, and positionality is impossible. I have tried to mitigate these risks by offering pedagogical reflections in my findings and limiting the scope of my findings by not claiming generalizability.

Another limitation was that there were meaningful data that were impossible to collect. These data existed in the conversations my students had with one another, in their experience of course readings, in the thoughts and ideas they did not share. These data may have revealed additional changes, contradictions, or ways in which students resisted change. I could not mitigate these risks, but to help understand the nature and scope of their learning experiences, I have included the syllabus for the course in Appendix B.

Limitations of the Data Analysis

There was so much data generated in this study. There were thousands of data items, which could have yielded tens of thousands of data extracts had they been analyzed. I did not have the time or brain power to process all of the data collected. To make the analysis possible, I had to make choices. I winnowed my list of the 35 possible data types to only five (Initial Reflection, Empathy Map, Noticing Practice, Final Reflection, and Follow-up Questionnaire). With more data, I may have told a richer story.

Furthermore, the stories I told in the findings are only a subset of the stories I discovered in my analysis. I have over 30 pages of quotes mapped to the themes reported in these findings. They tell richer stories, but I’m not sure anyone would want to read them! Also, while I spent nearly a year analyzing these data, I could have easily spent longer. I had to stop in order to keep going. My findings are limited by these choices, and many others.

I tried to mitigate the risks of these limitations with extensive documentation of the choices I made and why I chose them. I have tried to succinctly convey my rationale as I walked through the analysis process, though what you see here is a small fraction of the journaling, photos, and note-taking I produced during the analysis.

Limitations of the Findings

All 86 students were represented at least once in the findings, but not all students experienced the same level of change or changed in the same

ways. Some students expressed ways in which they didn't change.

Overall, not a ton has changed in terms of my relationship to stress. I have always been pretty good with managing my stress, mostly coming down to not stressing over things too much and being okay with imperfection. My ways of destressing - namely listening to music, playing video games and talking to close friends through Discord have remained unchanged as I know they work well for me. Despite this, I think the class has opened my mind to ways others use to destress, even if they don't work for me. On D-Day, I was very surprised at how around 2-3rds of the class wanted to work on restorative environments. These environments do not work for me, as public environments lead to social interaction, which while they doesn't necessarily stress me out, they certainly do not relieve stress, and in addition, getting to these restorative environments can be a hassle. This made me realize how diverse the activities we do to destress are, which adds to the difficulty of designing for reducing stress.
(Participant 16, Final Reflection)

My relationship with technology is still pretty close where I've been using it every day for school and entertainment. I don't wish it was different. (Participant 66, Follow-up Questionnaire)

I don't think I gained any benefits from this noticing assignment. I've always generally taken pictures of anything pretty at any given time and shooting during golden hour / sunset has been my favorite for years.
(Participant 53, Noticing Practice)

There were also students who described class activities as valuable in helping them with design skills, but not in terms of cultivating connection or presence. For example:

I think the skill of making good questions and good decisions with user feedback is something invaluable. With something like a game which is very broad, scoping down our problems and being able to identify key components through user evaluation is something that can greatly enhance the quality of the product, as well as the users'

enjoyment of it. Just in general, the skill of empathetic listening and noticing is also crucial to truly understand users and what things they might need. (Participant 59, Final Reflection)

The one thing that I didn't like about the assignment was the fact that we had to notice something every week, as many weeks Sunday would approach and I still hadn't found anything, leading me to stress over it and go out specifically to find something. (Participant 16, Noticing Practice)

Truthfully, I think that consciously nothing will stick with me. Consciously, I won't be making notes about noticing particular things or listening with specific intentions - it feels too forced to me. What I hope will happen, is that skills like empathetic listening and divergent-convergent thinking will automatically happen and develop without conscious control. (Participant 47, Final Reflection)

In general, some students chose not to engage with the opportunity for inner work, but the class met their expectations of gaining technical skills.

5.6 DISCUSSION

Data from these 86 students demonstrate that INFO 360 helped them connect, slow down, relate to the environment and technology differently, and challenge their assumptions about the way they (and many other things) work. We can understand the findings of this research as learning outcomes that support restoration and help students protect and restore their attention in an attention economy.

Students were supported in **relating to the environment differently** with assignments that asked them to (1) notice how the environment affects them, (2) see it with new eyes, (3) discover secret spots, and (4) be more present in general. The assignments that scaffolded these experiences often involved field trips during class. Students were regularly invited to leave the classroom in small groups, and explore and share restorative environments with each other. They were also asked to go to common campus locations and observe how others interacted in those spaces. The noticing assignment, which students "took" everywhere they went for the entire quarter, also helped them cultivate presence on campus and elsewhere.

This feeling is like you go to your house and discover that there is a secret room that has been hidden from your sight for a long time. (Participant 13, Final Reflection)

Students were supported in **using technology differently** through assignments that helped them experiment with (1) changing behaviors, (2) changing attitudes, and (3) being more present. In part, the conditions that supported experimentation in these ways involved lectures and readings that helped students understand the way the attention economy works. But more than that, actually experiencing alternatives that were positive and surprising was what led to changes. The “doing nothing” assignment, where students were literally assigned to “do nothing” and come to class prepared to talk about it, was especially effective at helping students experience alternatives, as was the fieldwork required to observe and test their prototypes. Sometimes students experienced the effects of restoration in these moments. They became real instead of theoretical.

I was always doubtful of restorative environments and allowing myself time to heal from stress. However, when I was doing user testing for an assignment for this class, I found by pure chance a very relaxing location and moment. This helped me realize that this “restorative environment” thing actually worked. (Participant 67, Final Reflection)

Students were supported in **connecting with each other over common struggles** through assignments that helped them (1) form bonds, (2) listen with new ears, and (3) reflect on their own identities. Scaffolding these experiences involved consistently prompting students to have real conversations with one another over the course of the quarter. These conversations began in the first class with a “Speed Thinking” activity that helped students connect over their stressors and continued in every class that followed. Each class discussion was thoughtfully scaffolded, given enough time, and students had the freedom to direct or use the conversation in ways they saw fit. As a class, we also learned how to listen better by watching compelling videos on listening and empathy. The assignment most associated with quotes about connection was the Empathy Map assignment, where they interviewed a close friend, endeavoring to empathically listen to what they had to say.

The fact that I saw students give hugs and handshakes at the end of class demonstrated just how close teachers and students can be through one quarter’s time. (Participant 47,

Final Reflection)

Students were supported in **slowing down and noticing the world** through assignments that helped them (1) practice noticing, (2) cultivate delight and gratitude, and (2) experiment with new habits. The assignment that most effectively supported this learning outcome was the Noticing Practice, which facilitated two important experiences for students. The assignment, which asked students to pick an object to notice and document it, supported students noticing outside of the classroom. For some students, it supported them in noticing more everywhere they went. Secondly, the assignment unfolded over the entire 10 weeks. For those students who found this assignment particularly meaningful, their relationship to noticing deepened over time. Time and practice were necessary for that shift to occur. Other activities, such as experiencing activities from the Tree of Contemplative Practices (CMind, 2021), designing our own contemplative practices, freewriting, and drawing in an open way also supported this learning outcome.

When I sit by a cliff above the open ocean or when I see vast mountains above me it is comforting because I know there is still some unknown and untamed parts of the planet, and power that is beyond me. It may be similar to the comforts provided by the powerful gods of religion. (Participant 12, Follow-up Questionnaire)

Students were supported in **challenging assumptions** about who they are, the way the world works, and what's possible through assignments that helped them (1) reflect on their identity, (2) challenge a productivity mindset, and (3) hope for change. Supporting these experiences required that students actually experience a course that valued reflection, challenged productivity, and gave them hope. The course had integrity, aligning with these values in how the assignments were structured, graded, and shared. For example, all course assignments were graded on a system of behavioral and quality points (Elbow, 2009), which removed the stress of making less than a B in the course as long as their work was complete. Students could revise assignments as many times as they wanted to get a better grade. And most assignments were in shared documents, so students could see what others were saying and feeling about their experiences. All assignments built on each other and contributed to the larger purpose of our work together.

In the beginning of the quarter, I identified my stressors coming from the unfair competitiveness that UW has and

how it's forced on the students who are often unfit for it coming from minority and low-income backgrounds. I frequently had the mindset that was instilled in me by my uncle growing up, which was "we have to be twice as good and work twice as hard to get half as much." That mindset specifically has caused me a lot of stress in my undergraduate studies at UW. Although that mindset still roams during my time at UW, working on my group's project has often put me in the "back-to-basics" mindset. When I say back-to-basics, I mean having to work on a project that radiates joyful feelings. Having to be mindful about the stressors of other UW students while in the process of creating something restorative, it allowed me to get outside of myself and my own stresses in my life. The project itself was restorative for me because I felt I was doing something that could alleviate important stressors in the lives of everyone at UW, myself included. (Participant 65, Final Reflection)

6 THE FINDINGS: ESTABLISHING A RESTORATIVE CLASSROOM CULTURE

My second research question was, “How can the design process itself be restorative?”

I approached answering this question by conducting and analyzing interviews with five students from my course. These students were invited to be interviewed because they overtly stated in their final reflections that the class, itself, was “restorative” for them.

The interviews were conducted in May 2021, 16 months after the class ended. Each interview lasted approximately one hour and was analyzed using interpretative phenomenological analysis (IPA) (Smith et al., 2009).

Participants

Autumn 2019 n = 5

Data

Interview Transcripts n = 5

This chapter details the methods I used to recruit participants, and collect and analyze these data. It also offers my findings, which are a list of conditions that, for these participants, established a classroom culture that supported restoration.

6.1 PARTICIPANTS

During my Q1 analysis, I flagged all students who mentioned the class “restoring” them. Sometimes this was stated explicitly (e.g., “Coming to class, to me, was in and of itself, restorative”). Other times, it was inferred from descriptions of restored attention, new coping mechanisms for stress, increased self-awareness, and feelings of connection. The participants (n=5) in this study were all students in the second cohort (n=45) of INFO 360 (autumn 2019). They are referred to throughout with the following pseudonyms: Ray, Georgie, Jude, Misha, and Brenner. Four participants identified as female and one identified as male (Ray). All participants identified as persons of color. Here is how each participant wrote about the class being “restorative” in their final reflection:

Ray: The project itself was restorative for me because I felt I was doing something that could alleviate important stressors in the lives of everyone at UW, myself included.

- Georgie: It has grown to be a restorative experience in itself for me, I look forward to coming to this class and being able to decompress and learn in an environment that promotes creativity and openness, rather than a pressure on grades or rigid criteria to measure success.
- Jude: Coming to class is something that I looked forward to up until the very end. Coming to class, to me, was in and of itself, restorative.
- Misha: This course was the first in which I found a classmate I felt comfortable talking to and sharing ideas with. [Name Redacted] understood me, maybe not always agreed but was willing to listen and try to find value in what I chose to say. From her, I have learned to be more open, not afraid of being myself in a classroom setting. It was a great experience and at first I thought it was simply because we appreciated each other as people, but it was more than that. Collaboration and honesty were encouraged, creating an environment in which I felt safe.
- Brenner: Every time I walk into this class or think about this class, I never feel stressed. I don't think I can say the same about the other courses I've taken. I feel like this class has been a very restorative experience for me.

I invited these five students for recorded, 60-minute, phone-based, one-on-one interviews. I sent each participant an email inviting them to participate. Those who did not reply within a week were sent a reminder email. All five participants accepted the invitation. The study was approved by the University of Washington's IRB. There were no incentives offered as a result of their participation.

6.2 DATA COLLECTION

Because interviews were conducted so many months after the class ended, I sent participants a personalized "participant packet" to remind them of the course. The packet consisted of a 10-slide Google Slides deck with lecture slides and photos from the class, as well as their submissions to the Initial Reflection, Final Prototype, Noticing Practice, and Final Reflection assignments. Slide notes gave each slide context. For example, on slide nine, which displayed Georgie's Noticing Practice assignment

submission, the slide notes read, “Throughout the quarter, everyone picked an object to notice. You noticed miniature objects.” To jog my own memory, I reviewed every assignment and documented interactions I’d had with each student being interviewed.

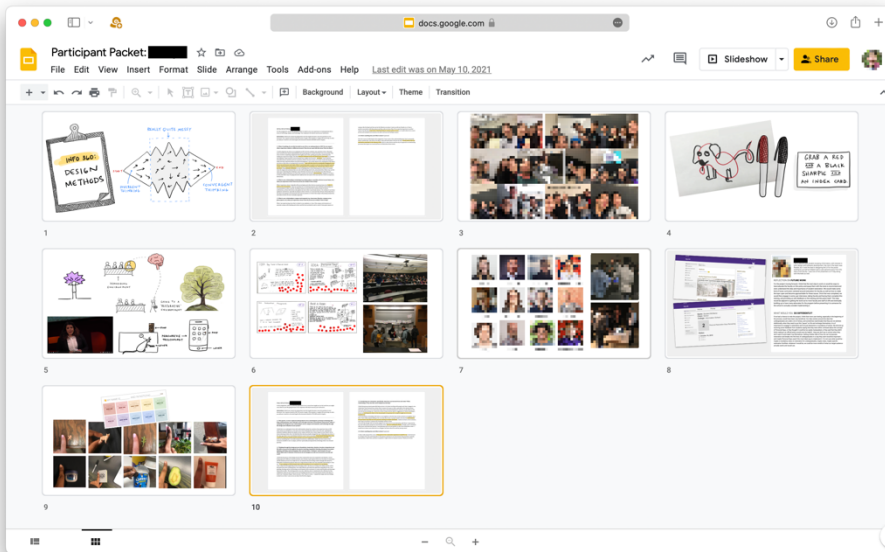


Figure 6.1
Q2 participant packet.

I began the interviews with a casual check-in to ease into the conversation. From there, the interview was loosely guided by the interview protocol, a complete version of which is included in Appendix C. An overview of the main parts is below:

- **Check-in:** I asked what life had been like for them during the pandemic.
- **Class recall:** I asked how well they remembered the class and what they remembered about it.
- **Restorative?** I read a direct quote from their final reflection about the class being restorative and asked if they remembered feeling that way, what it meant, and to describe specific memories of restorative experiences in class.
- **Memberchecking:** I reviewed the main findings of Q1 and asked if they did or did not reflect their personal experience of the class.
- **Wrap-up:** I asked if there were other things they wanted to share, if they had any advice for me in my work to translate our course to the library field, and I thanked them for their time.

As they answered questions, I actively listened and responded with follow-up questions that got them to go deeper, such as: “Why?” “How?” “Can you tell me more about that?” “Tell me what you were thinking?”

or “How did you feel?” Immediately after the interview, I reflexively journaled (Nowell et al., 2017) my experience and sent each student a thank you email. Interviews were conducted over Skype, using Ecamm Call Recorder. Interviews took between 45–68 minutes and were transcribed using Temi, an online speech recognition transcription service.

6.3 DATA ANALYSIS

I used Smith’s interpretative phenomenological analysis (IPA) (Smith et al., 2009) to analyze the interviews. As a reminder, there are six steps to IPA. The first four steps are completed for each interview before moving on to the final step, which involves analyzing all interviews together. I analyzed the interviews in the order that they were conducted.

- Step 1) Reading and re-reading
- Step 2) Initial noting
- Step 3) Developing emergent themes
- Step 4) Searching for connections across emergent themes
- Step 5) Moving to the next case
- Step 6) Looking for patterns across cases

STEP 1: READING AND RE-READING

To immerse myself in the transcript, I began by revisiting the student’s participant packet and the notes I made during and immediately after the interview. Then, I listened to the audio recording while reading along with a printed version of the transcript.

STEP 2: INITIAL NOTING

While listening to the interview recording, I highlighted excerpts, creating a color legend as I went.

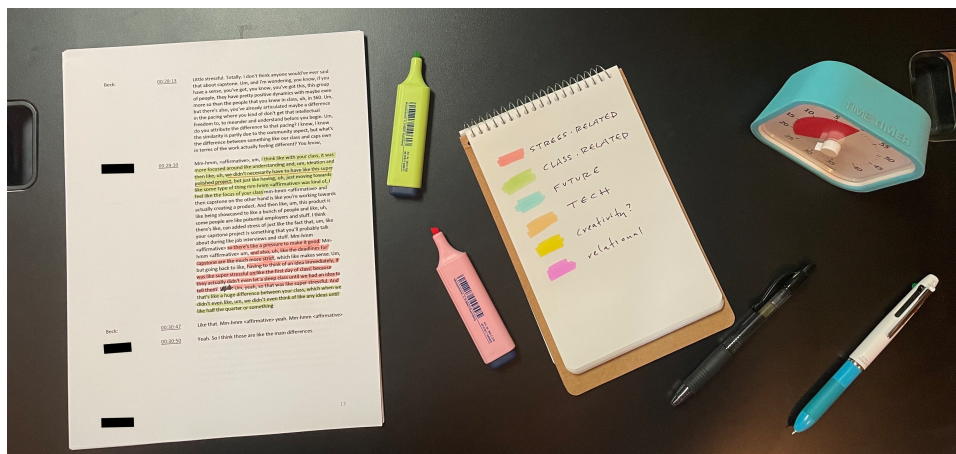


Figure 6.2
Highlighting excerpts.

When I came across significant points, I underlined them in red. I treated each interview as a blank slate, noting any new potential themes as I went. After listening to the entire interview, I set a timer for 30 minutes and used freewriting to explore my instincts and impressions.

STEP 3: DEVELOPING EMERGENT THEMES

For the third phase, I transferred my analysis to the computer. I copied each phrase I highlighted from the transcript into Tinderbox. I color-coded the phrases using the same color I had highlighted them in. I indicated any underlined items by outlining the note with a red border and bolding the specific phrase that I had underlined.

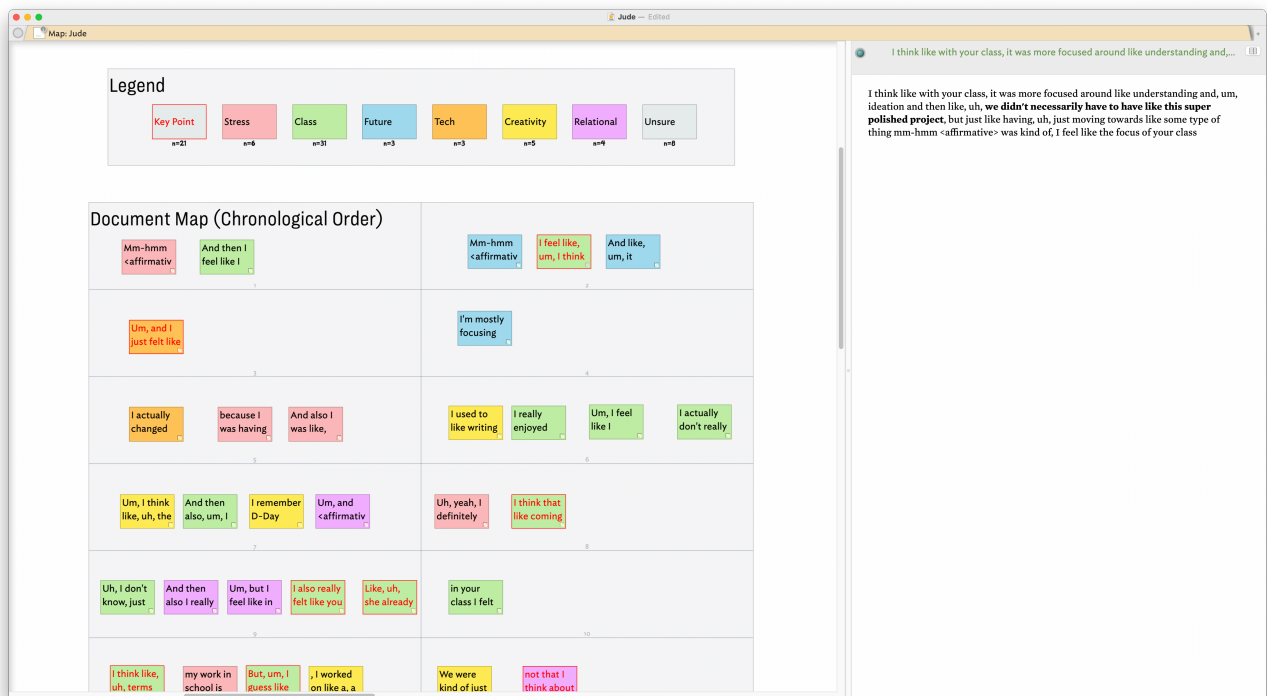
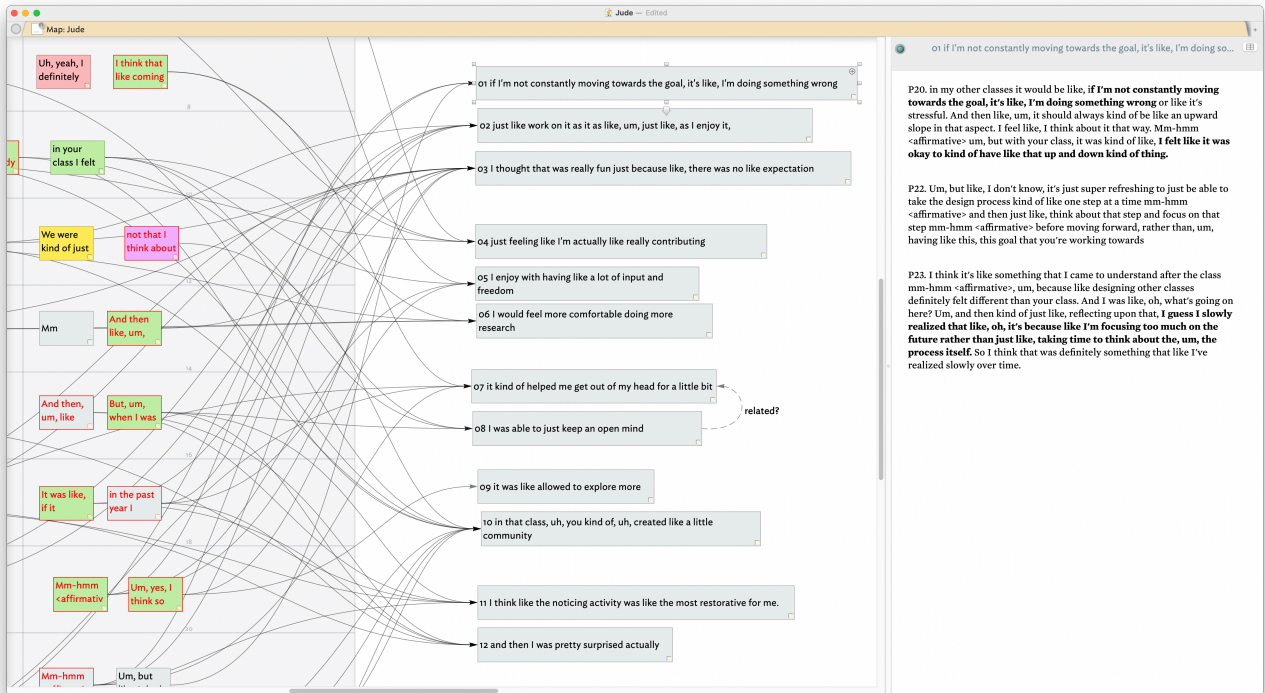


Figure 6.3
Highlights from Jude's transcript migrated to Tinderbox.

Then, I read through all the extracts for the interview and created provisional themes. I named each theme using a direct quote from the participant (e.g., "I thought that was really fun just because like, there was no like expectation"). As I found similar extracts, I grouped them. This created chaotic, but traceable paths to every quote that informed each emerging theme.



STEP 4: SEARCHING FOR CONNECTIONS ACROSS EMERGENT THEMES

I printed out every quote represented in the chaotic map above and cut them into small strips of paper. I created an affinity diagram (Scupin, 1997), sorting them into thematic clusters and labeling the clusters with a very short phrase from that participant's transcript (e.g., "we're all close," "contributing to something," etc.). This process gave me a view into that particular participant's experience of the course and what they meant when they said it "restored" them.

Figure 6.4 Documenting emergent themes in Jude's transcript.



Figure 6.5 Mapping themes in Jude's transcript.

I wrote a paragraph-length summary statement for the participant describing my interpretation of what their experience in class was like. I also drafted concise interpretations of what the participant meant by the class “restoring” them, which appear below.

- **Ray:** Normally by the end of a class, Ray feels exhausted and ready for it to be over, but he didn’t feel that way by the end of INFO 360. He felt he learned something, but it didn’t take anything out of him.
- **Jude:** Jude was restored by a way of working. In typical classes, she has to move forward with work before she is ready. In INFO 360, she had a say in the direction we took and could wait until she was ready to make decisions.
- **Georgie:** When Georgie walked through the door, she calmed down. She knew what to expect and liked who she was working with.
- **Misha:** For Misha, the class was restorative because she felt safe. The connections she made with a few others in the class alleviated her social anxiety and allowed her to set aside self-judgment.
- **Brenner:** Brenner found me, as her instructor, refreshing and trustworthy. Because I was thoughtful, clear, and realistic with my expectations, she could focus on the work without stressing out.

STEP 5: MOVING TO THE NEXT CASE

I repeated steps 1–4 for each participant, which resulted in five sets of emergent themes, which are displayed in the table below. I have listed an example quote for each theme. While each student meant something different when they wrote that the class restored them, we can notice a gestalt emerging of their shared experience in the left column below.

Ray

it was very relaxing	I remember not ever being in that little sky area and it was really amazing. And I sat for a while cause it was very relaxing.
didn’t feel dreaded out	I didn't feel dreaded out. I didn't feel tired in any way. I felt like I learned something, but it didn’t take anything out of me.
like my childhood	It felt very restorative in the sense that I got into the same head space as my childhood.

Georgie

felt fun to me	I look back on it and think about how much of that felt fun to me and not like told to be doing work.
sense of camaraderie	It established a sense of camaraderie or connection in a way where we're going beyond what we are needing to talk about, but we're still wanting to kind of thing.
(not) being... assessed	You don't have that, you know, creeping in the back of your mind that there is some layer of like performance and achievement that's being obsessed. Um, assessed.
this feels meaningful	It was a definite turning point for me too, for whatever reason. Orienting me into a direction of like, oh wow, this feels meaningful.

Jude

we're all close	We all did this together and we're all close.
contributing to something	Contributing to something that other people can benefit from helps me feel a lot better.
do it when you want to	You do it when you want to.
freeing	The noticing activity is freeing in that progress came when you least expected it. It was nice that it was something that was a little bit out of my control.
get out of my head	It helped me get out of my head for a little bit and stop thinking about myself and focus my time thinking about other people.
slow down a bit	I felt like it was okay to have that up and down thing. It didn't always have to be like this straightforward trajectory. I was

okay to slow down a bit and be like, oh, I don't really know where I wanna go from here.

Misha

without... any fear of judgment

It was a good space to say what you were feeling and what you were thinking without really having any fear of judgment.

you cared about us

It made me feel like you cared about us.

taking a break from... the day

It was helpful taking a break from what we were doing and taking a break from the day in general.

kept opening it up more

It felt like the gate was opening and that was the key that opened it up a little bit and the other things that we did in class, just kept opening it up more and more.

feeling like myself

This class in general was the first step in me really coming back to doing something that I enjoyed and feeling like myself differently as a whole.

Brenner

really caring

Really caring about the people that you're interacting with.

like a kid again

[They] made me feel like a kid again.

closer friends

The conversations I had with my classmates were sort of like the conversations I would have with my closer friends.

just didn't add more stress

I think it just didn't add more stress to the stress I already had.

thinking about how to help people

Thinking about how to help people feel less stressed made me feel less stressed as well.

STEP 6: LOOKING FOR PATTERNS ACROSS CASES

I created a map with every theme represented in the table above, and all the extracts associated with those themes. I color-coded each participant (Ray: cyan, Jude: yellow, Georgie: green, Misha: purple, Brenner: blue) and revisited each quote, drafting labels for what themes across participants might be. This process resulted in a large map with 21 potential themes.

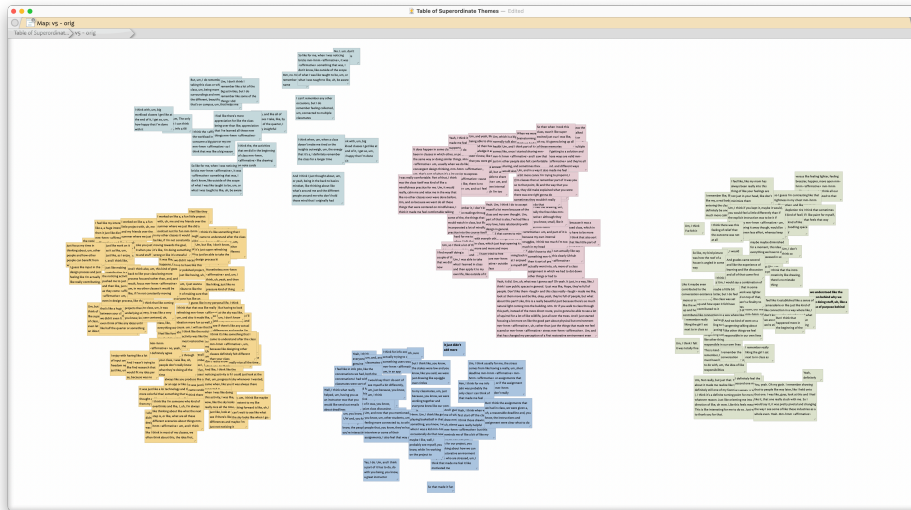


Figure 6.6
Mapping quotes across all participants in step six (each color is a different participant).

At this point, my task was to determine which themes were themes in their own right. In this step, some themes were merged, some quotes were reassigned to other themes, and some themes and quotes were discarded altogether. At the end of this process, there were two themes common across all participants and one theme common across four of the five. The table below, known in IPA as a “Table of Superordinate Themes,” lists each theme and an exemplar quote from each participant.

Theme 1: Foregrounding humanity (n=5)

Addressing the social and emotional needs of students.

- | | |
|------|--|
| Ray | I remember being asked some life questions and I explained some parts of my life, like milestones... and I know that I wouldn't be able to get into that kind of deep discussion if we were required to discuss it in class. |
| Jude | In that class you created a little community. We were all comfortable sharing ideas with each other and bouncing things off of each other. And that was nice. It was nice to feel comfortable around people and really get to know |

everyone.

- Georgie It established a sense of camaraderie or connection in a way where we're going beyond what we are needing to talk about, but we're still wanting to kind of thing.
- Misha Once I started sharing and I saw that other people also felt comfortable sharing, and sometimes they would also say, "you know what? I don't know if you're gonna understand this," or, "this is totally out there, but I'm gonna say it anyways." That contributed to me being like, "okay, if they're doing it, I can do it as well and they're gonna perceive it as totally okay," it's normal to share those things around right now.
- Brenner The conversations I had with my classmates were sort of like the conversations I would have with my closer friends.

Theme 2: Being generous (n=5)

Implementing magnanimous course policies and communications.

- Ray With this class, I didn't feel dreaded out. I didn't feel tired in any way. I felt like I learned something, but it didn't take anything out of me.
- Jude I never felt stressed or anything. And the redo option was nice because it took away the stress of having to worry about my grade.
- Georgie I remember, literally, a visceral body feeling entering the class. It would definitely be one that was much more calm and excited.
- Misha I think the class as a whole really helped me and others to say, "you know what, it's okay. If what I say doesn't make sense. It's okay. If it doesn't even go with what we're doing, it's an idea. And we don't have to use it. We don't even have to talk about after this,." It was a good space to say what you were feeling and what you were thinking without really having any fear of judgment.
- Brenner It just didn't add more stress... the assignments that we

had in class were given a reasonable deadline and the instructions and assignment were clear on what to do.

Theme 3: Modeling care (n=4)

Showing students that I care deeply about them and their work.

- Jude I walked in and you were like, “oh, hello _____” and then their name. And I was like, oh my gosh. She already knows all of our names. That was a very crazy thing. At that point, I was like, oh, this class, I have a good feeling about it.
- Misha It made me feel like you cared about us as students and as people. Before in other classes, I wouldn't always really get that feeling from some professors. I felt like another number and they were just creating my assignments and didn't really care. I just wanted to get through the day. But from this class, it made me really feel like the professors cared about us and our progress and how we learned, not just what we did in class. Like, what we got out of it and the progress that we made. I felt a lot more comfortable asking professors for help after I took this class because of that.
- Brenner You would send out emails about deadlines. That was something I remember cause I don't think any other instructor does that. “Here are the deadlines for this weekend. Remember to do them.” That wasn't something every instructor does, but you did and that was pretty memorable for me. And I remember seeing the emojis on those emails when I read it.
- Georgie It was a definite turning point for me too, for whatever reason. Orienting me into a direction of like, oh wow, this feels meaningful. This is interesting for me to do... I don't know why I'm feeling like “design” is too small of a word for this. Maybe the general idea of doing things to help people, and improve people.

6.4 FINDINGS

The findings for my research question, “How can the design process itself be restorative?” offer three conditions that established a classroom

culture that supported restoration for the five students I interviewed. I will briefly define the three conditions below and then detail each, along with direct quotes from participants in the next section.

- **Foregrounding humanity:** Addressing the social and emotional needs of students.
- **Being generous:** Implementing magnanimous course policies and communications.
- **Modeling care:** Showing students that I care deeply about them and their work.

6.4.1 FOREGROUNDING HUMANITY

In each interview, I read students the sentence they wrote describing the class as restorative. I asked if they remembered feeling that way and if they could describe what they meant. In their responses, they often mentioned specific assignments and activities that helped them slow down, connect with each other, be playful, or attend to their inner life. As we talked more, it became clear that the theme underlying these assignments was that these assignments and activities allowed students to be human—to be worthy of dignity and respect and also to have shortcomings, to disappoint, be messy, and flawed. Misha discusses what she meant by her statement:

Interviewer: [You wrote], *“This course was the first in which I found a classmate I felt comfortable talking to and sharing ideas with. [Name Redacted] understood me. Maybe not always agreed, but was willing to listen and try to find value in what I chose to say. From her, I have learned to be more open, not afraid of being myself in a classroom setting. It was a great experience and at first I thought it was simply because we appreciated each other as people, but it was more than that. Collaboration and honesty were encouraged, creating an environment in which I felt safe.”* So that's a particular quality that I'd like to be able to create for librarians. And I want to better understand what that experience was like for you. So, I guess the first question I have is, do you remember feeling that way?

Misha: I do. It was such a big deal for me because I don't normally talk to my classmates unless I have to. And even then it's very minimal and I always think a lot

about what I'm gonna say before I say it and sometimes that leads me to not actually say everything I was thinking of saying originally. Part of it was [Same Name Redacted]. I think we got along really well from the start and that gave me a sense of comfort. But, also, I think the class as a whole really helped me and others to say, "you know what, it's okay if what I say doesn't make sense. It's okay if it doesn't even go with what we're doing. It's an idea and we don't have to use it. We don't even have to talk about it after this." It was a good space to say what you were feeling and what you were thinking without really having any fear of judgment.

Interviewer: Do you have a sense as to what supported that sense of being able to say what you wanted to say without fear of judgment?

Misha: <pause> I'm trying to pinpoint. I remember part of it was you and the way that you explained what we were gonna do. I think how you phrased things really made it feel very open. <pause> And I think part of it was once I started sharing and I saw that other people also felt comfortable sharing, and sometimes they would also say, "you know what? I don't know if you're gonna understand this," or, "this is totally out there, but I'm gonna say it anyways." That also contributed to me being like, "okay, if they're doing it, I can do it as well and they're gonna perceive it as totally okay," it's normal to share those things around right now.

In this exchange, we see Misha describe how class discussions were different for her in this class. She names three factors that created that experience for her: (1) a student whom she connected with, (2) the way activities were framed, and (3) the sense that it was "normal to share those things around right now." With these in place, she was able to set aside typical barriers that kept her from being real with others. All of the students interviewed described moments of connection in class. (Note: these quotes are from four, separate, one-on-one interviews.)

Brenner: The conversations I had with my classmates were sort of like the conversations I would have with my closer friends.

Jude: I really enjoyed talking with other people and seeing their

I chose this question for students to answer because I sensed it would connect them with each other and I figured they'd be able to talk about it without any preparation. Mapping out the conversation helped students realize that they weren't alone in what they found stressful, or how they coped with that stress. They also got to know three other students right away. As I drew out their answers to the prompt on the whiteboard, I reflected on the expertise they held as students. Since we were designing restorative spaces for undergraduates, I made it clear that how they felt mattered. I also told them that if they were skeptical or resistant to the idea of restorative space, their point of view mattered even more.

Thoughtfully scaffolded conversations were a feature of every class. Often, I would engage in 1-2-4-All (Lipmanowicz & McCandless, 2013) discussions, where students would first freewrite to center themselves, then they would pair up with another student, and then, two pairs of students would form a group of four. Finally, we'd have a whole group conversation. In some activities, I offered optional scripts that supported their discussions.

As best as I could, I foregrounded humanity in everything we did in class. For example, I took attendance with quick 2-minute drawings (Barry, 2014) and framed this activity as a way to practice small moments of courage. The Noticing Practice, where students picked an object to notice throughout the quarter and document it via photo, was framed as a practice of presence. These activities built designerly skills—sketching, observation, communication, empathy—but they did so in a way that saw students as deeply valued, complex humans. To quote Misha:

Interviewer: As I go forward in that work, do you have any advice for me about how to [transfer this work to librarians] or what to carry forward or what to leave behind?

Misha: Oh, that's such a <laughs> that's a great question. <pause> Are you? Oof. Okay. All the little small activities that we did during class like the drawing, um, and occasionally the freewrites... although they seemed like, you know, small, like it didn't really matter. They really did. And in a way it also was helpful in taking a break from what we were doing and taking a break from the day in general, especially if I had a class before. I think keeping those would be really helpful.

Activities that allowed students to be human mattered, “they really did,”

and they added up over time. They made our classroom a restorative haven from the rest of the world.

6.4.2 BEING GENEROUS

When these students described the class being restorative, they often spoke about how it was low-pressure and non-judgmental. They didn't feel stressed by the class. They said things like:

Jude: I never felt stressed or anything. And the redo option was nice because it took away the stress of having to worry about my grade.

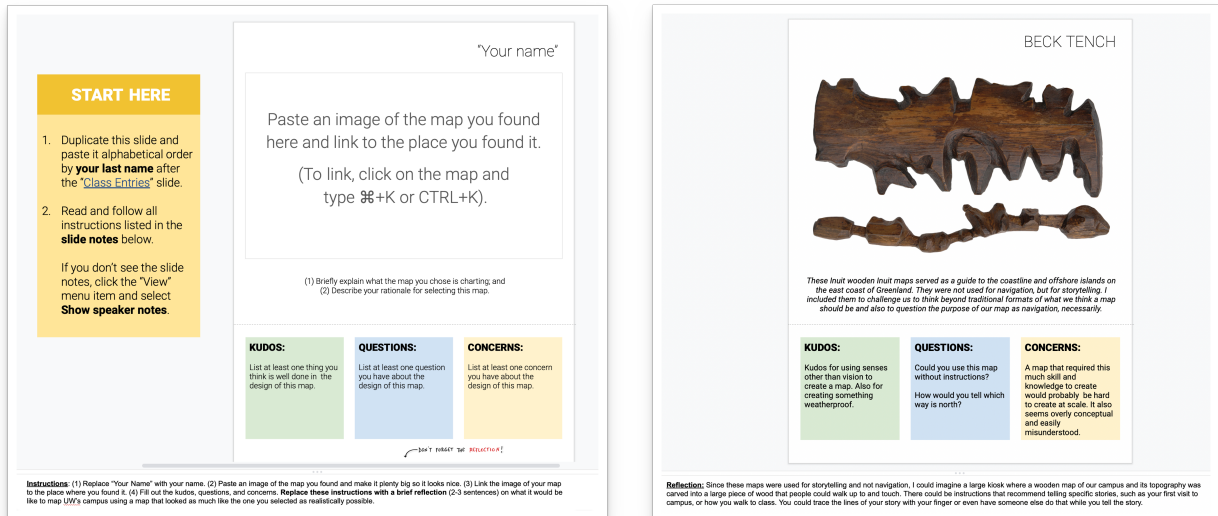
Brenner: It just didn't add more stress... the assignments we had in class were given a reasonable deadline and the instructions were clear on what to do.

Georgie: Grades came second and the experience of learning and discussion and all of that came first. And that really takes a lot of pressure off and really lets you engage cause you don't have that, you know, creeping in the back of your mind that there is some layer of performance and achievement that's being obsessed. Um, assessed.

Ray: So, all of the classes I take, by the end of the quarter, I feel very insightful, like I learned all these new things and I'm really ready to use the concepts. But at the end of the quarter, there has always been a lot of work, like projects and stuff. So, by the end of the quarter, I might feel insightful in knowing new things, but also a little bit dreaded out. With this class, I didn't feel dreaded out. I didn't feel tired in any way. I felt like I learned something, but it didn't take anything out of me.

In these quotes, students are indirectly referring to course policies and communications that directly affected how stressful they perceived the class to be. For example, the "redo option" Jude refers to was a grading policy that allowed students to revise and resubmit their assignment submission as many times as they'd like in hopes of a better grade. The "clear instructions" that Brenner mentions were the result of clear, consistent, and redundant documentation of assignment instructions and deadlines so that students knew exactly what to do and when. For example, in addition to the typical syllabus and Canvas assignment page documentation, I designed templates for most assignments and creatively

used slide marginalia to remind students of instructions, give tips, and share examples. For many assignments, I provided an example for students to model.



I used my academic freedom, the greatest source of power I had as their instructor, to be generous in my grading policies, assignment deadlines, and communications with students. I was consistent with that generosity throughout the course. Over time, this allowed students to relax in class, be less performative, and learn at their own pace. Jude describes this in the following excerpts. (Note: these excerpts are from three different points in the interview.)

Figure 6.8
Screenshots of the supports given to a typical class assignment.

Jude: In my other classes, if I'm not constantly moving towards the goal, I'm doing something wrong or it's stressful. And it should always be an upward slope in that aspect. But with your class, I felt like it was okay to kind of have that up and down kind of thing. It didn't always have to be this straightforward trajectory. It was okay to slow down a bit and be like, "oh, I don't really know where I wanna go from here." Or, "oh, I'm really passionate about this I'm gonna rush forward with this idea." I feel like there was that kind of freedom in your class that was really nice to have.

Jude: I think that the fact that we didn't think of an idea of what to design first was really refreshing because in most of my classes, we often think about the idea first, or the prompt was just given to us and we have to

move forward with user research and everything. I think that narrows your vision a lot because you're subconsciously, or even consciously, fixated on certain things. You're looking for certain things in your research. But in your class I felt like you—like I—was able to just keep an open mind about what users may be looking for. And I wasn't trying to find research that would fit my idea per se, because there was no idea. I was learning about the user without any bias and then using that information to be able to craft my idea from there... Trying to think of an idea without knowing the problem space super well is super exhausting. I have to do that for my capstone, actually, because we kind of have to have an idea from the get go and I would feel more comfortable doing more research before we decide on an idea.

Jude: Designing in other classes definitely felt different than your class. And I was like, “oh, what's going on here?” Reflecting upon that, I slowly realized that it's because I'm focusing too much on the future rather than taking time to think about the process itself.

When Jude mentions “there was no idea,” she is referring to how we spent the first half of class (five weeks) in the inspiration and ideation phases before we decided what we'd design. This slower pace gave students time to think, to focus on the process over the product, and to feel more integrity because they weren't “rushing forward” with an idea before they were ready. As Jude says, working in that way is “super exhausting.” I used my power to let students lead and to give them time. “Grades came second and the experience of learning and discussion and all of that came first.” The classroom became a place where they could relax, as Georgie describes here:

Georgie: I remember, literally, a visceral body feeling entering the class. It would definitely be one that was much more calm and excited.

Being generous with my students contributed to the restorative quality of the course. I allowed them to be where they were in their learning, to not perform work or pretend to know things they didn't. It made our class a place that “didn't add more stress,” and where they “learned something, but it didn't take anything out” of them.

6.4.3 MODELING CARE

Two weeks before my class began, I downloaded photos of my students from the course website and treated them like flashcards to memorize their names. I did this so that I could greet each student by name as they walked into the class for the first time. Jude recalls this experience:

Jude: I walked in and you were like, “oh, hello _____,” and then their name. And I was like, oh my gosh. She already knows all of our names. That was a very crazy thing. At that point, I was like, oh, this class, I have a good feeling about it.

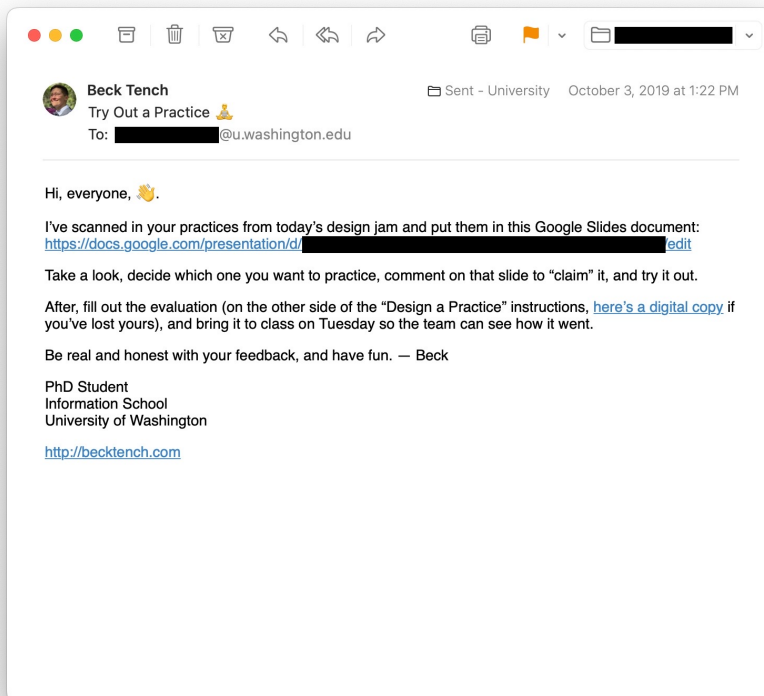
I chose to memorize their names because I wanted my students to sense that I already respected them. They didn’t have to do anything to earn that. I wanted them to see that I had already invested time in them because I cared about them. I made the first move. Later in that first class, when we did the speed thinking activity about stress and coping, I suggested that students try to remember the names of the students they were paired with. I wanted to model a small gesture of respect and give them the chance to try it for themselves.

I modeled care consistently and in many ways throughout the course. For example, I hand drew my lecture slides not because instructors should hand draw slides, but because I am good at drawing and doing so conveyed that I’d spent time creating their lectures. I tracked assignment deadlines and sent students friendly reminders about them in case they’d lost track. Brenner recalls these emails:

Brenner: You would send out emails about deadlines. That was something I remember cause I don't think any other instructor does that. “Here are the deadlines for this weekend. Remember to do them.” That wasn’t something every instructor does, but you did and that was pretty memorable for me. And I remember seeing the emojis on those emails when I read it.

Interview: I always wonder if students get tired of emojis.

Brenner: No, I like them!



*Figure 6.9
An email I sent to students
reminding them of a class
assignment.*

I also worked to show students that I wasn't the only person who cared about them. I invited representatives from The Resilience Lab and the Campus Sustainability Fund to talk with students about how their programs might help undergraduates with stress. And I invited faculty and staff to listen to students present their prototypes and give them feedback on "P-Day." I chose visitors who I knew would treat students with respect, and I coached them on the kinds of feedback that would be useful ahead of their visit. Misha recalls P-Day:

Misha: It made me feel a bit more connected to faculty, in particular within the iSchool. It made me feel the way—you, in general—it made me feel like you cared about us as students and as people. Before in other classes, I wouldn't always really get that feeling from some professors. I felt like another number and they were just creating my assignments and didn't really care. I just wanted to get through the day. But from this class, it made me really feel like the professors cared about us and our progress and how we learned, not just what we did in class. Like, what we got out of it and the progress that we made. I felt a lot more comfortable asking professors for help after I took this class because of that.

Modeling care also meant inviting students to care more about the work we did and to find meaning in it. Georgie describes this:

Interviewer: Is there anything else you'd like to share, class related or not?

Georgie: Not really, but just that. Yeah. I think talking about it made me realize that class is definitely still one of my favorite classes. It was a definite turning point for me, too, for whatever reason. Just orienting me into a direction of, oh wow, this feels meaningful. This is interesting for me to do. So, I wanted to thank you for that.

Interviewer: Oh yeah. You bet. I do have a follow-up question. When you say that phrase, "this is meaningful." What is this? Is it design?

Georgie: I don't know why I'm feeling like "design" is too small of a word for this. Maybe the general idea of doing things to help people, and improve people. People's quality of life. Maybe that is what potentially design is supposed to do, but I don't know why I'm like, let's not use the word design. <laughs>

The class was restorative for these students because it enabled them to care about and for others, which is, itself, restoring. The bar for caring in a typical university classroom is, unfortunately, set low. Modeling care required making the first move, setting a tone, and being consistent with that throughout the course.

6.5 LIMITATIONS

I would like to share the limitations of this work so that the discussion section can be read with them in mind.

Limitations of Data Collection

The interviews conducted for this study occurred 16 months after the course ended. These 16 months saw the onset of the COVID-19 pandemic, which significantly changed our lives and use of technology in innumerable ways, many of which have yet to be understood. With such an expanse of time between the class and the interviews, students ranged in how well they remembered their experiences. Jude remembered the

class surprisingly well, but Ray and Brenner had considerable difficulty recalling memories. Ray said, "I don't think I remember a lot of the big activities, but I do remember some of the things I did." And Brenner responded to my asking how well she remembered the class by saying, "I'm gonna say not very well, but I feel like that's the case for me. After I complete a class, any class, I kind of write it in the history books forever." Georgie and Misha had more confidence in their recollections. Even so, using IPA for memories so far in the past was far from ideal. The interviews, while still fruitful, were impoverished by the lack of vivid and recent experience of the phenomenon at hand (restoration). I tried to mitigate this risk by giving the interviewees packets filled with photos, illustrations, and their assignment submissions to remind of them of the class. I also reviewed their work and my communications with them in depth before interviewing them, so I could remind them of things they did or said.

Limitations in Data Analysis

In the process of editing the findings of this chapter, I cut more than 10,000 words. I share this to indicate how many stories these five interviews told. I chose to tell three stories (foregrounding humanity, being generous, modeling care) that touched on many of the quotes from my participants, but I could have divided these three into several themes of their own. For example, there's a lot of information about being non-judgmental, low-stakes, giving a reasonable workload. I chose to tell this as a part of a story about the theme of "being generous," but there may have been value in making that its own theme. Other stories were cut completely. For example, there are stories of how playful students found some of the activities, and how it made them feel "like a kid again." This story didn't make the cut. I have tried to mitigate the risks of these choices by archiving all my notes, analyses, and photographs of my processes that were analog. I hope future publications will give me opportunities to share more of these stories.

6.6 DISCUSSION

The question, "How can the design process itself be restorative?" is a big question, and with this study, I answered it in a very small and bounded way. I was not seeking to discover what makes the design process or work more generally, restorative. Rather, I was hoping to better understand what a handful of my students meant when they wrote that our class was "restorative" for them.

Data from these five students demonstrate that they found the class itself

restorative because the course prioritized their social and emotional needs and responded to those needs with generosity and care. These conditions established a classroom culture that supported restoration. **Foregrounding the humanity** of students meant helping them feel safe, giving them freedom and agency, and inviting them to be real in the space and with each other. **Being generous** meant using the power I had as an instructor to implement course policies (attendance, grades, deadlines, revision) that demonstrated my trust in them. These policies lowered the stakes of the class and invited us to be warm and non-judgmental toward each other. **Modeling care** meant making the first move and investing in my students in my own particular way (memorizing names, drawing slides, sending friendly emails). It also meant genuinely caring about the work we were doing and the people we were doing it for. This modeling invited students to care, too—about me, about each other, and about our work.

As an instructor, foregrounding humanity, being generous, and modeling care requires courage, time, and labor. There were many times that I felt vulnerable and out on a limb. In those moments, the space I was holding open for the class shrank and I wavered in my ability to prioritize their safety because I felt I needed to prioritize my own. However, equipped with these findings, I imagine they will help me in future moments of vulnerability. I can trust that these courageous acts bore fruit, at least for these students, and that if I continue to hold space for them in similar ways, they may relax, open up, feel less alone, and begin to repair some of the harm our institutions have caused. They will, in their own unique ways, restore.

IPA findings are not meant to be generalizable, but I am left to wonder how we might foreground humanity, be generous, and model care through the design process in general. Might we reframe our work so that instead of listening empathically to understand users' needs, we listen empathically to practice listening to another human with needs? Might we reframe activities like brainstorming and sketching so that instead of performing expertise, we see the tremendous courage and vulnerability it takes to externalize our private thoughts and feelings and support and celebrate it? Might we prioritize a pace and scope of work that allows us the time we need to make decisions? I realize that a design process like this may fail in the world as it works today. But how will we ever get to a better world without these things?

7 THE FINDINGS: INSPIRING LIBRARY WORKERS TO ENGAGE RESTORATIVE POTENTIAL

My third research question was, “How can we inspire library workers to engage the restorative potential of libraries?”

I approached answering this question in three phases. In phase 1, I interviewed seven subject matter experts (SMEs). In phase 2, I conducted three focus groups with library workers (n=11). In Phase 3, I facilitated a six-part participatory design workshop series with a mix of library workers and other creative professionals (n=21), which generated a minimum viable product (MVP) that supports library workers in designing and discovering restorative environments in their libraries.

Participants, across all three phases (n=38), were located across Canada (n=6) and the US (n=32). The library workers were from public, academic, and tribal libraries in rural, suburban, and urban communities. In addition to library workers, participants also included Library and Information Science (LIS) faculty and students, creative professionals (designers, artists, museum workers), and leaders of institutions in the cultural sector.

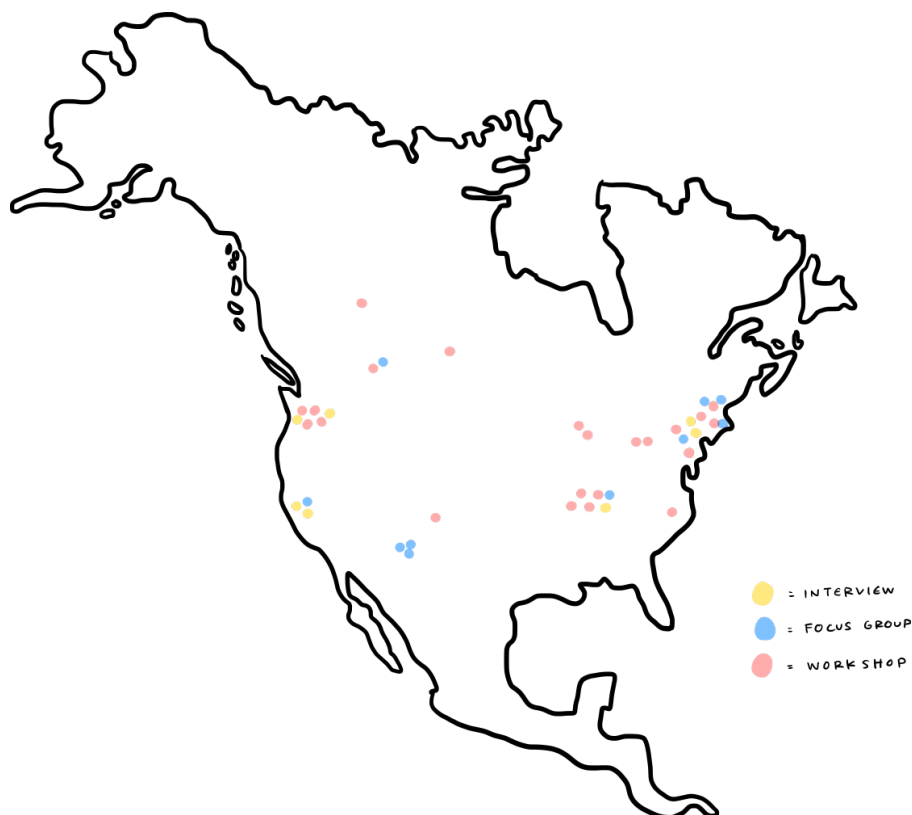


Figure 7.1
Mapping participants
across location and phase.
Note: The participant who
attended both the focus
group and the workshop
series is counted twice
(once as a blue dot and
once as a red dot).

Participants were not asked about their gender or ethnicity, so demographic data is limited. However, many self-disclosed identity markers through their participation. Of the 38 participants in this study, five identified as male (13%), ten identified as persons of color (26%), and an additional three identified as indigenous (8%). Profession was disclosed by all participants. Those who currently work in a library, or had done so recently comprised 76% of participants (n=29). Obtaining a Master of Library Science degree was not required to qualify as a library worker. The LIS faculty member and two LIS students were not considered library workers, as they did not work in a library. Creative professionals, such as designers and artists (n=5) comprised 24% of the workshop participants. Since the vast majority of workers in the library field are white-identifying (87%) and female (79%) (Rosa & Henke, 2017), I have not listed those demographics in the table below.

Phase	Total	Male	Person of Color	Indigenous	Library Worker
Interviews	7	2 (29%)	3 (43%)	1 (14%)	3 (43%)
Focus Groups	11	1 (9%)	1 (9%)	1 (9%)	11 (100%)
Workshop	21	2 (10%)	6 (29%)	1 (5%)	14 (67%)
Total	38*	5 (13%)	10 (26%)	3 (8%)	29 (76%)

** One participant attended both a focus group and the workshop series.*

Data collection methods varied across phases of the study. The interviews and focus groups used a semi-structured interview protocol that produced recorded audio. The workshop series generated a wide range of data—from video recordings of our sessions to design artifacts to feedback on prototypes sent via surveys, email correspondence, online comments, and photos of handwritten sticky notes.

The table below lists data sources for each phase. I analyzed these data using two methods: reflexive thematic analysis (RTA) (Braun & Clarke 2022) for the interviews and focus groups, and a participatory design (PD) process (Bødker & Kyng, 2018; IDEO, 2015) for the workshop and resulting prototypes.

Phase 1: Interviews

Audio Recordings (n=7)
 Partial Transcripts (n=7)
 Research Memos (n=7)

Phase 2: Focus Groups

Video Recordings (n=3)
 Partial Transcripts (n=3)
 Research Memos (n=3)

Phase 3: Workshop

Video Recordings (n=6)
 Auto-generated transcripts (n=6)
 Evaluation Survey Responses (n=71)
 Field Work Assignments (n=51)
 Design Artifacts (n=25)
 Participant Reflections (n=31)
 Photographs of Sticky Notes (n=12)
 Email Correspondence (n=47)
 Trello Comments (n=38)
 Google Slides Comments (n=143)

This chapter details the methods I used to recruit participants, and collect and analyze data across all three phases of the research. It presents two sets of findings. One set of findings is from the first two phases of the study, the interviews and focus groups. These findings produced high-level recommendations that guided the workshop and prototype development. The second set of findings is from the third phase of the study, the workshop. They describe the MVP prototype and reflect on the process used to co-create it.

7.1 SUBJECT MATTER INTERVIEWS

For the first phase of this study, I interviewed seven subject matter experts (SMEs) with a range of expertise. These interviews were conducted September – November 2021. The interviews were transcribed and analyzed using RTA (Braun and Clarke 2022). Analysis across all seven interviews produced over 40 recommendations for conducting the workshop. I have summarized each interview and distilled the recommendations into four areas of guidance.

7.1.1 PARTICIPANTS

The SMEs were purposively sampled (Mack et al., 2005) from my professional network based on the expertise needed. For example, I recruited two participants because they ran successful online professional development communities that included library workers. I also recruited directors at urban, suburban, and small and rural libraries. Several of my interviewees had experience with participatory design, community engagement, or anti-racist work.

I invited all individuals by emailing them directly and requesting an hour of their time for a recorded phone interview. All seven SMEs accepted the invitation and interviews took place between September and November

2021. This phase of the study was approved by the University of Washington's IRB. There were no incentives offered as a result of their participation.

7.1.2 DATA COLLECTION

Interview data were collected via one-on-one, open-ended interviews that covered the following three main areas:

- **Background:** I told the story of my class and how I intended to use participatory design to co-create a similar learning/design experience for library workers.
- **Expertise:** I asked questions that invited their specific expertise (e.g., an expert in online learning communities might be asked questions about technology platforms, scale, and strategies for recruiting participants whereas an expert in library management might be asked about the logistics of changing physical environments at the library, giving staff time and space for the work, and larger issues with boards and library governance).
- **Advice:** I ended the interview with a request for any advice. This was often a fruitful conversation.

Interviews were conducted over Skype using Ecamm Call Recorder. They took 58–98 minutes and totaled over nine hours of recorded audio and 66 pages of partial transcripts and memos.

7.1.3 DATA ANALYSIS

To familiarize myself with the interview data, I listened to each recording within two days of the interview. I made notes about what happened and transcribed particularly relevant parts verbatim.

0:29:58.8

Who's asking? How much time are they taking to participate in this? What does that mean for their colleagues and their department and the services we provide?

Personally, I would try to find a way to get to a yes. I would ask questions that would hopefully lead to something that works for all parties.

0:30:35.5

The other thing I would say is that a lot of libraries are constantly thinking about spaces and design questions. Whether it's physical spaces or service design-related stuff that involve environments that they're working in. From my perspective, anytime that we can invest in something an experience where more of our staff have something that they learn and that they can bring it back to make us better in those design areas and processes it's all the better for us, so I would highlight that. Every single library whether it's a little small remodeling of a room or work area is constantly thinking about those questions, regardless of budget.

Figure 7.2
Highlighting phrases with
initial codes.

Purple = "buy in"
Blue = "design"

I timestamped each note using italics to indicate notes about my actions and bold to indicate key points. To generate initial codes, I reviewed my interview notes for each interview and highlighted potential themes using different colors. I made notes about what each color meant as I went. In the example above, I've highlighted one quote in purple (initial code: "buy-in") and the other in blue (initial code: "design"). I then reviewed all highlights for each code and drafted a provisional definition for each emergent theme. I did this for each participant, resulting in 41 themes across seven participants. High-level takeaways from each interview are briefly summarized below.

Interview 1: Be transparent and intentional with recruiting.

I interviewed this SME for her expertise in participatory design, online learning communities, and community engagement. She guided me to be transparent with my workshop participants, letting them know a goal of the work was to be personally restored. She also advised me on a number of technical decisions: how to screen for workshop participants to avoid issues with virtual meeting technologies and how to help potential participants make their case for participation by providing arguments on the website that they could share with management. She also noted that if designing restorative environments is a source of restoration, then scaling this work means supporting more people in designing restorative environments. Therefore, she encouraged me to focus the workshop on creating a tool that would support as many people as possible in the work of designing.

*Interview 1 Themes:
Covertiness, Technology,
Scale, and Recruiting*

Interview 2: Work about restoration is liberatory.

I interviewed this SME for her expertise in institutional culture change, anti-racist work, and the value of rest. She helped me to see how productivity and hustle culture are instruments of white supremacy. She explained to me how we can end up "performing work" because we work in systems that tell us our worth is determined by our performance and we want to distance ourselves from being outcast by working hard. She encouraged me to help workshop participants see that they are inherently valuable, and that rest is a way to protect and sustain that value. She also helped me to see that valuing things simply because they are hard wastes our capacity to do work that's actually worth the struggle. She cautioned that prioritizing restoration and helping others achieve it would require becoming comfortable with people being disappointed because prioritizing such things means doing less. This SME helped me understand that achieving a mission at the expense of individuals means you haven't achieved it because you cannot sustain the mission without those individuals.

*Interview 2 Themes:
Performing work, Worth
and inherent value,
Challenging the value of
"hard work," What change
looks like, The work of
disappointing others,
Recognizing the drawbacks
of the system as it is,
Using power, The
importance of the practice
of rest*

Interview 3: Talk about trauma, expand definition of restoration.

I interviewed this SME for her expertise in tribal libraries, community engagement, and diversity, equity, and inclusion (DEI). She thought the timing for this work was perfect. She said the field had reached a critical mass and people aren't afraid to be critical. She introduced me to the work of Kaetrena Davis Kendrick, who researches low morale in librarians. This SME encouraged me to start with institutions that already value restoration, to use a buddy system (pairing library workers at the same library), and to be prepared to have conversations about trauma. She also advised that there is a range of perspectives on what restoration means and to be expansive in defining it.

*Interview 3 Themes:
Institutional alignment,
Timing, Trauma-informed,
Community engagement,
Format, Low-morale,
Multiple perspectives*

Interview 4: Restoring staff leads to staff serving the community better.

I interviewed this SME for her expertise in small and rural libraries (SARL) and community engagement. As a former director of a SARL, she helped me better understand the realities of SARL work, in particular how they operate with extremely limited resources and in spaces that are not necessarily designed to be libraries. She told me that rural library workers don't have time to think, and recruiting them to participate in the workshop would mean thoughtfully scaffolding the experience and handholding them throughout it. She said it could even mean helping rural library workers write grants that would fund their participation. This SME said that "all roads lead to the community," meaning that restoring library workers helps the community because restored workers will better serve their communities. We also discussed why restorative work was important to the entire library field at this time.

*Interview 4 Themes:
Realities of rural library
work, Realities of rural
library space, No time to
think, All roads lead to
community, Caretaking,
Productivity culture and
structural inequities*

Interview 5: People learn from people, not space.

I interviewed this SME for his expertise in participatory design, contemplative space, and exhibit design. He helped me understand some common pitfalls of co-designing with library workers as an academic researcher. He cautioned me to frame my work in respectful ways and to avoid coming across as an expert in a domain I do not work within. He also helped me see that people learn from people, not from space itself, so when designing restorative environments, I should focus on relationships and social interactions. Last, he pointed out that the image of a quiet "mindful" place is a limited interpretation, and that there are many ways to help people explore presence and flow that are stimulating, noisy, and active.

*Interview 5 Themes:
Engaging people in
physical space, Engaging
others in the design
process, Stretching what
mindfulness looks like*

Interview 6: Will participation in the workshop affect library services?

I interviewed this SME for his expertise in suburban libraries, library

space renovation, and community engagement. As a director of a suburban library, he helped me understand the factors involved in persuading library management and trustees to support restoration and/or contemplation for library workers. He said that boards can have a hard time blurring the lines of the amenities and benefits workplaces should offer. He also helped me to see the importance of targeting the right audience for the workshop. He said that 20 hours for a part-time worker might mean nearly all their time goes to the workshop, whereas a full-time staff person could still achieve other priorities. In general, he said that design skills were important and desirable, and that staff being constantly plugged in as a result of the pandemic has been a significant issue for staff morale. Last, he helped me understand that libraries are constantly re-evaluating their space and that their governance structures influence how easy or hard it is to change things.

Interview 7: Urban libraries are in survival mode.

I interviewed this SME for her expertise in urban libraries, social justice, and community engagement. She is currently the assistant director of an urban library system. She helped me to understand how the pandemic has put many libraries in “survival” mode. She said that chronic underfunding and staffing shortages due to the pandemic have created conditions where some libraries cannot remain open because there aren’t enough staff. She also said that the divisiveness in the country shows up in interactions with the public. Staff need help repairing after traumatic “incidents” in the library. In terms of political will, she said that it would be hard to justify a program focused on staff when governing bodies and grant funders expect libraries to be focused on community needs, not staff. Last, she said that work on restoration is an equity project. She said some library workers need restoration more than others, and that librarians can tend to “project manage” equity, focusing too much on the system and not enough on relationality.

7.1.4 FINDINGS

After analyzing each interview, I examined the 41 themes across all seven interviews to better understand overlaps in their guidance. This resulted in four themes that helped guided my strategies for the focus groups and workshop. I have briefly summarized each theme below.

7.1.4.1 Framing the work

Many libraries are in crisis right now and may find it hard to justify work focused on staff and/or about restoration. Helping potential participants make the case for their participation will be essential. It may help to frame the project as building design skills. Being transparent about the goal of restoring the library worker, and leveraging criticisms of the field

*Interview 6 Themes:
What are workplaces responsible for?, Who is this for?, Getting to a yes, The need for design skills in library work, The realities of changing library space, The harms of digital culture*

*Interview 7 Themes:
Branch library systems are in survival mode, Public library work is traumatic, This is an equity project, There is political will for restoration (but there are basic needs that take priority), Libraries want to “project manage” equity, The tension between evolving and staying alive, An small orthogonal pilot group of folks is most realistic*

and larger institutional systems may also help (e.g., perpetuating oppressive systems, productivity/hustle culture, secondary trauma, rest and renewal).

7.1.4.2 Workshop format

The format most SMEs recommended was one where library workers focused on their home institutions, preferably with a buddy or small team. They recommended that the workshop be virtual, given time limitations and pandemic travel risks. A time commitment of 20 hours is reasonable. More than that is probably too much. Less may not be seen as significant. Because time is limited, it would be best to screen for competency with virtual meeting tools (Zoom, Google Docs, etc.).

7.1.4.3 Centering equity

Equity should be a primary goal in the work and should inform what participation looks like. This means recruiting diversity in workshop participants, conducting the workshop in flexible ways, and prioritizing equity in the prototype we co-design. All work we do must accommodate library workers who have less time and institutional power.

7.1.4.4 Engaging community

It wasn't yet clear how important community engagement would be for the workshop. The SMEs clearly prioritized community, but couldn't say with confidence that library workers would come to the workshop with community engagement skills. Some library leadership and governing bodies are aware of low morale issues and willing to prioritize the work; others are not. Many municipalities and funders expect libraries to be community-oriented, which doesn't necessarily translate to giving communities power over library space or programming.

7.1.5 LIMITATIONS

I would like to share the limitations of this work so that the discussion section can be read with them in mind.

Participant Limitations

In my career prior to my doctoral program, I was lucky to travel and meet many incredible people. I have a robust national network and called upon that for these SMEs. This is a strength I bring to the research I do, and it would not look the same for people who did not have the history I do with these individuals. At the same time, had I selected different colleagues, or if my network were larger, I may have revealed new understandings or understood the findings I have differently. I have tried to mitigate this limitation by being clear about my recruitment methods.

Limitations of Data Analysis

The scope of my analysis was intentionally very small. I used the interviews to inform the focus groups, the workshop, and to some degree my design decisions in co-creating the prototype. Because of this, I used RTA less rigorously here than I used it in Q1. My process took weeks, not months, and I did not share direct quotes in my descriptions of the findings to back up the claims I made. I chose to do this because the scope was small, and I wanted to move quickly, applying the findings immediately to the focus groups and the workshop. I have tried to mitigate this risk by comprehensively documenting my analysis so that I can share or build upon it in the future.

7.1.6 DISCUSSION

Data from these seven participants was invaluable. Their guidance grounded me in the realities of library work and equipped me to format and frame the focus groups and the workshop in a relatable way. I already knew that my time with participants would be limited. These interviews helped me understand where library workers were coming from, which established trust with my participants and gave us a running start. In future research, I would repeat this phase of the process though, depending on the nature of the design work, I might interview fewer SMEs. The interviews were not difficult to schedule and the time and effort it took to conduct them paid off. What I learned from these experts helped me understand and honor my participants' work realities. It effectively gave me more time with them because I didn't have to spend our limited time together learning about structural and systemic issues within the library field.

7.2 FOCUS GROUPS

For the second phase of this study, I conducted three focus groups with library workers (n=11) across public and academic libraries in rural, suburban, and urban communities. These focus groups were conducted in November 2021 and were directly influenced by my interviews with the SMEs in phase one. The focus groups were analyzed using RTA (Braun & Clarke, 2022). The analysis produced 28 themes that helped me understand pandemic-era realities of library work, in particular, what stresses library workers are presently under and how they cope with them. I have summarized each focus group and distilled their themes into three broad strategies for conducting the workshop in phase three.

7.2.1 PARTICIPANTS

I used snowball sampling to recruit participants for the focus groups. I

did this because I wanted to work with individuals outside of my network. I asked each SME from phase one to send a call for participation to their networks. I also placed a link to the focus group application on my dissertation website. The application asked participants to indicate the size and type of library they worked for. It also asked them to describe their relationship with technology. Based on the response (n=19), I organized focus groups by library type and invited applicants by email. I sent a reminder email a week later to those that did not reply. I hoped to conduct four focus groups of 4–6 participants each, but with a relatively small applicant pool (n=19), I ended up with three focus groups of 3–4 participants each.

I had hoped to host a focus group for tribal library workers, but none of the applicants worked in tribal libraries (though one was an indigenous librarian at a university library). In an attempt to recruit more tribal library participants, I reached out to indigenous faculty members in The Information School for help. Professor Cheryl Metoyer coached me on how to advertise and conduct research with tribal members, and Professor Sandy Littletree reached out to the American Indian Library Association listserv on my behalf. Three tribal library workers signed up as a result, but two dropped out in follow-up communications. This left one individual willing to participate, a director of a tribal library. I interviewed this person using the SME interview protocol from phase one.

- Small and Rural Libraries (n=3)
- Medium-to-Large Public Libraries (n=4)
- Academic and Research Libraries (n=4)

All focus groups took place in November 2021. This phase of the study was approved by the University of Washington's IRB. There were no incentives offered as a result of participation, with the exception of the tribal library director to whom I sent a thank you gift (a book) and card on the advice of my advisor, Dr. Metoyer.

7.2.2 DATA COLLECTION

Focus group data were conducted over Zoom. Each focus group lasted 90 minutes. Data from all three focus groups totaled over 4.5 hours of recorded audio and video and 52 pages of partial transcripts and notes. Audio and video of the calls were recorded using Zoom's recording feature.

I began each focus group with an overview of the dissertation,

mentioning the following main points:

- I recounted my experience teaching INFO 360, how students seemed to be slowing down as a byproduct of the course, and how this sparked the line of inquiry of my dissertation.
- I conveyed my growing awareness of stressors in library work, crediting the lessons learned through my interviews with SMEs.
- I shared my aim for the PD workshop: to create a “curriculum” or “toolkit” that translates my undergraduate syllabus to libraries.
- I shared my hopes for the focus group: to understand what they find stressful, how they cope with that stress, what leeway they have to make changes in their library space, how they prefer to learn, and how important involving their community might be.

From that point, the focus groups followed a semi-structured interview schedule with the following five questions:

- Where do you work, what do you do, and why are you here?
- What do you find stressful in your work? Does technology help or contribute to that stress? How do you cope?
- How do you like to learn or build professional skills?
- What kind of freedom do you have at your library to change physical space?
- How might you want to involve the community in this work?

The first two questions were designed to establish group rapport and worked very well. Each group quickly and naturally developed an ease with one another. While the time spent on each of the questions varied across groups, I was able to address every question in each group.

7.2.3 DATA ANALYSIS

I approached the focus group analysis with the same process I used in the phase one SMEs interviews. I listened to each focus group and made notes about what happened, transcribing some parts verbatim. I timestamped each note, indicating who was speaking and formatting the text with italics to indicate notes about actions and with bold for key points. I highlighted potential themes using different colors and made notes about what each color meant. The example below features two participants talking about their libraries. The orange highlights indicate the initial code, “staff space.” The blue highlights indicate the initial code, “limited resources.”

0:26:57.6

At our library, we are really lucky, we have a very large building even though our community is fairly small, our building's fairly large, but for staff space, it's basically non-existent. Right now it's all been taken over for COVID quarantine things, so we have a small sink and small refrigerator, but nothing else really. In our library, there's only five of us here at our main branch. We also have a museum and they have one person full time and they also have some volunteers. *I ask if it's perceived as an inadequacy to not have space.* I think we just really haven't thought about it. No one really does their lunch here. We all take turns going to lunch and everyone leaves, so there's not enough of us to really... we're spread out throughout the building, there's not ever really a time where you'd have a time to go to a place. When you're on duty, you need to be in that spot where you're at and if you're not then you're not in the building, so we don't really utilize the staff space often.

I ask about the stressors in their lives right now.

0:29:59.1

Well, I think from my end, being a worker in a small library, we only have two full time and one part time staff here. We have to be a jack of all trades. We don't get to focus on just children's literature or just adult programs, we have to do it all. WE have to do technical help for anybody who walks through the door. It's just a never-ending list of things that we're not quite feeling like we've mastered, but people are coming for help in that area anyway. And in English and Spanish, thank you *(speaking to patron)* one of my patrons was pointing out it's bilingual here. I'm the only non-bi-lingual staff person. I've been coming in early in the mornings and studying Spanish as a way to try and improve things.

I reviewed all transcript highlights and drafted provisional themes and descriptions for each focus group. High-level takeaways are briefly summarized below.

Focus Group 1: "A rubber gasket between two hard places"

The first focus group comprised three small and rural library (SARL) workers: a library director from New Mexico, a computer specialist also from New Mexico (at a different library), and a reference librarian in Western Massachusetts. My interview with the SARL SME (Interview 4) prepared me well. Her advice on the realities of SARL work was reinforced by this focus group. In fact, in the middle of the session, two of the three participants had to briefly step away to help a library patron. They spoke of being a "rubber gasket between two hard places," meaning they sit in the middle, between their patrons and their governance structures, which they referred to as "obscure or remote institutions and government bodies" that do not always consider their patrons' realities or needs. They are "squeezed" by the work of "absorbing" or "softening" their community members' needs. Patrons come in needing help with social security or child protective services or divorce, and because they live in small communities, they often see these same individuals outside of the library as well, like at the grocery store. Many of their libraries are not staffed by trained librarians, and there are few, if any, full-time staff.

Figure 7.3

A portion of a focus group transcript.

Orange = "staff space"

Blue = "limited resources"

Group 1 Themes:

"A rubber gasket between two hard places," "is this a storage closet or is there where people eat their lunch?," Email as a "site of anxiety," Ideas about what restorative looks like, Contradictions and tensions in interacting with the community, Coping strategies that are working, Bias toward structure, Sneaking their way around (leadership, governance) roadblocks, Effects of the pandemic, Blurry boundaries around who space is for, Learning preferences

Perhaps most telling was the collective silence of the otherwise chatty group when I asked the question, “how do you cope with stress?” While there are some things they do to cope, such as not checking email or doing “low stakes” creative work (e.g., knitting without worrying about the stitch pattern), these library workers operate within a scarcity mindset by and large. Neglecting staff needs and space is the norm in their libraries. Staff space is chaotic, small (or non-existent), and overlooked. The pandemic has exacerbated this by converting former staff space for staging curbside checkout materials. In general, making changes to their space, or advocating for participation in a program such as a workshop, would require an administrator or elected official to sign off. There may also be roadblocks in their board of trustees. A couple of the participants mentioned “sneaking” or “slipping” ideas under the radar from managers or trustees who are slow to change.

Focus Group 2: “COVID has really challenged and changed the game”

This focus group comprised four public library workers: a library director near Chicago, a library director in New Mexico, a retired branch manager in the Bay Area, and a current branch manager in the Bay Area (coincidentally, these last two participants worked at the same library branch, but at different times, and did not know each other before the focus group). Echoing two SMEs (Interviews 6 and 7), these focus group participants spoke about having lost something they wouldn’t get back as a result of the pandemic. “COVID has really changed and challenged the game,” one participant said, and all four of these administrators feared that changes in staffing and services would be permanently reduced going forward. Some libraries have had to lend staff out to other libraries, or even other governmental departments, to “keep the doors open.” Echoing advice from the urban library assistant director SME (Interview 7), there is an increasing push-back and social combativeness in public behavior, which leads to barriers between staff and patrons. Reduced hours, circulation, and programming reinforce these barriers. It happened that all of the participants held management roles in their libraries, so I encouraged them to speak with their managerial hats on. Several participants expected some staff members to be suspicious of “restorative” programming. This seemed to be based on experiences of prior staff-focused efforts to address stress through craft projects, mindfulness programming, or advertising working events as “retreats.” Related to the staff shortages, there’s also a staff attitude of “why are you even putting time and energy and money into something like this? We’ll be better served if we can get more staff and we’re not working as hard.” To this end, there may be value in creating two approaches to the workshop, and its resulting prototype: one that focuses on helping library

Group 2 Themes:

We’ve lost something we won’t get back, Vocational awe, Staff suspicion around “restorative” efforts, Hierarchy affecting empathy, A potential need for two approaches: one for leadership and one for staff, Different approaches are needed based on how well-resourced a library is, A small group of staff in a hybrid program, Changing space in the library? It depends., Traditional ideas about community engagement

management repair prior efforts to “restore,” and another that focuses directly on front-line staff restoring themselves. In either case, different approaches will be necessary depending on how libraries are funded. Many are under-resourced, but some systems, or even branches within systems, have more resources to go around, and less bureaucracy to navigate. These participants helped me to see that it’s reasonable to assume most workers at medium-to-large libraries will have some space in their institution where they can prototype restorative environments, but they might need to “sneak” ideas under the radar as well.

Focus Group 3: “Autonomy without influence”

This focus group comprised four academic library workers: a research and instruction librarian in Western Massachusetts, an instructional librarian in Pittsburgh, an indigenous librarian in Canada, and a public service librarian in New Jersey. Common to the stressors these individuals faced was their institutional standing. All four participants discussed the challenges of being “faculty in quotation marks.” By that they meant that they must prove their status as tenure-track, engage in service activities, and teach in varied formats without the institutional clout that typically comes from those with similar status and responsibilities. Academic research librarians are sometimes assigned subject areas that they may have no expertise in at all. For example, a person with expertise in anthropology may be assigned math and physics. This creates a sense of “failing your subject area” and requires them to get “up to speed.” After a while, once they have more stability in their work, they are then “pulled in many directions” because they have a lot of autonomy in their work and can become overwhelmed by commitments that accumulate over time. Some institutional structures create precarity for academic librarians, requiring them to submit materials similar to tenure-track faculty reviews but for time-limited contracts that must be renegotiated every few years. Participants discussed that with both assessment and DEI efforts, they’re seeing a systematization of what has historically been organic, highly relational work. This feedback echoed the observation made by a SME (Interview 7) that librarians can tend to “project manage” equity, meaning that they focus on the system instead of on inner change and individual relationships. The focus group participants made wonderful suggestions for different forms the workshop prototype might take, and what its goal(s) might be. Echoing the SME with expertise in contemplative space (Interview 5), one participant described a range of what might be restorative: from multi-sensory experiences, such as music or dancing, to sensory deprivation. Another participant suggested approaching the work less as a “mindfulness” workshop and more as a way to help folks

*Group 3 Themes:
Faculty in quotation marks, Autonomy without influence, Relationality, Hit the ground running at first then pulled in many directions, Stressors: Psychological/structural/temporal, No Library Left Behind, Systematizing Organic Processes, Multimodal formats for Field Guide*

advocate for less work and more rest in their institution. This overlapped with guidance from another SME with expertise in rest and institutional culture change (Interview 2).

7.2.4 FINDINGS

After analyzing each focus group, I examined the 28 themes across all three focus groups to better understand their implications for the workshop. This resulted in three themes, which directly informed the workshop structure, the initial prototype I created for it, and how I facilitated design activities. I have briefly summarized each theme below.

7.2.4.1 The stressors of library work

Each focus group highlighted challenges that library workers face, but those challenges were specific to factors such as library type, governance structure, and the political will of their community. For example, one participant, a small and rural library worker, regularly came to work an hour early to learn a new language to serve a growing bilingual population. While another participant, an urban library worker, discussed cleaning up after a domestic violence incident that left blood splattered in the library entranceway. Another participant, an instructional librarian in a contract position at her university, is classified as a “nonexpectation” staff member, indicating to her peers that the library “expects” less value from her. Despite her status, she is still expected to publish and present as if going for tenure and must put together a portfolio of her work to extend her (temporary) contract on a regular basis. These examples helped me to realize that the workshop and its prototype will either need to serve people experiencing an incredibly wide range of stressors or pick specific types of library workers or stressors to address.

7.2.4.2 Hierarchy within the library system

This isn't the case everywhere or always, but hierarchy may foster a lack of empathy between library management, library front-line staff, and patrons. Having talked with workers across roles within that hierarchy, there seemed to be distrust and divisiveness between administrators and front-line staff. This went both ways. Administrators and governing bodies are sometimes seen as obstinate, controlling roadblocks that staff need to work around, especially if that “work” involves their health and wellness. Front-line staff are seen as distrusting, and at times short-sighted, in their work to serve the public and the larger library mission. Perhaps due to the pandemic, this hierarchy may also extend to the public in some ways, creating animosity and tension between workers and patrons, at times. As one participant put it, interactions with the public are becoming “wilder” and “of a tenor I had not experienced

before.” This tension may be fueled by larger trends of divisiveness in the country, especially around pandemic-related masking. These perspectives helped me to realize that library workers participating in the workshop or those using the prototype that the workshop generates may feel isolated, misunderstood, and demoralized no matter where they fall in the library hierarchy.

7.2.4.3 Community engagement skills

In each of the focus groups, I asked library workers how important community engagement would be to creating restorative environments in their library. I was surprised to hear these workers report that community engagement approaches weren’t already routine in their libraries. In fact, every time I asked this question, groups were collectively quiet or slow to respond. When they offered examples, they were often traditional ideas about outreach and feedback (sending out surveys, hosting conversations), rather than relational examples describing how power was given to communities in meaningful ways. Most of my SMEs had expertise in community engagement (Interviews 1, 3, 4, 6, and 7) and I expected the majority of the focus group participants to have more skills in this area, but I learned that I cannot assume library workers will approach designing restorative environments with the necessary perspective, skills, and relationships for effective and equitable community engagement work. The workshop and prototype will need to accommodate this dearth of skill and knowledge.

7.2.5 LIMITATIONS

I would like to share the limitations of this work so that the discussion section can be read with them in mind.

Participant Limitations

I used snowball sampling to recruit participants for this phase of the study by asking the SMEs to share my focus groups with their networks. This helped me find library people I did not already know, but it created odd pockets of participants, such as the concentration of individuals in New Mexico, and the coincidental recruiting of two branch managers of the same library system (who did not know each other before the focus group). These pockets were, as best I can tell, the results of SMEs sending information about the focus groups to regional mailings lists or specific individuals. There was no doubt bias in their selection of which lists and people to send to.

Limitations of Data Analysis

My analysis of the focus groups was limited in the same way as my analysis of the SME interviews. The scope was small, in this case

informing only the workshop and prototype, and I analyzed the transcripts with a similar rigor to phase one. I also did not include direct quotes from participants, though I have all quotes well documented so that I can share or build upon them in the future.

7.2.6 DISCUSSION

The SME interviews grounded me in the realities of library work and these focus groups were a wonderful place to confirm and expand upon those realities. The themes that emerged from these focus groups helped me to understand how the pandemic has changed the library world. I used these findings to shape the workshop agenda and initial prototype so that they reflected the complexity and current stressors in library work. In future workshops, I may or may not repeat this phase of the process. Focus group participants were challenging to recruit and schedule and participation required time from library workers who had little to spare. These focus groups were invaluable to this study, however, especially given the changes caused by the COVID-19 pandemic. I am grateful this dissertation work was enriched by them. Moving forward, I plan on considering how necessary a series of focus groups would be on a workshop-by-workshop basis.

7.3 PARTICIPATORY DESIGN WORKSHOP

In the third phase of the Q3 study, I facilitated a six-part participatory design workshop series with library workers and other professional creatives (n=21). The end product of this workshop was a minimum viable product (MVP) prototype of a curriculum for creating restorative environments. The MVP prototype includes a website, printed guidebook, and set of design activity cards that help library workers develop the mindsets and skills needed to design and discover restorative environments that work best for them.

While the MVP prototype is intended to be used by library workers at all types of libraries and in any library role, it is especially designed for those experiencing low-morale and burnout. It is sensitive to the wide range of institutional power and social capital library workers might hold, and it recognizes that restoration looks different for everyone. Each of these design choices was directly informed by workshop participants who wanted to “meet the library worker where they are,” especially those library workers without much institutional power. While initial versions of the guide were much more linear and oriented like a “how to” guide, the MVP prototype is an intentionally open-ended and reflective inquiry into how library workers relate to their environment, technology, others, and self. There is no set output for the work; rather, what library workers do with the prototype will vary based on their needs, their work

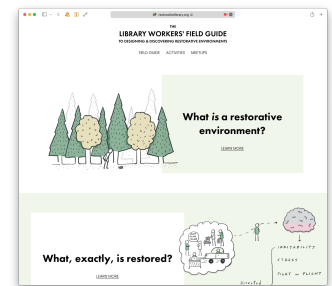


Figure 7.4
Visit restorativelibrary.org
to view the prototype and
download the guidebook.

environment, and their capacity to engage in the work.

Library workers will most likely discover the website component of the MVP prototype first, perhaps through word of mouth. The website explains what restorative environments are and why they matter. It frames the project as a way to (1) recognize environments that deplete and restore, and (2) develop design skills to protect and restore attention. Depending on their preference, library workers might continue to explore the guide digitally, or they can download and print out materials for a fully analog experience. In the future, printed sets of the guidebook and cards may be available for purchase. Over time, the prototype will expand with the release of “expansion packs,” which may appeal to specific library types or roles.

There were three main versions of the prototype (before, during, and after the workshop). The MVP prototype was completed in June 2022. In this section, I have described the workshop participants, outlined how each of the versions of the prototype changed, and described the MVP prototype in greater detail. I have also reflected on the process I used to apply findings from Q1 and Q2 in the workshop.

7.3.1 PARTICIPANTS

I used both purposive and snowball sampling to recruit workshop participants. I invited specific individuals from my network via email, and I publicized an application for the workshop on my study website and through my personal social media channels on Twitter and LinkedIn. Twenty-three individuals applied to attend the workshop. To counter attrition from Zoom fatigue and the lengthy multi-week commitment, I over-recruited participants, accepting all who could make the time allotted, which was 21 participants. This turned out to be an unnecessary caution, as only one participant withdrew from the study and did so before the workshop series began.

The six-session workshop series took place across three weeks in March 2022. This phase of the study was approved by the University of Washington’s IRB. There were no incentives offered as a result of participation, though participants were sent a “field kit” package in the mail. This package included a handwritten welcome letter, an illustration of our agenda, a folder with handouts to be used during the workshop, and a few design supplies: sticky notes, dot-grid paper, and a felt-tip marker. After the workshop, participants were sent a personalized, handwritten thank-you card and a set of stickers featuring a butterfly doodle from the prototype.

7.3.2 DATA COLLECTION

Data from the workshop were collected before, during, and after the workshop via Zoom calls, email communications, survey responses, design activities, and prototype feedback left as comments on shared documents. The six workshop sessions generated 12 hours of recorded audio and video. There were 71 survey responses across six separate surveys, 76 artifacts generated through design activities, 31 personal reflections sent via email, and 240 comments left in Google Docs, Trello, and private email messages as participants gave feedback on the prototype iterations. Audio and video of the calls were recorded using Zoom's recording feature.

Data Collected Before the Workshop

Before the workshop, participants were asked to produce an introduction slide and add it to a collaborative Google Slides document shared with all workshop participants.

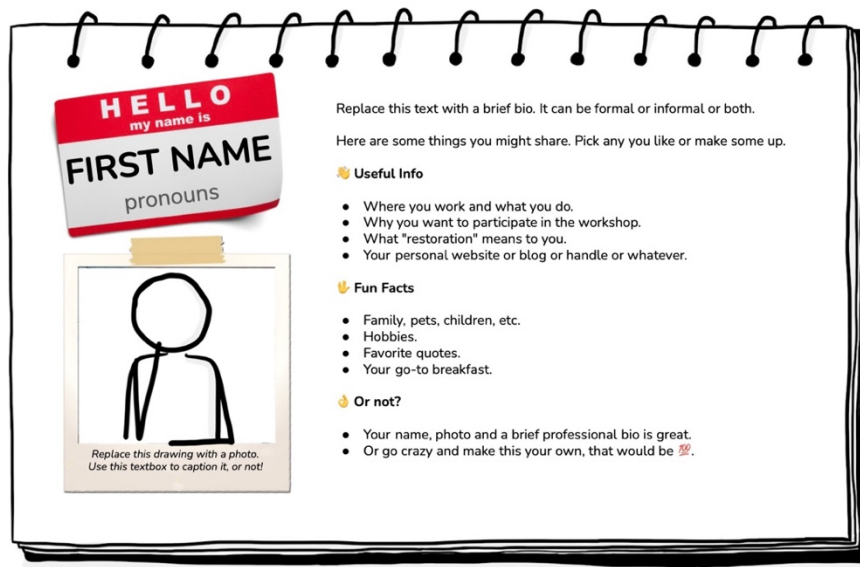


Figure 7.5
Workshop introduction
slide template.

The slide template suggested they add a headshot, write a brief bio, and list useful information and fun facts about themselves. I also posted my own slide as an example.

In addition to the introduction slides, participants were asked to write an initial reflection before the workshop began. This reflection was modeled after the Initial Reflection assignment in my *INFO 360: Design Methods* course. Responses were sent directly to me via email and were not shared with other participants. The reflection asked participants to answer the questions below. Unlike the INFO 360 version of this assignment, there was no word count suggested or required:

- What, if anything, do you find stressful in your work life? How do you cope?
- What is your relationship to technology (e.g., laptop, phone, wearables, devices in your home or car, etc.) when you experience stress? How do you use or avoid using it? Does it help?
- What is your relationship to your work environment (e.g., your office, staff-only space, patron/customer space, outdoor campus, etc.) when you experience stress? How do you use or avoid using it? Does it help?
- Is there anything else you'd like to share? (Optional)

Data Collected During the Workshop

During the workshop sessions, participants engaged with each other using collaborative Google Slides documents, virtual whiteboards, breakout rooms, and screen sharing. They also took photos of handwritten sticky notes and sent them to me via email. Workshop activities included design feedback sessions, “field work” modeled after INFO 360 assignments and design studios, and group assessments using virtual dot voting stickers.

Optional workshop evaluations were distributed at the end of each session via a link to an online survey. These surveys asked the same three questions, all optional:

- What went well?
- What could have gone better?
- Is there anything else you'd like to say?

After each session, I sent participants a detailed email summary of what we did in that day's session. Because our plans often changed during the sessions, this is the most accurate view of our agenda. A complete collection of these summary emails is in the Appendix D.

Data Collected After the Workshop

After the workshop series concluded, I asked participants to write a final reflection. The prompt for this reflection was intentionally open and no word counts were suggested or required. Responses were sent directly to me via email and were not shared with other participants. The reflection prompt was:

- How has this experience been meaningful for you? And what's next?

A month after the workshop concluded, participants were emailed and asked to provide feedback on an iteration of the prototype. Some participants submitted feedback privately via email, others shared feedback publicly via Trello comments.

7.3.3 DATA ANALYSIS

Broadly speaking, the prototype we co-designed in the workshop experienced three significant shifts as a result of the data collected. These shifts can be understood in many ways, but the simplest is to compare the prototype before, during, and after the workshop.

Before the Workshop: Creating the initial prototype

I made the choice to begin with an initial prototype instead of starting the workshop with a completely blank slate. This choice was made in consultation with my advisor, Dr. Levy. With only six sessions and 12 hours of participant input available, we were concerned that there wasn't enough time to achieve convergence in our thinking if I started the workshop with something less defined. The initial prototype was based upon the syllabus I used in my INFO 360 class (see Appendix B), along with my findings from Q1 and Q2, and the first two phases of Q3 (SME interviews and focus groups).

The initial prototype was a 28-slide Google Slides document. All content and design activities were divided into three main content areas: "Skills," "Concepts," and "Design Process." The document was written in a casual tone intended for library workers at libraries of all types and sizes and covered topics such as "Equitable Community Engagement" and "The Attention Economy." The guide assumed that the reader wanted a process to help them go from ground zero to a restorative environment in their library. The first page of the guidebook displayed a design prompt intended only for workshop participants and communicated the purpose of our time together:

Our goal is to make this prototype relevant and meaningful to library workers and their communities. Fundamentally, we are addressing challenges of low morale, hustle culture, social division in communities, and the impacts of technology on our time and attention. Put simply, we are asking, "How can this field guide help library workers design and discover restorative environments?" to see, if by doing so, we help restore those individuals and the community members they design with and for.

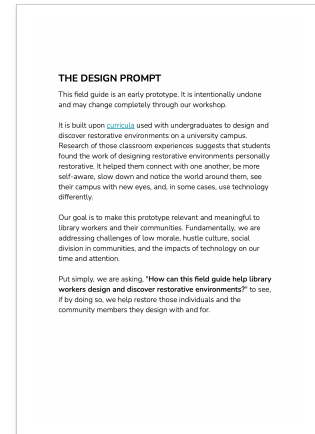
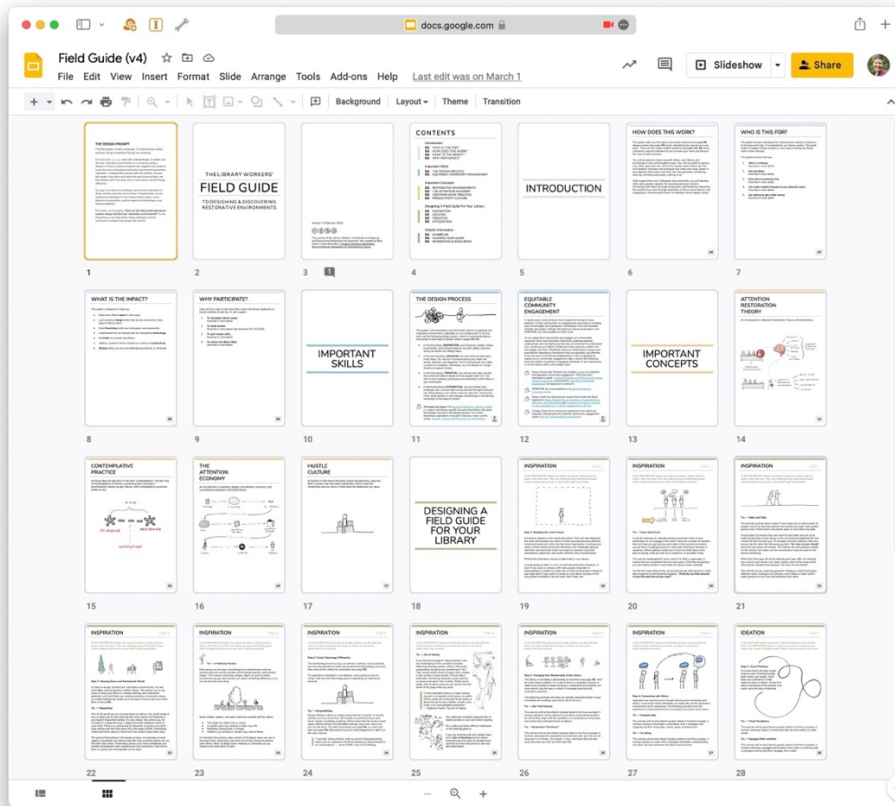


Figure 7.6 (above)
Design prompt from the initial prototype.

Figure 7.7 (left)
Initial Prototype

During the Workshop: Evolving the prototype through co-design

Between each workshop session, I took the feedback and input from the prior session and created an offering for the next session. These design artifacts took many forms. For example, in the first session, I facilitated an activity called “Kudos, Questions, and Concerns” (KQCs) (see Appendix F), asking participants to give feedback on the initial prototype. I documented the KQCs they shared during the session on a virtual whiteboard. I also asked them to send me photographs of their sticky notes via email. Between the first and second session, I transcribed and created an affinity diagram of all the feedback. I shared this diagram of their feedback in the second session to check my interpretations of their feedback and spark continued conversation. In another session, I came to the workshop prepared with a prototype for the “Leads To” activity (see Appendix F) for the group to test, which was informed by input and feedback in the prior session. Participants tried the activity in the workshop, gave feedback, and it was revised to become an activity for the card deck.

In general, participants were enthusiastic about the initial prototype, but

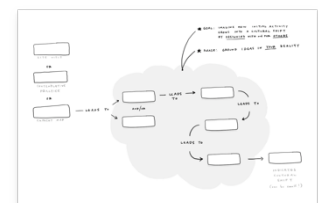


Figure 7.8
Initial “Leads To”
prototype offered to
participants in Session
Five.

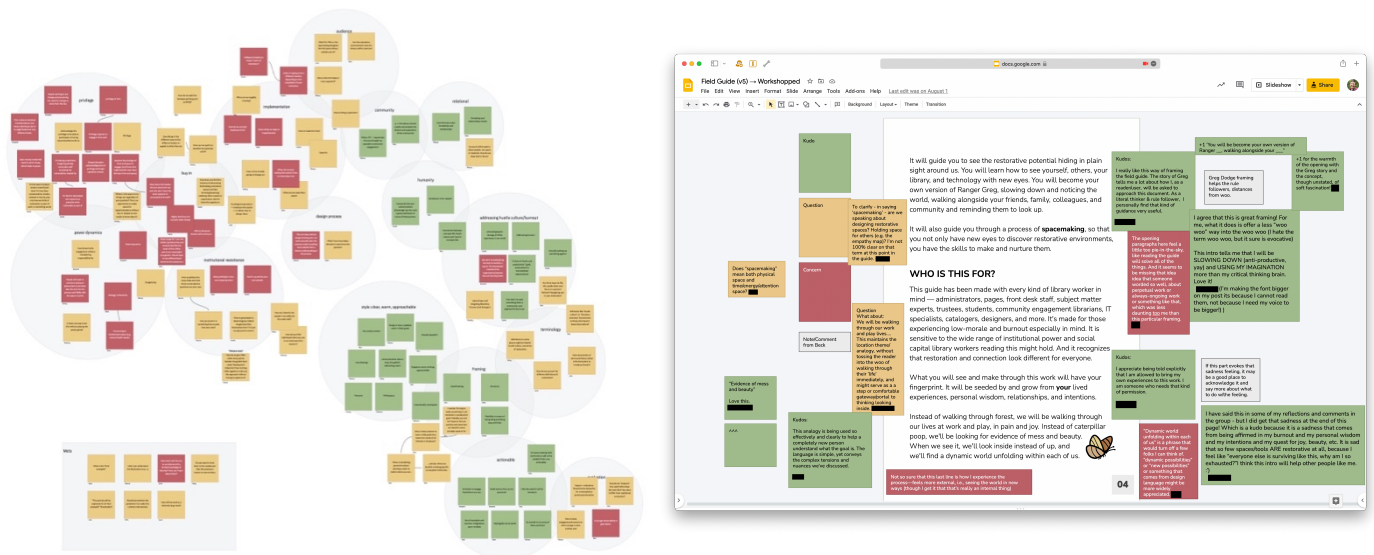
they had concerns about its linear nature. Originally, the guide laid out the design process in a step-by-step fashion, which is how the process was presented in INFO 360. It assumed that a library worker wanted to design a restorative environment and it showed them how to do so across the three phases of the design process (inspiration, ideation, iteration). For example, the steps in “inspiration” were as follows:

- Step 1. Realizing Your Aren’t Alone
- Step 2. Slowing Down and Noticing the World
- Step 3. Using Technology Differently
- Step 4. Changing Your Relationship to the Library
- Step 5. Connecting with Others

Ideation and iteration had their own step-by-step processes as well. But participants were concerned about how much institutional buy-in a linear process like that would require. They wanted a guidebook that offered a way to start small, without needing institutional approval. This feedback mirrors guidance from the focus groups, suggesting that some library workers have to make ideas happen “under the radar.”

In the third session, a participant introduced Christopher Alexander’s *A Pattern Language* (Alexander, 1977) as a potential way to offer smaller, discrete design interventions without having to commit to the entire process. In his book, Alexander presents architectural guidance as a series of individual patterns. He resists straightforward formulas for design work and advocates for an organic unfolding of the design process. Several participants (including myself) were familiar with Alexander’s work, and it gained momentum with the group. We started to imagine how restorative environments could be responsive to the institution and the lived experiences of the library worker interested in creating them.

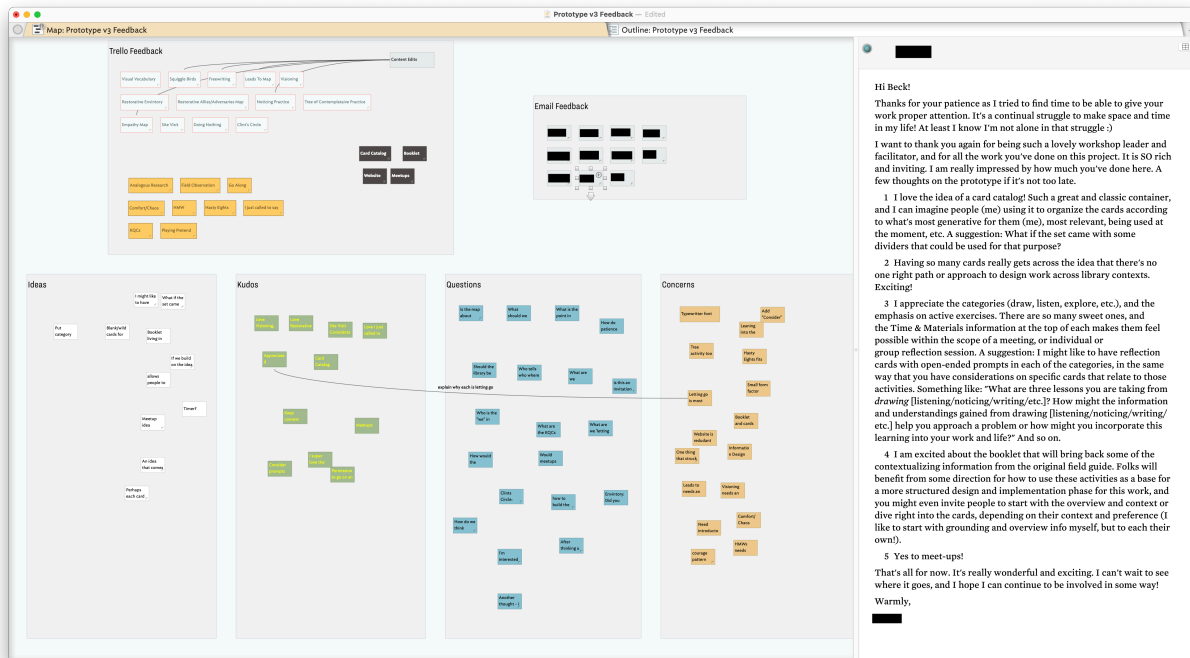
Figure 7.9
Kudos, Questions, and Concerns on the initial prototype (left) and v2 (right).



Through discussion and more rounds of feedback, we arrived at a version of the table that offered a series of prompts, without judgment about which kind of environment is the “right” way to restore (see Figure 7.10 on the previous page). Instead, the table invites readers reflect on what’s restorative for them.

After the Workshop: Arriving at the MVP prototype

I reviewed the data collected in the workshop (initial and final reflections, fieldwork, emails, surveys, design artifacts, and comments) and prepared a Trello board with a prototype that included the guidebook from session five and an initial set of activity cards. I sent the Trello board to participants for feedback and synthesized their comments into a large map of feedback, which I used to create the final iteration of the guide for the MVP prototype.



The MVP prototype features a 48-page guidebook and 24 activity cards inspired by Alexander’s *A Pattern Language*. A custom-built card catalog drawer (currently a cardboard prototype) holds the activity cards with plenty of room for future expansion packs (e.g., cards for specific library roles, types, and communities). A companion website features a page for each activity card, provides examples and templates where appropriate, and provides a link to download the guidebook. A calendar of virtual meet-ups invites people to explore specific cards or subjects together.

Figure 7.11
Mapping feedback on v2.

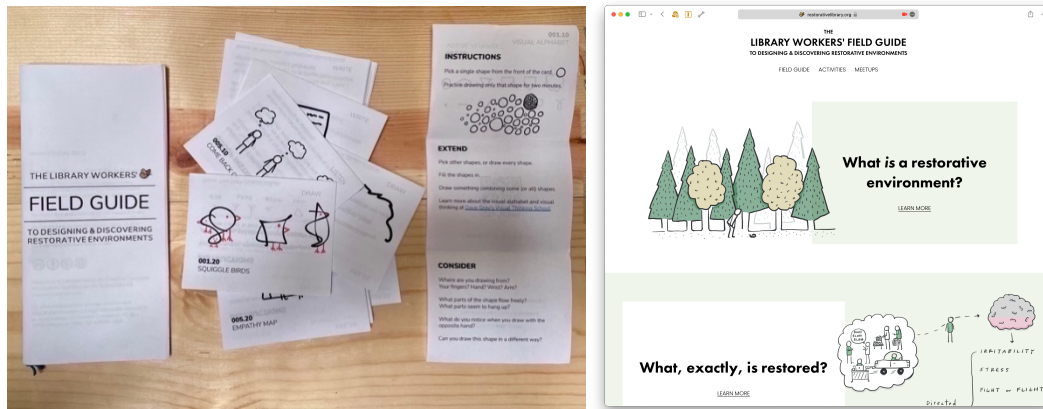


Figure 7.12 MVP Guidebook and activity cards (left) and website homepage (right).

I sent the MVP prototype to SMEs and focus group participants for their feedback, which was consistently positive and encouraging.

7.3.4 FINDINGS

The findings for this phase of the research study are two-fold. The first finding is the MVP prototype (the guidebook, card deck, and website). The second finding is a reflection on the workshop experience. This reflection was an unanticipated finding, and I am including it because the participants of the workshop wrote about their experiences in similar ways as the undergraduates in my class. The workshop was an opportunity to apply the findings from Q1 and Q2 to a new learning environment (Zoom) and with a new set of learners (library workers). In these findings, I offer a reflection on that experience and the insights I've gleaned.

7.3.4.1 The MVP Prototype

The MVP prototype, "The Library Workers' Field Guide to Designing and Discovering Restorative Environments" has three main components: a guidebook, deck of activity cards, and companion website. Library workers can choose whether they engage with tactile, physical materials (the analog experience), use the website (the digital experience), or use a combination of both.

The Analog Experience

While currently a cardboard prototype, the MVP prototype is envisioned as a simple, sophisticated, and beautiful custom-built card catalog drawer that sits on a desk. The drawer contains design activity cards that are organized using a Dewey Decimal-like numbering system. The printed guidebook slides under the drawer, out of the way but easily accessible. Activity cards fold up, accordion-style to accommodate the need for some activities to have more space for their instructions. Simple activities may only feature a front and back, while more complex activities may have several folds.



Figure 7.13 Cardboard prototype.

The Digital Experience

While fully functional as an analog experience, a near-field communication (NFC) tag is embedded in the drawer pull of the card catalog drawer. Tapping one's phone on the drawer loads a card look-up page on the website. Entering the call number or title of the card loads the digital version of that card, along with any digital assets. On the back of each card, a quick response (QR) code, provides a direct link to that card's webpage. Each of these features are fully functional in the MVP prototype.

The website provides a link to the PDF version of the guidebook and features an individual page for each activity card. It also features several pages to give the project context: "What is a restorative environment," "What, exactly, is restored," and "Who is this for, and what will we do?" The website hosts a calendar of virtual meet-ups—monthly gatherings to discuss activities in the guide and iterate upon them—a request by participants who felt that since the guide was created in community, it should be used in community as well.

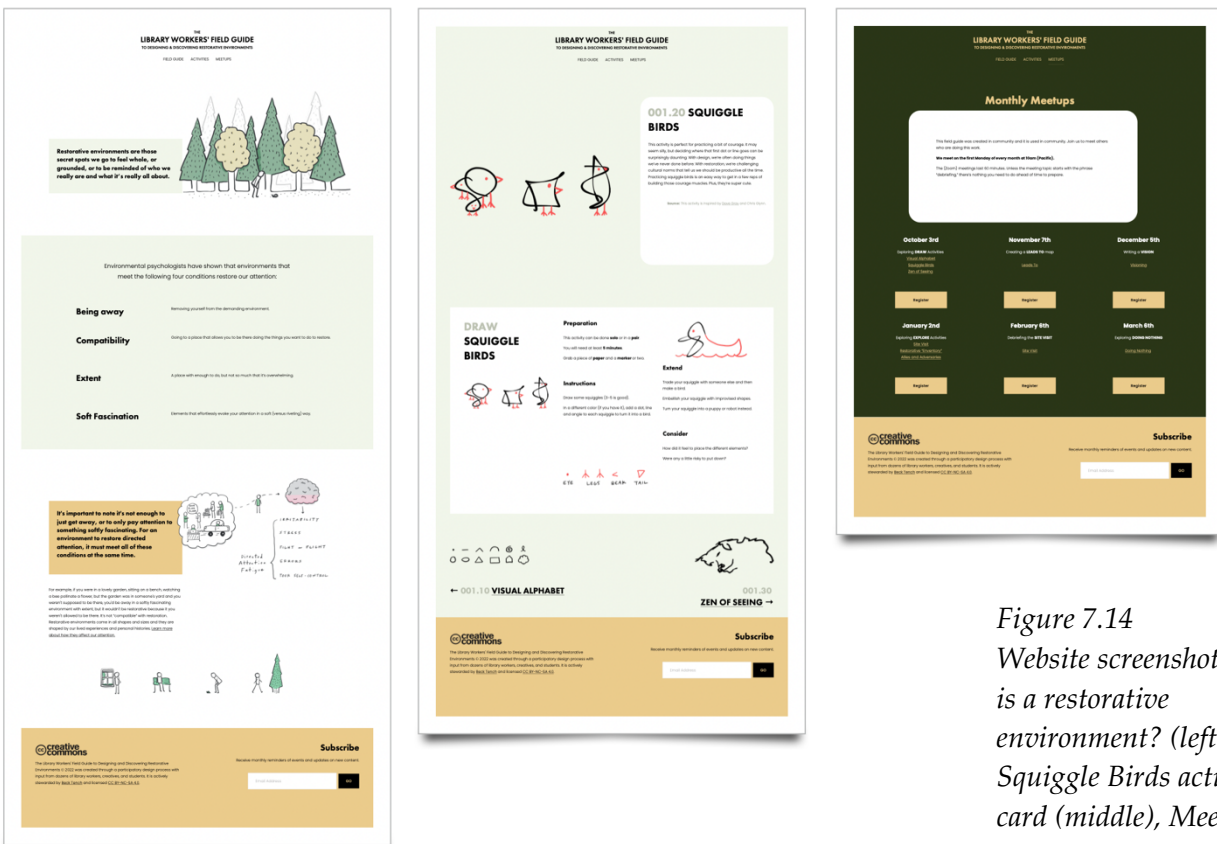


Figure 7.14
Website screenshots: What is a restorative environment? (left) Squiggle Birds activity card (middle), Meet-up calendar (right).

The website design is responsive to mobile devices so that library workers can reference activities while away from their desks.

The analog components—the card catalog drawer, printed activity cards, and printed guidebook—will require funding to produce and distribute. The website, which mirrors all content in the guidebook and activity cards, is freely accessible to everyone.

The Guidebook Component

The guidebook is a 48-page printed booklet and downloadable PDF document that measures 4.25 x 9 inches. It is organized into four main sections: "Intro," "Design," "Discovery," and "Tips." Endnotes at the end of the guide provide citations and greater context where needed.

Intro

The "Intro" section contains 11 pages of content. These pages are organized around the three main questions that participants posed early in the workshop series: "Why a field guide," "Who is this for," and "But what will we *do*?" Based on participant feedback, the section frames restorative environments broadly and asks readers to reflect on which environmental features are restorative for them. It walks the reader through how the work can start small and grow over time to something bigger with specific examples.

Design

The "Design" section contains five pages of content. These pages frame the design process as a series of inner practices. Inspiration is framed as a practice of "patience," where readers are encouraged to spend time noticing and being contemplative in order to gain clarity and understanding for the ideation phase. Ideation is framed as a practice of "courage," where readers face the blank page, create ideas, and share them with others. Iteration is framed as a practice of "letting go." Readers are encouraged to let go of control over their prototypes as they test them out in the world. They are also encouraged to sometimes let go of their prototype completely if it seems it's not the right time or the right idea.

Discovery

The "Discovery" section spans 12 pages of content. It covers core concepts such as the attention economy and attention restoration theory. Content includes how attention works, directed attention fatigue, restorative environments, contemplative practice, and behavior design. Based on participant feedback, these pages are filled with illustrations to make them feel whimsical and unthreatening to read.

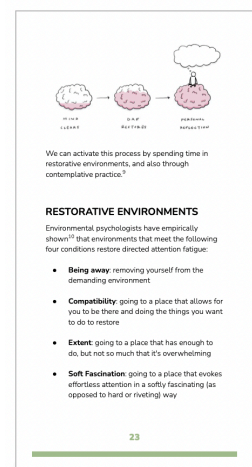
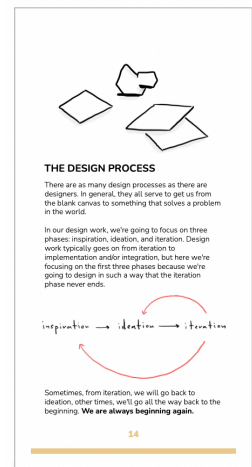
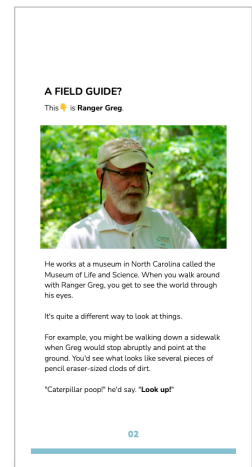


Figure 7.15
Pages from the guidebook:
Intro section (top) Design
section (middle), Discovery
section (bottom)

Tips

The “Tips” section covers five additional pages of content. It helps readers navigate the activity cards and website and encourages them to be reflective, which is something participants repeatedly requested. It also invites community interactions and contributions, which was also very important to participants.

The Card Deck Component

The default set of activity cards describes 24 different design activities across eight categories. They are organized by call numbers and intended to grow over time, with the addition of new call numbers and also the addition of more cards within each section. The starter deck has three activities per call number. Each activity lists the time and materials required and provides detailed instructions, tips, ways to extend the activity, and reflection prompts. Some activities have templates or examples to scaffold the experience.

001 Draw (*Visual Alphabet, Squiggle Birds, Zen of Seeing*)

These cards function as entry points into the work. They each feature easy drawing activities that can be done quickly and privately. They can also be extended into deeper practices that include other people. They impart important lessons about courage, messiness, and failure. Each activity comes directly from the INFO 360 curriculum and was tested by library workers in the workshop.

002 Write (*Freewriting, Leads To, Visioning*)

These cards are also easy entry points to the work, but feature writing instead of drawing as the main activity. They invite participants to work privately or with others and can be done lightly or with considerable thought. While freewriting and visioning were activities from the INFO 360 syllabus, the “Leads To” activity (see Appendix F) was created by workshop participants. “Leads To” walks the user through a process of mapping an imaginary chain of events that starts small and leads to substantial shifts in their organization. Freewriting and “Leads To” were tested in the workshop. Visioning was not tested in the workshop but has been vetted with library workers in adjacent research.

003 Explore (*Site Visit, Restorative “Envintory,” Allies and Adversaries*)

The explore cards get the user out into the library environment, noticing how they experience library space. They require more investment of time and energy but still can be done with little to no institutional buy-in. They are mostly intended as solitary activities, though they can be done with others. The “Site Visit” mirrors an INFO 360 field trip, but the other two

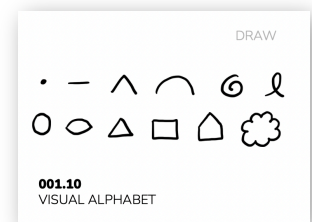


Figure 7.16
Visual Alphabet card

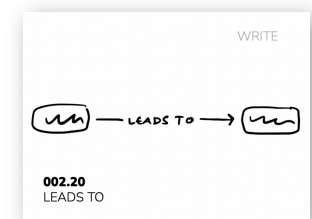


Figure 7.17
Leads To card



Figure 7.18
Site Visit card

cards are new additions. Both “Restorative ‘Envintory’” and “Allies and Adversaries” involve assessing the library (or home) environment for its restorative potential and potential distractions. “Site Visit” was vetted in the workshop; the other two cards were not tested with workshop participants, but they have been tested with other library workers in adjacent research.

004 Notice (Noticing Practice, Tree of Contemplative Practices, Doing Nothing)
The notice cards encourage users to slow down and pay more attention to the world. They require modest investments of time and can be done solo or with others. Each notice card activity mirrors an INFO 360 assignment. The “Tree of Contemplative Practices” card is a good example of how the card deck might be expanded. The call number for this card is 004.20, and the activity asks users to pick a practice from the tree and try it. A “contemplative practice” expansion pack might be released at some future point, allowing for cards that correspond to each branch of the tree. The call number 004.21 might refer to the “stillness” branch of the tree, 004.22 to the generative branch, and so on. And 004.211 might refer to silent meditation and 004.212 to centering prayer (both stillness branch activities). The “Tree of Contemplative Practices” and “Doing Nothing” cards were tested with workshop participants. The “Noticing Practice” was not tested in the workshop, but has been tested with other library workers in adjacent research.

005 Listen (Come Back Circle, Empathy Map, Clint’s Circle)
The listening activities help users practice listening more deeply and empathically. Most require participation with others, though the “Come Back Circle” can be modified to be done solo. Each of these activities was used in the INFO 360 curriculum and tested in the workshop.

101 Inspiration (Rabbit Hole, Field Observation, Go Along)
The inspiration activities build observation skills. They require more commitment and time, in general. All three of these activities are modeled after design research methods and all mirror activities from INFO 360. “Rabbit Hole” invites the user to research restoration. “Field Observation” and “Go Along” get the user out into the library environment, paying attention to how others use library space. None of these activities were tested with workshop participants, but the “Go Along” has been tested with library workers in adjacent research.

102 Ideation (Comfort/Chaos, How Might We?, Hasty Eights)
The ideation activities build prototyping skills. They can be done solo or with others. Comfort/Chaos is a personal assessment activity that helps

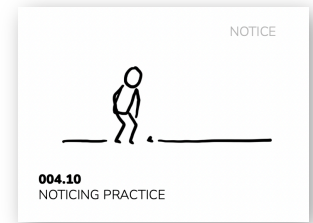


Figure 7.19
Noticing Practice card

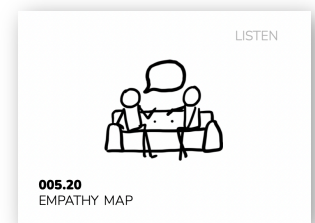


Figure 7.20
Empathy Map card

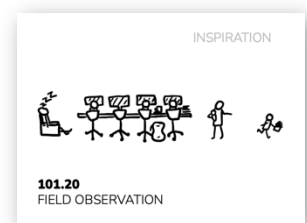


Figure 7.21
Field Observation card

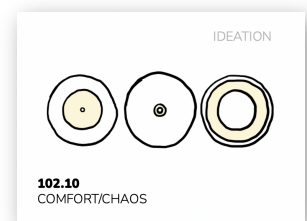


Figure 7.22
Comfort/Chaos card

the user manage feeling overwhelmed. It was used in INFO 360 and tested in the workshop. “How Might We?” and “Hasty Eights” are classic design ideation methods, but have yet to be tested with library workers.

103 Iteration (I Just Called to Say..., Kudos, Questions, and Concerns, Playing Pretend)

The iteration activities facilitate prototype feedback. The “I Just Called to Say...” activity is new to the curriculum but has been tested with library workers in adjacent research. It invites users to practice self-compassion. The KQCs, an easy method for evaluating a prototype that accommodates both real-time and asynchronous feedback, were frequently used in the class and the workshop. “Playing Pretend,” a way to prototype by role-playing, was used by some students in INFO 360 but has not been tested with library workers.



Figure 7.23
Playing Pretend card

7.3.4.2 Workshop Reflection

I was inspired to write a reflection on the workshop because some of the participants’ final reflections echoed things my undergraduates wrote about in INFO 360. I have not analyzed the workshop reflections with rigor; these are merely initial impressions. Here are a few examples of quotes similar across workshop participants and INFO 360 undergraduates:

Workshop Participants

“The [workshop] experience itself was restorative.”

“[I] will miss feeling cared about.”

“It was a space full of warm empathy, free from judgment.”

“[The workshop felt] similar to a meditation practice...I would emerge from the experience more curious, feeling more like myself, more aware.”

“My final word was ‘hopeful’ and that kind of sums it up. I sort of

INFO 360 Undergraduates

“Coming to class, to me, was in and of itself, restorative.”

“You cared about us as students and as people.”

“It was just a good space to say what you were feeling and what you were thinking without really having any fear of judgment.”

“I think the class itself was kind of like a mindfulness practice for me. It would calm me and relax me in the way that like no other classes ever had done before.”

“It has given me a lot of hope and encouragement that we can make a

have this renewed sense of, I don't true change at this university." want to say purpose, but a renewed sense of wonder, I guess? A renewed sense of wonder and optimism. Like, mild, mild optimism."

These quotes remind me of how I felt before I began this research. I am filled with a sense of awe and wonder that these participants experienced the things they described and that those experiences were similar to the class. At the same time, I understand so much more than I did when I began this research. I have a depth of understanding from the analyses I conducted in Q1 and Q2. I used the findings from those studies as a kind of lodestar. I oriented toward them as I created the original workshop agenda, and I continually reoriented toward them as the group took different turns. As a quick reminder, my findings from Q1 and Q2 were:

Learning outcomes (Q1):

- Relating to the environment differently
- Using technology differently
- Connecting over common struggles
- Slowing down and noticing the world
- Challenging assumptions

Cultural conditions (Q2):

- Foregrounding humanity
- Being generous
- Modeling care

Orienting

As I learned in Q2, **modeling care** means making the first move to show participants that I had already invested time in them. I did this in INFO 360 by memorizing the names of my students before the first day of class. In the workshop, my "first move" was the participant packet I sent. The participants might have expected that the information contained in the packet would be sent digitally, but I chose to send physical packets as a way to signal that this workshop would be different than they expected. Furthermore, I chose the nicest materials I could afford. I carefully wrote the name of each person on the folder included, and I illustrated each sticky notepad with a reminder of what that color meant for the KQC activity we would use them in. I handwrote a welcome letter (this was not personalized) and I illustrated the workshop agenda as opposed to using a traditional itinerary. I wanted them to think, as Jude said in her Q2 interview, "oh, this [workshop], I have a good feeling about it."

In the first session, I thoughtfully considered how participants might feel as they arrived in the Zoom room. I asked them to turn off their videos and microphones so that we avoided the awkwardness of being stared at

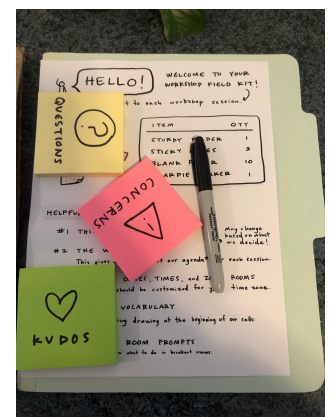


Figure 7.24 Participant packet sent to workshop participants.

by strangers while waiting for the session to start. I played upbeat music and shared my screen with a slide that gave them suggestions on what to do while they waited (e.g., dance to the music, stretch, and practice drawing using a handout that was included in their packet).

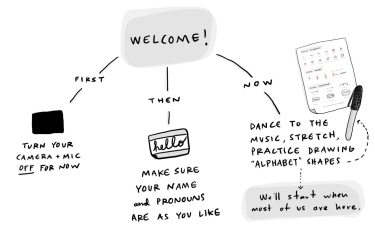


Figure 7.25
Initial slide with instructions.

At the beginning of each session, I played different music and displayed a similar slide, but I gradually changed the recommendations, making cameras and microphones optional. As the sessions progressed, more participants turned their cameras on before we began, and a couple times we broke into an impromptu dance party. This arrival ritual was a way of **foregrounding humanity**. It was an effort to establish social and emotional safety. It was a chance to give them what Georgie spoke about in her Q2 interview, “a visceral body feeling entering the [workshop]... that was much more calm and excited.”

I also supported participants in **connecting** with each other right away. One way I supported this was with the introduction slides. Instead of the traditional headshot/short bio information that is sometimes shared in workshops such as these, I used a template to set a casual and cheerful tone. I chose “Hello My Name Is” stickers for names and a polaroid frame for photos. In my example slide, I shared silly and semi-personal things about myself (e.g., “I’m learning to sew (apparel and bags). AMA!” and “I like shooting tin cans in my backyard with my Red Ryder BB gun.”). Many participants followed this example and shared silly photos, captions, and bullet points about their lives. This supported some social comfort in the first session, which I used to immediately launch into a connecting activity called “Just Like Me” (JLM). In JLM (Dass & Bush, 2018, pp. 195–196), individuals are paired up, and they silently repeat phrases that I read aloud. Phrases like:

- This person has feelings, emotions, and thoughts, just like me.
- This person has at some point been sad, disappointed, angry, or hurt, just like me.
- This person has longed for friendship, just like me.

Because we were in a virtual environment, I paired individuals by reading pairs of names aloud and asked them to “pin” each other’s videos so they could maintain eye contact. Later in the session, I put these pairs in a breakout room to discuss KQCs. In the session feedback, a participant noticed this intentional pairing. They wrote, “[The JLM exercise] made pairing up with them afterward a great start to the larger conversation.”

Reorienting

My efforts to orient to these findings worked very well, but the workshop was not a straightforward path. It twisted and turned, and I had to reorient to my findings over and over again. An example of this happened in the second session. Prior to that session, participants had completed a “Site Visit” fieldwork assignment, which was to “go to a place they tend to go to come back to themselves,” spend about 20 minutes there, and reflect on the experience. To open up the session, I ran a “Clint’s Circle,” activity (see Appendix F) where participants are invited to speak one at a time in a set order. Each person answers a single question from a shared list or passes. To establish the order, I typed everyone’s name in the chat, and then I listed four questions:

- Where did you go, what was it like?
- Did anything surprise you?
- Were you inspired to change the field guide in any way?
- If you couldn’t make it, what prevented you? Does this have implications for us?

The conversation was very rich, but also very slow. I had planned an additional design activity, and we were going to run out of time if we continued at the pace we’d established. Reorienting to my findings meant **slowing down**, and **being generous**. I inwardly decided to keep going with the conversation and tabled the design activity for another session. A few moments after I made this call, a participant said, “Can I just say, I feel like this is becoming my restorative space? This, like, amazing slow conversation?” to which several others nodded their heads in agreement.

It was not easy to let go of moving our idea “forward” through the design activity I’d planned. And it may have been a fine thing to do. But my findings anchored me at that moment and asked me to prioritize what seemed most restorative for the participants. I knew that I couldn’t rush them to restoration. I knew this through my experiences in INFO 360, and I knew it from the guidance I’d received along the way. As one of my SMEs (Interview 2) wisely said:

Imagine getting to the revolution and not being able to trust it. Cause you don’t even know what it’s like to sit in joy. What if part of building that world is knowing how to exist in it? So that when you can put the labor down, you will actually be able to put the labor down. Cause I promise you that racism or other oppressive systems are not going to be interrupted in the next four hours or the next six weeks or

the next ten years. Like, you can rest. It'll be there. You will give it out before it gives out. What if we protected you? What if we nurtured and honored you so that you could face it?

Reorienting to my findings guided me through moments like this one in Clint's Circle when I wasn't sure how to proceed. They gave me the courage to steer us toward generosity and care, to slow us down, to sit in joy together, and embrace the world we were trying to build.

7.3.5 LIMITATIONS

I would like to share the limitations of this work so that the discussion section can be read with them in mind.

Participant Limitations

First, I found it challenging to recruit creatives (professional designers, artists, and technologists) for the workshop. I had intended to recruit a 1:1 ratio of library workers to "creative agitators," but I ended up with a ratio of 3:1 (three library workers for every creative). I think this was in part due to calling the prototype "The Library Workers' Field Guide..." As much as I tried to explain that I wanted non-library workers involved, I think this title confused people who may have applied to participate otherwise. The prototype we designed together would no doubt be different if fewer library folks and more adjacent fields were represented. The vibe of the space would have been different, too, and that may have made the experience feel less like a community for the library workers and more like a community for the creatives.

Another important limitation regarding the participants in this study is that they all had the time and ability to participate. Requiring ~20 hours of unpaid labor limited the types of people who could attend. In addition, we met during the workday to accommodate most peoples' schedules, but this made it hard for some to participate. I tried to mitigate this issue by allowing some people to participate less. There were two participants in particular who needed to miss multiple sessions because of limitations in their schedules. Both of these individuals described their limitations ahead of time, and I agreed to include them despite less participation so their voices were included in our work. I continued to send one of these individuals updates on the work we did and they continued to contribute asynchronously (the other dropped out before the workshop began).

Limitations of Data Collection

The time I had to collect feedback and design artifacts with these

participants was extremely limited. Twelve hours, divided into two hours chunks of time across three weeks is not enough time to achieve comfortable, generative convergence in 21 participants who have never worked together. Furthermore, choices I made in the workshop sessions often prioritized their comfort and safety over pushing us ahead into planned design activities that would have generated more artifacts. My choice to start with an initial prototype limited the direction and breadth of our ideas, and the choices I made for the session agendas limited the ways we engaged that prototype. I have tried to mitigate these risks by being very clear about these limitations in how I wrote about the workshop plan and how it unfolded.

Limitations of Data Analysis

As its primary designer, the MVP prototype is limited by my personal biases and skills. I used a process of iteration where I would take participant input and offer them new artifacts every session. This infused each iteration with my own understanding and style. A different designer would no doubt have taken their feedback in different directions. A researcher with a different set of design skills would have created something much different. I tried to mitigate this risk by being open to the twists and turns the group took. A participant described their experience of this:

I appreciated that you genuinely never seemed perturbed or thrown off by people's "dissent" or asks that might not have aligned with what you saw. That ends up being this subtle thing that happens with facilitators. Even if you say you're open and you want everybody's opinion and somebody speaks up, you can sense it. That [facilitator] is like, mmm I really wish you didn't say that. I didn't feel that from you. It felt like a genuine curiosity that encouraged people to be more generous themselves.

I did the best job I could to let go of my own agenda, but it no doubt remains in the DNA of our prototype. This isn't necessarily a bad thing, but it is a limitation of what we made together.

7.3.6 DISCUSSION

The PD workshop and the MVP prototype were the culmination of all the work I've done in this dissertation, and to be honest, much of the professional work I've done prior to and alongside my scholarly pursuits. The experience was incredibly challenging, as culminating learning experiences tend to be. I had to use all my skills to pull it off. But as

challenging as it was, it was as much or more so rewarding. Every session felt like a gift, and I felt like I was living my best life while doing this work. I constantly felt like one of the workshop participants described in a session evaluation survey, “I’m so grateful to be in this space. What a beautiful collection of humans.”

Looking back on the workshop and toward the future of the MVP prototype, I feel I have a clearer understanding of what it means to engage library workers in the restorative potential of their libraries. It means the same thing it meant to my undergraduates. Engaging in restorative potential means being safe enough to put down the cynicism and walls that protect us from being harmed by our institutions. When we put those things down, we see the world with new eyes, and we hear each other with new ears. In this place of newness we can feel hope, especially if we feel that we aren’t alone. We can, to quote another participant, feel “mild, mild optimism” that change is possible. We can sense this potential because we are experiencing it in the design space.

In this workshop, I was able to apply the findings of my earlier two studies. I put them into practice in a new context, and through that work, I helped co-create an offering for the library field. This offering, the MVP prototype, has a long life of iteration ahead of it, and there is much yet to test and evaluate. But it already features many activities and content vetted by library workers and undergraduates. I am optimistic that it will be used and changed in community, just as it was created.

8 THE CONCLUSION

At the end of the PD workshop series, I asked my participants to reflect on the following question, “What was meaningful to you about this experience, and what’s next,” and I would like to organize this final chapter in the same way.

8.1 WHAT WAS MEANINGFUL?

Before I began this work, I understood “restorative environments” as places that met the four criteria of attention restoration theory: being away, compatibility, extent, and soft fascination. Now, I see those criteria as helpful, but part of a greater whole. This shift in my understanding came as a result of the workshop with library workers. As I mentioned in the last chapter, a participant introduced Christopher Alexander’s *A Pattern Language* (Alexander, 1977) as a potential framing for our prototype. I had learned of Alexander’s work years ago when I worked as an information architect. I even had his books *A Pattern Language* and *A Timeless Way of Building* (Alexander, 1979) on my bookshelf at one time. The workshop prompted me to revisit those books and to catch up with the work he’d done in the time since.

It turns out that Alexander had been disappointed by the things people built using “patterns” (Alexander, 1996). He wrestled with that disappointment as he wrote and rewrote a series of books over a time span of nearly 20 years. He ultimately published these books as a four volume series called *The Nature of Order*. In those books, Alexander explored the theory underneath the patterns he’d identified. He also distinguished between what makes a built environment “living” versus “not living.” He wrote (Alexander, 2004, p.2):

The structure of life I have described in buildings — the structure which I believe to be objective—is deeply and inextricably connected with the human person and with the innermost nature of human feeling... I shall approach this topic of the inner feeling in a building as if there is a kind of personal thickness—a source, or ground, something almost occult—in which we find that the ultimate questions of architecture and art sometimes touch some connection of incalculable depth between the made work (building, painting, ornament, street) and the inner "I" which each of us experiences.

What I call "the I" is that interior element in a work of art, or

in a work of nature, which makes one feel related to it. It may occur in a leaf, or in a picture, in a house, in a wave, even in a grain of sand, or in an ornament. It is not ego. It is not me. It is not individual at all, having to do with me, or you. It is humble, and enormous: that thing in common which each one of us has in us. It is the spirit which animates each living center.

Reading about the leaf or the picture or the house or the grain of sand reminds me of something an INFO 360 student wrote about noticing a bamboo plant outside her door every day. She wrote, "I can see [the bamboo] every day when I open the door and walk through the garden onto the main road... [It grew] at an amazing rate... once I tried to get it out. It was amazing it didn't die. In contrast, it continued to grow along the other direction. [This] spirit of perseverance makes me feel incredible."

One of Alexander's greatest offerings was the idea that life is not only biological; humans create life through the things we make. By making, we participate in the evolution of life unfolding. But how we make things matters. Alexander continues (Alexander, 2004, pp. 3-4), *emphasis mine*:

My hypothesis is this: that all value depends on a structure in which each center, the life of each center, approaches this simple, forgotten, remembered, unremembered "I" ... that in the living work each center, in some degree, is a connection to this "I," or self... that the living steel and concrete bridge is one in which each part is connected to this self, awakens it in us ... that the living song is one in which each phrase, each note, is connected to this self, awakens it in us, reminds us of ourselves... each window, each roof, each room, each ceiling, each doorway, the gardens, the flowerbed, the trees, the rambling bramble bushes, the wall by the stream, the seat, and the handle on the door, are all connected to this I, and awaken it in us.

I believe that the ultimate effort of all serious art *is to make things which connect with this I of every person*. This "I," not normally available, is dredged up, forced to the light, forced into the light of day, by the work of art.

Alexander was deeply troubled by the quality of our built environment. He felt that the "dead hand of repetition, pure factory repetition"

(Ludden, 2005) that was largely used to build things since WWII had created a tragic condition for humanity. That nearly every “man, woman, and child on the planet” was negatively affected by it (Alexander, 1996, para. 14). In the early days of the attention economy, Alexander implored Silicon Valley programmers to build technology not only with patterns, which programmers were excited about at the time, but also with morality and “wholeness” (Alexander, 1996). He presciently argued that the fate of our built environment rested on technologists because the tools they were building were our future.

But what is this “wholeness?” When Alexander taught his architectural students to identify objects that were alive versus not alive, he would present two objects (a room, a door knob, a brush stroke) and ask them, “Do you feel more whole? Do you feel more alive in the presence of this thing? Do you feel that one is more of a picture of your own true self?” (Alexander, 1996, para. 35). He found that when students were relaxed enough to answer these questions, they would almost always identify the “living” thing. And they would agree with each other about which one was living, whereas if they had been asked to judge it on other criteria, they most likely would have experienced differences of opinion.

Revisiting Alexander’s work has transformed my understanding of what happened in my class. He wrote, “people are deeply nourished by the process of creating wholeness” (Alexander, 2004, p. 263). When I read that sentence, it instantly struck me as the answer to the question that sparked all of this work. The curricular and pedagogical conditions I have discovered do not support restoration by putting learners in environments that meet the criteria of attention restoration theory (ART). My students and workshop participants were nourished by making things that made them feel more whole, more alive, more a picture of their own true selves.

8.2 WHAT’S NEXT?

One of the goals of this dissertation was to understand what was happening in my class and to bridge that experience to the library space. I have built that bridge, but I don’t yet know what’s on the other side. The MVP prototype needs to be evaluated and iterated upon with library workers who did not participate in its creation. Open questions include: How much support will library workers need to use these tools? How will they use them in different library roles (management, frontline staff, back office), across different library types (public, academic, school, tribal), and in different communities (urban, suburban, rural)? What

spaces and programs will they create and what are the effects? What's missing? Do the tools impact morale? How might they be used in partnership with community members?

Beyond the library world, I want to explore the restorative potential of this work in other settings. First, I want to bring it back to the university, adapting the guidebook and activities, so they work in the context of classrooms and campuses. I also want to explore how the prototype translates to other cultural institutions (e.g., museums, places of worship, and parks), educational spaces (e.g., K-12 formal and informal learning environments), and professions experiencing burnout and low morale (e.g., healthcare workers, clergy, and social workers).

Beyond the MVP, I am interested in exploring design as a contemplative process. I am struck by the overlaps between contemplative experience and the "wholeness" Alexander describes. To compare, here is Sr. Mary Frohlich's definition of contemplation alongside Alexander's description of wholeness:

Frohlich:

We can define contemplative experience as awareness—whether fleeting or habitual—of that most foundational, most original depth of being. . . . Because this is our most foundational reality, contemplative experience is potentially available to every human being, at all times and in every circumstance. It can and does "happen" to people without any preparation and while they are engaged in pursuits that are not concerned with seeking it. (Krinke, 2005, p. 4)

Alexander:

The structure of life I have described in buildings... is deeply and inextricably connected with the human person and with the innermost nature of human feeling... there is a kind of personal thickness—a source, or ground, something almost occult—in which we find that the ultimate questions of architecture and art sometimes touch some connection of incalculable depth between the made work (building, painting, ornament, street) and the inner "I" which each of us experiences. (Alexander, 2004, p. 2)

These overlaps help me to understand what was behind my original hypothesis—designing to restore others restores the designer—a connection I made by observing how I slowed down as a result of my museum career. Looking back on it, my museum work sparked my original turn toward the contemplative. My official job title at the

museum was “Director for Innovation and Digital Engagement.” I had been hired to help the museum embrace digital experiences and learning. My goal was to take risks, and try things that might not work. On my first day, my manager, Troy Livingston, told me that if I didn’t fail, he would be disappointed in me. As a lifelong overachiever, there was probably nothing scarier to me than my fear of disappointing others. I turned to the contemplative to cope with the fear, and possibilities, of having a job that required me to go to such a scary place.

I began writing Morning Pages (Cameron, 1992) and practicing meditation. I devoted 10% of my work time—a work practice modeled after Google no less—to presence-oriented activities. I even spoke to our local professional design group about the experience of having “The Luxury of Contemplation” in my work. Although I didn’t see it at the time, these contemplative activities were making a difference in my life and my work. I wasn’t purposefully designing “contemplatively,” but the effects of these contemplative practices accumulated over time, helping me be more present to the experience of design, itself.

I eventually left the museum field because I had come to sense a lack of integrity in designing digital experiences to help people slow down. To quote one of my INFO 360 students, “Our [mobile] application accomplishes one thing, but at the cost of another.” I began to see, perhaps as a direct consequence of contemplative practice, that the elaborate and expensive digital experiences we created at the museum often paled in comparison to the learning experience afforded by something as simple as putting a few wooden blocks on a table.

In his speech to Silicon Valley, Christopher Alexander said, “Please forgive me, I’m going to be very direct and blunt for a horrible second. It could be thought that the technical way in which you currently look at programming is almost as if you were willing to be ‘guns for hire.’ In other words, you are the technicians. You know how to make the programs work. ‘Tell us what to do daddy, and we’ll do it.’ That is the worm in the apple” (Alexander, 1996, para. 77). Like so many Silicon Valley programmers, I believed I was helping the world through my work, but I realize now that helping the world through design means designing in a different, more whole, way. Through the work of this dissertation, I have come to experience one quietly radical way of doing that, and I am left asking how we might design technology in ways that help us participate in the foundational, original, incalculable depth of our being.



Figure 8.1
The author, me, caught in a moment of laughter in a meeting with colleagues at Michigan State University in 2013.

Behind me are hundreds of drawings of birds taped to the wall. They were drawn by individuals participating in FeederSketch, a six-week program we created to teach people how to draw birds in their backyard.

Perhaps I am being naïve, but it seems to me that the same people who are currently “guns for hire” might make something very different if they did so from a place of wholeness. There’s a reason why they aren’t already doing that, and I know the forces that fuel the attention economy are powerful and insatiable, but I am reminded of what one of my SMEs (Interview 7) said when she was discussing racial equity in libraries, another intractable problem. She said:

You could hire all the racial equity people in the world. You can update all the policies you want in the world, but if your staff don’t connect to justice and equity work at a heart and mind level I don’t know what kind of outcomes you’re gonna realistically have. Because this work? It’s relational. And it’s being present, and having the capacity to be relational, having the capacity to share power. Having the capacity to do imaginative work together about what you want a community or space to look like. It comes back to that. And that is and of itself is restorative.

There is no doubt that slowing and repairing the harms of the attention economy involves sweeping systemic changes and policy. But those systems and policies will be created and perpetuated at an individual “heart and mind level.” This dissertation has given me clarity about how to hold space for hearts and minds, and to foster that wholeness in community. It isn’t *the* solution to the problem of the attention economy, but surely no solution to these problems can be found without it.

You know, it’s kind of funny because according to attention restoration theory, this dissertation is a “demanding environment.” You’ve spent voluntary attention reading it and are no doubt fatigued at this point. But I have learned through doing this work that this dissertation is also a restorative environment because it has nourished me, and others, through its creation. I began this document by framing it as an offering to the world, and I am ending with gratitude for its offering to me—time and space to be and become more of my true self.

APPENDIX A: REFERENCES

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APPENDIX B: INFO 360 SYLLABUS

INFO 360: Design Methods Syllabus

Instructor: Beck Tench

Information School, University of Washington

YOU ARE ABOUT TO BE A BETTER NOTICER. 🧐

In this course, you will have the opportunity to notice yourself, others, campus, and technology in new and thoughtful ways. You will be asked to express your ideas, give them life, and let the weaker parts of them go. You will research, evaluate, and prototype your ideas into designs. You will get better at listening, drawing, and doing absolutely nothing at all. With support from your teachers, the UW community, and each other, you will explore undergraduate stress and work to alleviate it for yourself and others using an evidence-based design research project.

👉 THIS COURSE IS DESIGNED TO HELP YOU:

- Experiment, fail, and practice resilience through trying things that might not work.
- Build relationships and friendships with your fellow students and instructors.
- Understand how humans change and are changed by technology.
- Learn real world, practical design skills of researching, prototyping, and evaluating your ideas.
- Reflect and restore when you're stressed out.



THE STRUCTURE OF THE COURSE IS SIMPLE:

- We will spend two weeks researching design, restoration, and undergraduate well-being.
- We will spend two weeks observing ourselves and others to inform our design.
- We will spend two weeks prototyping and developing a plan to evaluate our design.
- We will spend two weeks evaluating our designs and changing them based on feedback.
- We will spend our last week celebrating our work and thinking toward the future.

This is a project-based, fully participatory course with several different types of assignments, such as written reflections, in-class studio work, readings, "Process Book" entries, teamwork, class presentations, and a final design portfolio piece. Attendance, timeliness, and participation matters in this class more than most others. Besides which, we will miss you when you are gone. While it is typical in many classes to make assignments due in the middle of the night, in this class all assignments are due at 5pm. This is to prevent, as best as possible, course work from encroaching on what otherwise might be time you could be sleeping.



COURSE SCHEDULE

Week 1: FOUNDATION	
<p>No class.</p>	<p>Lecture Today we will learn about the design process and how we will use it in our class.</p> <p>Studio Speed Thinking</p> <p>Assignments Syllabus Quiz Initial Reflection Noticing Practice (topic & first picture)</p> <p>Readings None</p>
Week 2: FOUNDATION	
<p>Lecture The first step in the design process is foundational research. Today we will learn about restorative environments to build a foundation for our design intervention.</p> <p>Studio Site Visit Protocol</p> <p>Assignments Process Book No. 1 — Maps Noticing Practice (weekly update)</p> <p>Readings Hartig, Terry. 2004. "Restorative Environments." Encyclopedia of Applied Psychology 3: 273–79.</p>	<p>Lecture The first step in the design process is foundational research. Today we will learn about contemplative practices to build a foundation for our design intervention.</p> <p>Studio Designing a Contemplative Practice</p> <p>Assignments Do "Nothing"</p> <p>Readings Odell, J. (2019a, April 8). The case for doing nothing: It's an intentional strategy, not a luxury or a cop-out.</p> <p>CMind. (2021). The Tree of Contemplative Practices [Illustration]. The Center for Contemplative Mind in Society.</p>

Week 3: FOUNDATION

Lecture

The first step in the design process is foundational research. Today we will learn about behavior design to build a foundation for our design intervention.

Studio

Designing a Tech Behavior

Assignments

Process Book No. 2 — Analogous Research
Noticing Practice (weekly update)

Readings

Fogg, B. J. 2009. "A Behavior Model for Persuasive Design." In Proceedings of the 4th International Conference on Persuasive Technology, 40:1-40:7. Persuasive '09. New York, NY, USA: ACM.

Freed, R. (2018, April 27). The Tech Industry's Psychological War on Kids. Medium.

Lecture

The first step in the design process is foundational research. Today we will learn about sociotechnical systems to build a foundation for our design intervention.

Studio

Mapping our System(s)

Assignments

None

Readings

Meadows, D. H. (2008). Thinking in systems: A primer. White River Junction, Vermont: Chelsea Green Publishing.

Week 4: INSPIRATION

Lecture

The second step in the design process is inspiration. Today we inspire our design intervention by envisioning the future.

Studio

Visioning/TRIZ

Assignments

Process Book No. 3 — Visioning
Noticing Practice (weekly update)
Schedule 1 hour w/a friend between Thursday and Sunday morning.

Readings

None

Lecture

The second step in the design process is inspiration. Today we inspire our design intervention by learning how to listen with and map empathy.

Studio

Walk and Talks

Assignments

Process Book No. 4 — Empathy Map

Readings

Zaki, J. (2019, August 6). The Technology of Kindness. Scientific American.

The RSA. (2013). Brené Brown on Empathy.

Week 5: INSPIRATION

Lecture

The second step in the design process is inspiration. Today we inspire our design intervention by conducting contextual interviews.

Studio

Go Along

Assignments

Process Book No. 5 — Go Alongs
Noticing Practice (weekly update)

Readings

Garcia, C. M., Eisenberg, M. E., Frerich, E. A., Lechner, K. E., & Lust, K. (2012). Conducting Go-Along Interviews to Understand Context and Promote Health. *Qualitative Health Research*, 22(10), 1395–1403.

Lecture

The second step in the design process is inspiration. Today we inspire our design intervention through ethnographic observations.

Studio

Field Observations

Assignments

Process Book No. 6 — Field Observations

Readings

Liu, F., Maitlis, S., Mills, A. J., Durepos, G., & Wiebe, E. (2010). Encyclopedia of case study research. *Encycl Case Study Res*, 2. Chicago.

Week 6: IDEATION

D-Day

The third step in the design process is ideation. Today we will generate ideas for our design intervention by making posters and dot voting.

Studio

Poster Session

Assignments

Noticing Practice (weekly update)

Readings

Watch D-Day Prep Video
Review Our Prior Work: Maps, Analogous Research, Visions, Empathy Maps, Go Alongs, Field Observations

Lecture

The third step in the design process is ideation. Today we will generate ideas for our design intervention by engaging in structured brainstorming.

Studio

Forming Teams and Team Agreements

Assignments

Team Selfie
Team Agreements

Readings

None

Week 7: IDEATION

Lecture

The third step in the design process is ideation. Today we will generate questions we have about our design intervention in a survey workshop.

Studio

Surveys

Assignments

Process Book No. 7 — Prototypes
Noticing Practice (weekly update)

Readings

None

Lecture

The third step in the design process is ideation. Today we will generate ideas for our design intervention by creating low-fidelity prototypes.

Studio

Low-fidelity Prototypes

Assignments

None

Readings

Academy for Innovation & Entrepreneurs. (2016, June 28). Design Thinking: Prototype.

Week 8: ITERATION

Lecture

The fourth step in the design process is iteration. Today we will prep our prototypes for mini-evaluations.

Studio

Mini-Evaluations

Assignments

Mini-Evaluation
Process Book No. 8 — Evaluations
Noticing Practice (weekly update)

Readings

IDEO. (2020). Design Kit.

Lecture

The fourth step in the design process is iteration. Today we will prepare for P-Day.

Studio

P-Day Prep

Assignments

Prepare your P-Day presentations

Readings

None

Week 9: ITERATION

P-Day

The fourth step in the design process is iteration. Today we will iterate our ideas by talking with experts about them.

Studio

Team Meetings with Experts

Assignments

Process Book No. 9 — Expert Feedback
Noticing Practice (weekly update)

Readings

None

Lecture

The fourth step in the design process is iteration. Today we will iterate our ideas by incorporating what we learned from our evaluations and experts into our prototypes for a second round of evaluation.

Studio

Iterating Prototypes

Assignments

Process Book No. 8 — Evaluations
Iterate your prototypes (For your final portfolio)

Readings

Review each team's entry in Process Book No. 9—Expert Feedback

Week 10: ITERATION

Lecture

The last step in the design process is integration. Today we will work on our final portfolios and have team meetings to answer last minute questions.

Studio

Team Work and Team Meetings
CSF Mini-Workshop

Assignments

Final Portfolios
Process Book No. 10 — Noticing

Readings

None

Lecture

The last step in the design process is integration. Today we will reflect on what we have learned about restoration, ourselves, and UW.

Studio

Gratitude Mapping

Assignments

Team Evaluation
Course Evaluation
Final Reflection

Readings

None

ASSIGNMENTS

This is a project-based, fully participatory course with several different types of assignments, such as written reflections, in-class studio work, readings, "Process Book" entries, teamwork, class presentations, and a final design portfolio piece. Attendance, timeliness, and participation matters in this class more than most others. Besides which, we will miss you when you are gone. While it is typical in many classes to make assignments due in the middle of the night, in this class all assignments are due at 5pm. This is to prevent, as best as possible, course work from encroaching on what otherwise might be time you could be sleeping.

Reflections

Using the templates provided, you will submit two reflections, one at the beginning of the course and one at the end. These reflections are 400-600 word responses to a series of questions I will ask you about your habits, restoration, and stress. They are only viewable by your instructors.

Studio Work

In each class, we'll engage in a design studio activity. You'll get credit for the studio differently, depending on what it is; sometimes being present will be enough, sometimes being to class on time will be enough, and sometimes you'll have to turn something in. Studio work is credit/no-credit.

Process Book Entries

Process Books are collaborative Google Slides documents where we collect information and share it with the whole class. There are ten Process Book assignments. For each, there will be templates and examples of prior submissions provided to guide your work. Some Process Book entries are individual and others are team-based. This will be clearly indicated in the assignment title. All Process Book entries are viewable by everyone in class. Here are the topics for each Process Book:

- Process Book No. 1 — Maps
- Process Book No. 2 — Analogous Research
- Process Book No. 3 — Visioning
- Process Book No. 4 — Empathy Maps
- Process Book No. 5 — Go Alongs
- Process Book No. 6 — Field Observations
- Process Book No. 7 — Prototypes
- Process Book No. 8 — User Evaluations
- Process Book No. 9 — Expert Feedback
- Process Book No. 10 — Noticing Practice

D-Day Participation

Class will decide on our project and form teams. Your participation is pass/fail and is worth five points.

P-Day Presentation

Teams will present to stakeholders (content of presentation will be determined in studio the week prior).

Final Portfolio

Your final portfolio will tell the story of your journey through the work of our class. You will combine, repurpose, and synthesize various assignments, studios, prototypes, evaluations, and iterations, many of

which you will have completed as a team. Your portfolio is a document that you can use to show others that you have experience using evidence-based, user-centered design.

GRADING

There are 100 points you can earn in this class:

- Reflections (10 points, 5 points each)
- Studio Work (20 points, 1 point each)
- Process Book Entries (40 points, 4 points each)
- D-Day & P-Day Participation (10 points, 5 points each)
- Final Portfolio (20 points)

Points for assignments will be awarded based on *what you do* (behaviors) and *how you do it* (quality). Behavior points are awarded for timely and complete assignments that have been proofread for clarity and typos. Quality points are awarded for creativity, thoughtfulness, effort, and depth of engagement.

In general, behavior points will comprise 87.5% of an assignment's grade and quality will be worth 12.5%. This means that you are guaranteed a grade of 3.5 if you show up to class and on time and submit all assignments completely and on time (see below for policies on missed classes and late assignments). The quality of your work will determine grades 3.6-4.0. The quickest way to slide to below a 3.5 is to miss classes or assignments or be chronically late.

After mathematically rounding your points to the nearest whole point, I'll map your points to a 4.0 scale using the standardized informatics grading scale. (A note about studio points: because there aren't exactly 20 studios, the total number of points you receive will be scaled to 20 points as follows: $(20 \times (\# \text{ activity points earned}) / (\# \text{ of activity points possible}))$).

TARDINESS

Each class begins with a drawing exercise that will serve as a record for your attendance. After three unexcused late arrivals, your studio credit will be less 0.25 points for every day you are late thereafter.

LATE ASSIGNMENTS

You can submit one assignment up to 24 hours late, beyond that, late assignments will receive no credit. If you can provide a note from a health care professional documenting the reason for your lateness, I will accept late submissions.

MAKE UP WORK

You can miss up to three studios (does not apply to studios that are also Process Book entries, D-Day, P-Day, or our final class) without penalty and without documentation. This should be enough to allow for sickness, unavoidable travel, or other personal matters. If you miss a class where the studio is also a Process Book entry, you will need to contact me or the TA for instructions on how to make up the assignment.

REVISE AND RESUBMIT

If you are unhappy with the grade you receive on an assignment, you can revise and resubmit as many times as you like until you receive a grade you're happy with (this opportunity does not apply to assignments submitted late or to the final portfolio). If you revise an assignment and wish to have it regraded, you must notify the TA with your resubmission. Regrade requests will be accepted up until Sunday, December 8th.

OFFICE HOURS

I'm available to talk about jobs, careers, graduate school, research, class, and anything else. My office hours this summer are on Monday and Tuesday afternoons. Book time at <http://becktench.com/meet>.

DEVICES IN CLASS

Please bring your smartphones and laptops to class as we will use them throughout the quarter to facilitate activities and work in class. However, research and student feedback clearly shows that using devices on non-class related activities not only harms your own learning, but other students' learning as well. Therefore, I only allow device usage during activities that require devices. At all other times, you should not be using your device. I'll help you remember this by announcing when to bring devices out and when to put them away.

APPENDIX C: IPA INTERVIEW PROTOCOL

Q0. Establish agenda for interview.

1. Begin recording call
2. Tell a bit about what I'm specifically looking to unpack
 - a. Phase II of my dissertation, went through data to find people who articulated class was restorative, narrowed 86 participants to four, of which they are one
 - b. Specifically looking to understand and have them describe the experience of work/design as giving energy/restoring something and how that might inform future versions of the course, in particular the one for librarians.
3. Get into the questions
4. Should take ~90 minutes

Q1. Reconnect.

- How are you now?
- How has the last year been?
- What's next for you?

Q2. Establish how well they remember the class.

- When you think of our class, and in particular the work we did, what comes to mind?
- Is there anything I can describe or do to jog your memory?
- Re-read their "restorative" comment.
 - Do you remember feeling that way?
 - What did you mean by it then?
 - How do you understand it now?
 - Do other experiences feel this way?

Q3. Go deeper into the written, felt, imagined, and actualized experience of restoration.

- Tell me anything about what you remember doing, feeling, imagining, or designing in our class that felt restorative.
- How did the class facilitate that restoration?
- Do you experience restoration like that in any other way?
- Has any of your other design work felt that way?

Q4. Do you imagine your work would be different without this class? How?

Q5. Is there anything else you'd like to share?

APPENDIX D: PARTICIPATORY WORKSHOP SESSION RECAPS

From: Beck Tench tench@uw.edu
Subject: Restorative Libraries Workshop: Session One Recap
Date: March 14, 2022 at 11:16 AM
To: [REDACTED]



Hello everyone!

Thank you again for your time and attention today. It was so wonderful to be with you. Here's the email message I promised I'd send with links and stuff. Please remind me if I forgot something you were looking forward to.

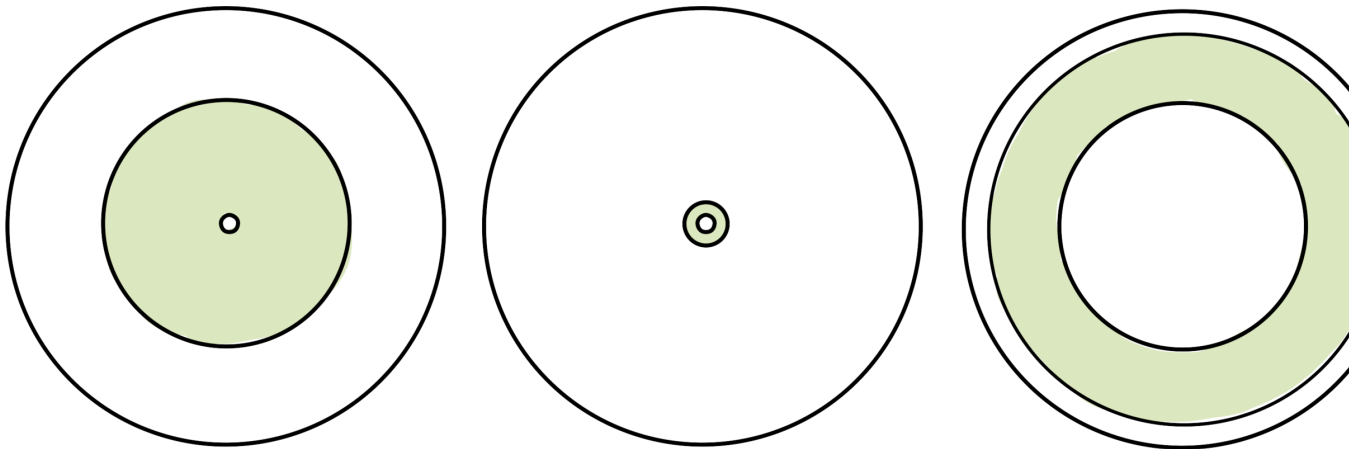
1 First, a **to-do list**:

- If you have feedback on today's session, [please leave it here](#).
- Please try to get an hour on a friend or friendly colleague's calendar between our Monday and Thursday sessions next week. If you need more context to set this meeting up, lmk, and I'll say more.
- Please reply to this message with your post-it notes if you wrote some down and haven't already sent them my way.
- Between now and Thursday, watch this [2-minute video](#) and visit a place you like to go to restore. If appropriate, take a photo while you're there, and then consider the reflection questions [on this slide](#). Copy the slide and paste your own version in our Field Journal Notebook (FJN) if you want to and have the time.

2 Next, a **recap** of our session today:


Today we began with [some music](#) (your recommendations welcome!) and drawing shapes from the visual vocabulary. We then experienced the "[Just Like Me](#)" meditation, which [Ram Dass](#) and [Mirabai Bush](#) created, as best I can tell.

After that, we mapped ourselves on [Comfort/Chaos circles](#). I forgot to say that our circles can change. Sometimes our comfort zones are really big, and sometimes they are really small, and sometimes they are really big one minute and really small the next. Like this:



Then, we jumped into an activity called [1-2-4-All](#), where we used "Kudos, Questions, and Concerns" as a framework to share feedback on the [Field Guide Prototype](#). In the "All" part, we produced the concept map below, which is also documented [on this slide](#) in the FJN.



From: Beck Tench tench@uw.edu 
Subject: Restorative Libraries Workshop: Session Two Recap
Date: March 17, 2022 at 10:45 AM
To: [REDACTED]



Hello, hello, as always, it was so wonderful to see you today! Thank you again for showing up so fully in our time together.

👉 First, if you have the impulse, [please let me know how you found today's session](#).

👉 Second, here's [a two-minute video describing your fieldwork](#) (a contemplative practice).

Now, for what we did today. **Well.**

There was a lot contained in those two hours! First, we were welcomed into the space by [The Birds, The Wailin' Jennys, Kaki King, Zoë Keating, and Stevie Wonder](#). We drew circles while we listened. We took a poll that revealed that everyone had had a chance to do the site visit fieldwork ([check out some of the wonderful recaps](#)). Then, we did a "Clint's Circle" activity where we went around, answering one of the following four questions:

- 1 Where did you go, what was it like?
- 2 Did anything surprise you?
- 3 Were you inspired to change the field guide in any way?
- 4 If you couldn't make it, what prevented you? Does this have implications for us?

BTW, [REDACTED], to answer your question about going multiple rounds, that's the full-on version of Clint's Circle. If we'd had enough time, we would go around again, in the same order, but we'd comment on something someone else said.

Our slow, resonant, and heartfelt conversation lasted about 45 minutes, which given our intention to stay present the entire time, was quite an endurance event! I mentioned [the book I don't recommend](#) and the metaphor within it that I do:



That we need to drift in order to build our muscles of staying present. Without drifting, we wouldn't have the resistance we need to strengthen those muscles, much like we need the weight of a dumbbell to make our bicep stronger.

We took a break and then came back to review the [kudos, questions, and concerns](#) from last time. This review spurred a series of reflections about how we might iterate the field guide into something that has deep integrity while also being approachable for those who don't have power or time or who may resist these concepts. We've started thinking about concepts like "spectrum" and "readiness" and the multitude of ways we might answer the question "who is this for?"

I'll leave us with the snippet of [the poem](#) [REDACTED] [read](#) (thank you so much for bringing that into our conversation):

*And I don't mean to suggest one must suffer
in order to make Great Art, only that we all, at one time or another,
suffer terribly anyway, so we have music.*

Thank you all for your time and attention and I look forward to seeing you on Monday.

Beck



p.s. Here are those [contemplative arenas](#) I keep mentioning.
o.p.s. Chat attached.



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Beck Tench
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Information School
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<http://becktench.com>

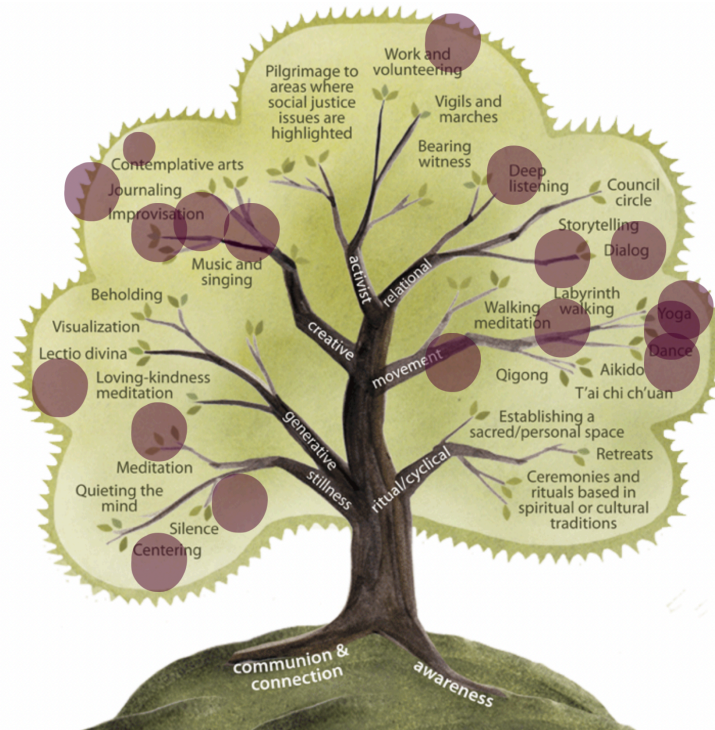
From: Beck Tench tench@uw.edu 
Subject: Restorative Libraries Workshop: Session Three Recap
Date: March 21, 2022 at 10:56 AM
To: 



Hello folks! Thanks as always for your time and attention, and incredible insights as we dive into the “growin’ zone” of the design process. Before we dive into the recap, here are some links:

- [Here's the feedback survey](#). Since we're halfway through, please let me know how things are going if you haven't already. If you've been leaving lots of feedback already, please leave even more!
- [Here's the fieldwork video](#). It's a little longer this time (4m). Sorry about that! There's a [template](#) you're invited to use/fill out if you have the time. Don't worry if you don't!

Okay, so... today! We started our session with a spontaneous Zoom dance party.  Then, we mapped the contemplative practices we engaged for our fieldwork onto the [Tree of Contemplative Practices](#), lamenting all the while that the tree metaphor makes it hard to place activities that involve several of these branches at once!



Then, we spent the rest of our time engaging in a new direction for our project. I'm still looking for the right words for this, but right now I'm describing it as "less a linear field guide for anyone, and more a way to assess where folks are and meet them there through using “patterns” to design restorative environments. This idea and language is inspired by the work of [Christopher Alexander](#) and his book, [A Pattern Language](#). On a gut-level, we are feeling pretty good about this direction, though some are still processing it and *all of us* are trying to piece together what it really means.

We popped into breakout rooms to [brainstorm the kinds of people that might use the guide](#) and then we picked one type of person and brainstormed the kinds of places that person might want to create. We also reflected on the leverage that person might have in their institution.

Right now it seems we have the following puzzle pieces:

- A design process (inspiration, ideation, iteration)
- A bunch of solid activities (site visit, empathy map, etc.)
- A nascent new direction (meeting folks where they are)
- A metaphor (patterns)
- A bunch of fodder for who might use this and how (jamboards)

I'll be taking all that + whatever feedback you send me in the survey or over email and incorporating that into our next session, where we will be moving fully into the ideation phase and thinking together about what form our ideas take.

I'm attaching the chat, thanks again to [redacted] for volunteering to monitor it!

Beck



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University of Washington

<http://becktench.com>

From: Beck Tench tench@uw.edu 
Subject: Restorative Libraries Workshop: Session Four Recap
Date: March 24, 2022 at 5:40 PM
To: [REDACTED]



Hi folks!

Great to see you today. And, as always, thank you for your time and attention. This note's coming a little later than usual. I had to do a lot of thinking to write this! Thanks, too, for your patience on that.

👉 First, [here's a link to our feedback survey](#).

👉 Second, the recap:

We started today's session with one of my favorite drawing activities, [Squiggle Birds](#).

Then, we chatted about some things that surprised us about our empathy map conversations. Some of us were surprised by the content of our discussions, and some of us were surprised by the experience of the conversation itself. For example, many heads were nodding as [REDACTED] discussed how she already knew the answers to the questions she asked her interviewee. Still, she was also surprised by how that person put those answers in a greater context. And many heads nodded along while [REDACTED] described how her struggle to navigate this way of listening with her impulse to console and connect with her interviewee. You are all bringing so much richness to the fieldwork. I'm in awe of you.

After that conversation, I took a few minutes to describe how my thoughts are evolving regarding the "patterns" idea. I mentioned how easy it is to think of patterns as formulas, like how web designers use "design patterns" to create easy-to-use websites. But Christopher Alexander said that when you design something, it's not about putting it on some grid or golden ratio that will make it work. Designing well, he said, is more akin to the process a leaf might use to grow on a tree — it is complex and relational.

What does this have to do with our guide? Well, you could say that Attention Restoration Theory is like a formula:

BEING AWAY + SOFT FASCINATION + COMPATIBILITY + EXTENT = RESTORATION

All you need to do is design environments that evoke soft fascination, are compatible, have extent, and are away from the demands of their work. "Build it and they will come." And once there, they'll be restored. ✨

But we all knew from the start that it's not so easy. People are complex. Our relationships to place and others and our personal histories and traumas affect what restores us and how. What restoration looks like to one person is different than what it looks like to another in subtle and nuanced ways. Can we design a guide that allows for such subtlety and nuance? Would the concept of "patterns" help us do that? _(^▽^)_

After our patterns discussion, we set off on a 10-minute freewriting exercise and then transitioned that into 10-minute conversation with another participant in breakout rooms. We took a break and then came back into four-person groups. I asked everyone to create ideas about what we're making, but there were several factors that made that hard to do.

First, you didn't have enough time to do the activity. Second, the instructions were vague, probably too vague. And third, some of us lacked the clarity we needed to really answer the question. After 20 minutes, we reconvened and a person from each group described their ideas. They were:

- A provocation: [How might tech contribute to restoration in libraries?](#)
- A metaphor for our work together: [Taffy](#)
- A question (and request): [Squishy container?!](#)
- And a vision for sustainable listening spaces: [Listening "pod" or "cave"](#)

I think what I need to do next is create a v2 of our [field guide prototype](#) and try to incorporate some of these abstract concepts (and concerns we've raised) into something we can talk about and poke at. I hope to have that ready for you on Monday. I don't think you need to do the fieldwork of writing a vision statement. At least not yet. Let's hold off on that and just rest this weekend.

.....

In the between time, send me any thoughts you have, they are so helpful. And thank you for your persistence through the messiness phase of this work. It's messy for each of us in different ways and, well, like a therapist of mine once said, "you can't open a can of worms without getting worms all over the place."




Beck

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From: Beck Tench tench@uw.edu 
Subject: Restorative Libraries Workshop: Session Five Recap
Date: March 28, 2022 at 11:42 AM
To: 



Hey everyone!

Thanks for a great session today.


👉 Here's the [feedback survey](#) for today.

👉 Here's the [fieldwork video](#), which is to write KQCs on [v2 of our prototype](#).

👉 + 👉 Don't forget to send me your **mindmap** from today's session. Thanks!

As for a recap, we started our session with a muted sing-a-long featuring skating rink-inspired songs, such as Janet Jackson's Control and Whitney Houston's I Wanna Dance with Somebody. Early arrivers also enjoyed Hey Ya! by Outkast.

Next, we did one of my favorite Zoom activities, which I call [The Zen of Zooming](#). It's based on the book [The Zen of Seeing](#) by Frederick Franck, which I heartily recommend.

After that, I reported the feedback from the last session and shared s freewriting and fake sweetener/sweet apple metaphor with everyone. I dove into describing [Surveillance Capitalism](#) and the [story of Instagram](#) (pdf attached for those blocked by a paywall).

After that life-affirming bit of information (sarcasm), we dove into a mind-mapping exercise. We started with our fieldwork as an initial activity and imagined how it might grow over time into something that represents a cultural shift in our institutions. From the activities folks reported and the photographs of maps I've already seen, it worked well for some. I'm so glad we did it and am eager to see the places you all went with it. Oh, and if you found it challenging, that's just as important to me. Please let me know that, too!

Then, we took a break and returned to review the new prototype. I talked through my thinking process page-by-page. Several folks have offered much-appreciated insights and suggestions already. I hope you'll continue to do so as KQCs in the Google Slide deck. I'm excited about the turn the guide has taken, and I also imagine it has a way to go to be as meaningful and relevant to you as possible. Please feel invited to share as many questions and concerns you have, including things we may have lost from the first version.

A few years ago, I went on a 3-month sabbatical to Ocracoke Island, off the coast of North Carolina. Long story short, I ended up renting a place, sight unseen, from someone who knew someone I barely knew. I had no idea what it would be like, but when I got there, the place was perfect in all the right ways. Modest and thoughtful and spacious at once. The friend of a friend became a good friend, and he folded me into the community there in ways I'd never have been able to do on my own.

If someone had given me a magic wand before going to Ocracoke and asked me to invent the perfect place to be, I wouldn't have imagined something as marvelous as what I experienced. This workshop feels the same way. My dreams for it have fallen far short of what it has been.

My present self appreciates you, and the part of me that perpetually drifts to the future is missing you already.

Beck

p.s. Chat's attached.



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Technoloav -

From: Beck Tench tench@uw.edu
 Subject: Restorative Libraries Workshop: Session Six Recap
 Date: March 31, 2022 at 10:55 AM
 To: [REDACTED]



Hello!? Goodbye?!

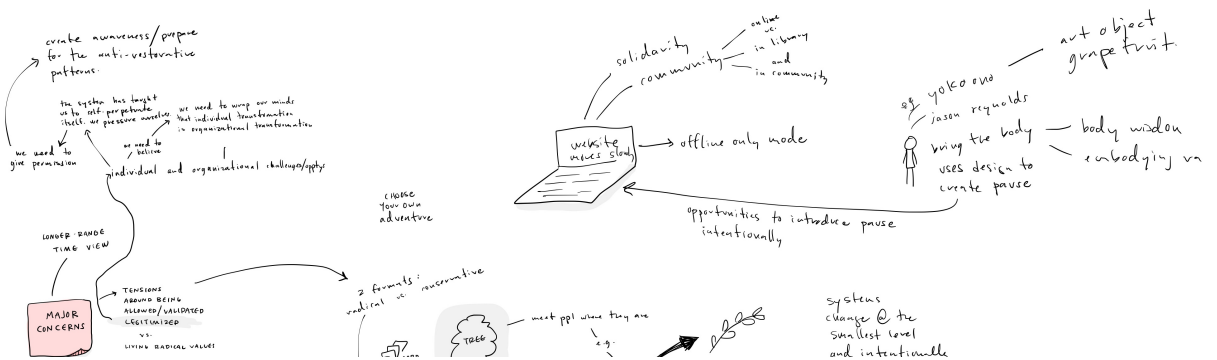
I've had this song in my head all day. Now you will, too?

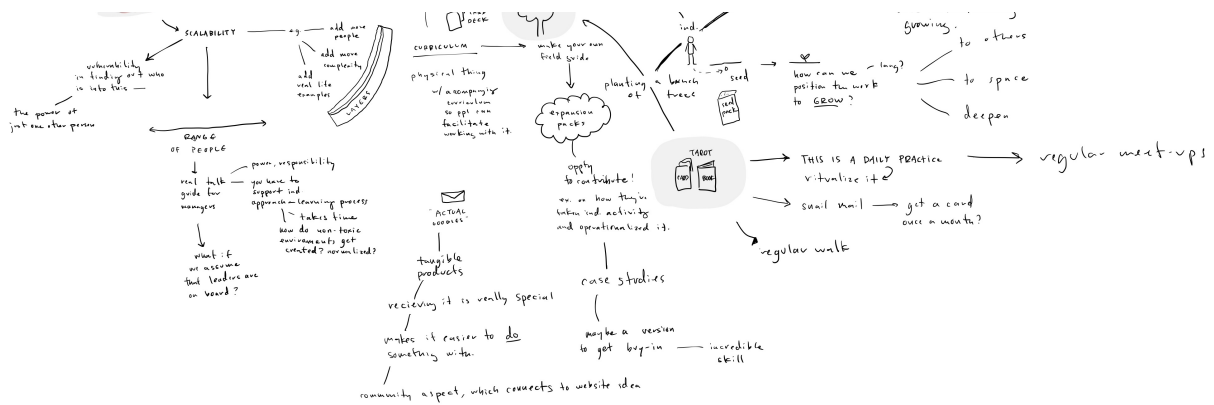


Thanks to everyone for a wonderful ending to a wonderful string of experiences. I have loved every moment of it, even the messy ones. Actually, especially the messy ones.

Today, we began with a series of goodbye songs (I Will Remember You, It's So Hard to Say Goodbye to Yesterday, Bye Bye Bye, Ain't No Sunshine, and (I've Had) The Time of My Life). I like how the songwriter of that last one thought the parenthicals were important enough to include. (I can relate.)

After that, we rated our Mind/Body/Hearts and said a bit about them in the chat. I reviewed the feedback from last time and we listened to [Valentine for Ernest Mann](#) by Naomi Shihab Nye. THEN, we jumped into a short freewrite, three quick speed chats, and a long mapping exercise to imagine the next iteration of the guide.

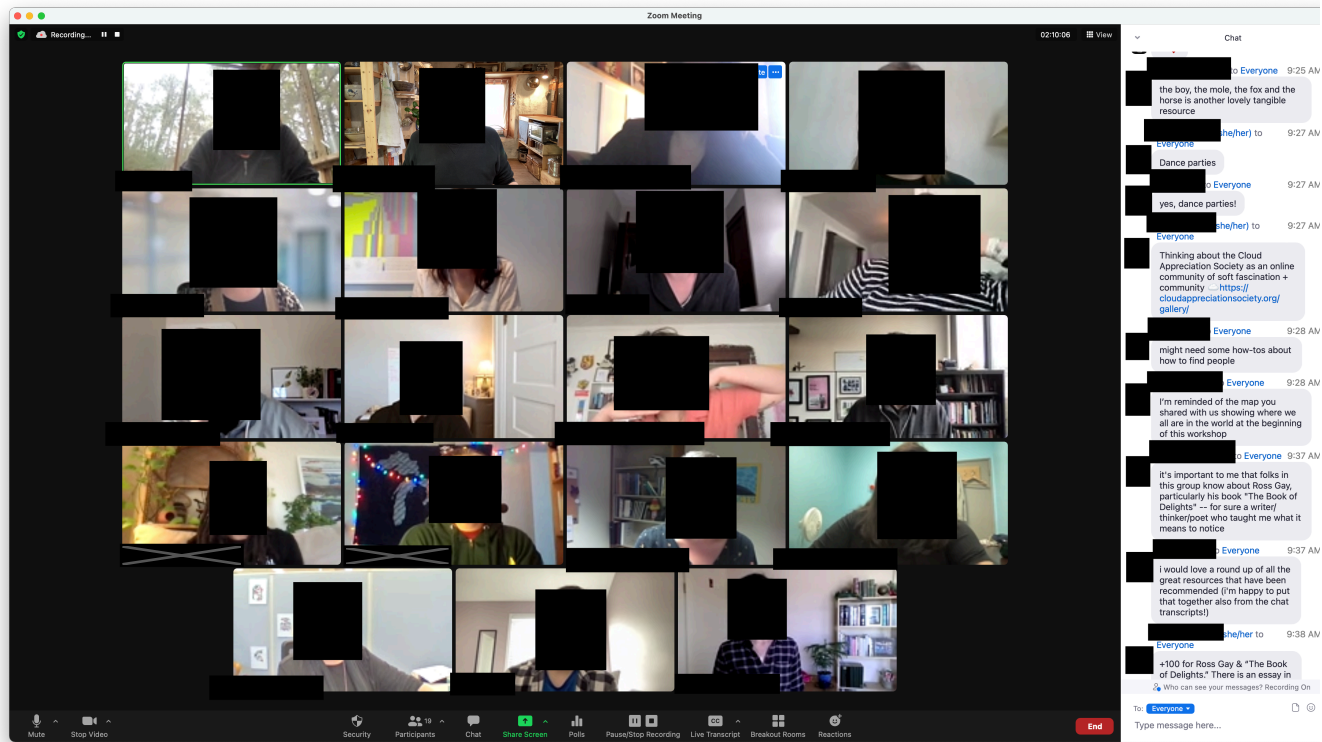




(I'll make a cleaner version of it soon.)

We got to some remarkable places! Tarot! Trees! Embodiment! Snail mail! Expansion packs! Analog websites! If I summarized them all now, this email wouldn't be ready until next week! But, you'll be hearing more from me about everything soon. Keep emailing me your thoughts. I always benefit from them. Speaking of, here's [the feedback form](#), if you want to say more about what you're thinking right now.

We finished with last words and finally got a screenshot of (most) everyone.



👍👍👍 Look at all those beautiful faces! 👍👍👍

Don't forget to put your contact info on your [intro slide](#) if you're open to be contacted by others. And follow my progress on [Trello](#) until I figure out a better way to keep in touch as a community.

I'll be in touch very soon with your final reflection questions.

Til then!

Beck

p.s. Chat attached



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APPENDIX E: THE MVP PROTOTYPE: GUIDEBOOK

THE LIBRARY WORKERS' 

FIELD GUIDE

TO DESIGNING & DISCOVERING
RESTORATIVE ENVIRONMENTS

Version 7.0 (June 2022)

The Library Workers' Field Guide to Designing and Discovering Restorative Environments was created by Beck Tench and dozens of library workers, creative professionals, and informatics undergraduates in a participatory design process.

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INTRO

A FIELD GUIDE?

This 🙌 is **Ranger Greg**.



He works at a museum in North Carolina called the Museum of Life and Science. When you walk around with Ranger Greg, you get to see the world through his eyes.

It's quite a different way to look at things.

For example, you might be walking down a sidewalk when Greg would stop abruptly and point at the ground. You'd see what looks like several pieces of pencil eraser-sized clods of dirt.

"Caterpillar poop!" he'd say. "**Look up!**"



CATERPILLAR POOP!

You'd look up and you'd see the underside of a tree canopy, not *unremarkable*, but then... you'd begin to see little silhouettes of caterpillars munching away at the leaves above. A few seconds later, you'd spot a nest of caterpillars not far away.

"It pays to look up," he'd say.

And off you'd go awaiting the next marvel hiding in plain sight — bullfrog eyes popping out of the surface of a pond, a black snake hiding in a patch of tall grass, a heron rookery up high in a Loblolly pine, the perfect place to watch bats and dragonflies feast on mosquitos each evening at dusk.

This field guide is a way to see our workplace the way Ranger Greg sees the museum—to see the **restorative potential** hiding in plain site around us.

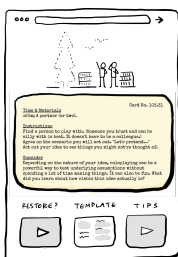
You will learn to see yourself, others, your library, and technology with new eyes. You will become your own version of Ranger Greg, slowing down and noticing the world, walking alongside your friends, family, colleagues, and community and reminding them (and yourself) to look up. You will also build the skills you'll need to create and cultivate restorative space for yourself and others. There are four interconnected parts designed to help you:



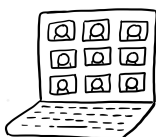
The **field guide** gives context for the skills you'll build. It explains important concepts, like attention restoration and the attention economy.



The **cards** will help you build design skills and explore restoration. Expansions packs address specific library roles and contexts. You can also make your own.



The **website** homes examples and all templates you'll need to try these at work and at home.

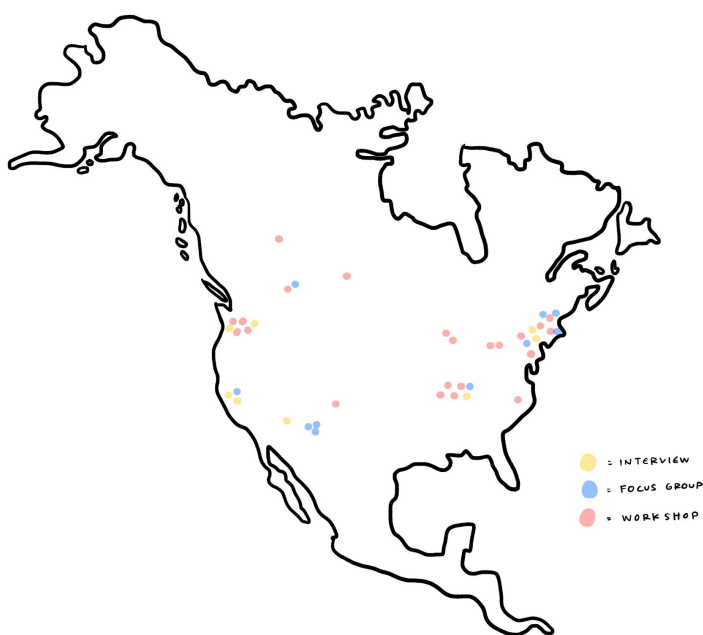


The **community** meets regularly to build skills and explore cards together.

All four work together to support you in the process of designing and discovering restorative space.

WHO IS THIS FOR?

This guide has been made for library workers, especially those that are experiencing low-morale and burnout. It was also made with library workers through a series of interviews, focus groups, and participatory workshops.



It is sensitive to the wide range of institutional power and social capital library workers reading this might hold. It recognizes that restoration and connection look different for everyone. What you will see and make through this work will have your fingerprint. It will be seeded by and grow from *your* lived experiences, personal wisdom, relationships, and intentions.

BUT WHAT WILL WE *DO*?

At this point, you may be wondering what a "restorative environment" actually is. There's more about this on **page 23**, but for now, think of restorative environments as places we go to feel whole, or grounded, or to be reminded of who we really are and what it's really all about.



This field guide will help you **design** and **discover** those places in your library (and anywhere else you decide to look).

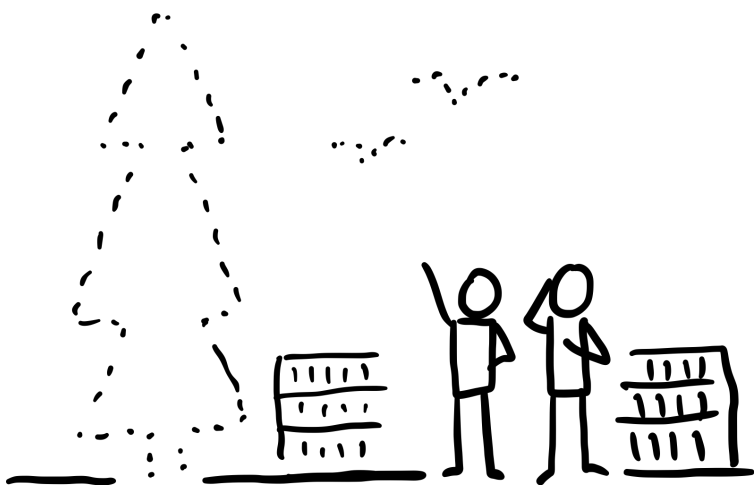
- **Design** will help you develop the mindsets and skills to create restorative environments.
- **Discovery** will help you spot restorative potential and explore the restorative environments that work best for you.

What you *actually do* with this guide will vary based on your needs, your work environment, and your capacity to engage in work like this right now. The reason this is a *field* guide and not a *how to* guide is because restorative environments look different for everyone. What you end up doing with this is your own to design and discover.

The general idea, however, is that you will use the methods described in each section to tap into the restorative potential already around you. This potential might be inside you, in others, in your environment, or in digital spaces.

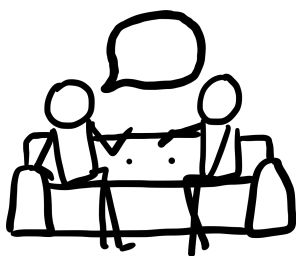
Interestingly, those very things — our inner dialogue, social experience, environment, and technology may also prevent restoration, too. Both designing and discovering restorative environments requires creating conditions for restoration and navigating the tensions created by doing so.

Because our environments are typically *not* restorative, it may be easier to imagine restorative potential by considering the depleting environments you commonly experience. What are the qualities and aspects of these environments that create the feeling of depletion for you? What qualities of a space (physical, emotional, social, technological) might help you experience the opposite?



It's important to realize that *whatever* you do with this guide, the work will be **cyclical** and **iterative**. Here's an example of how a small activity could snowball into a change to the staff-only space through iteration.

For example, you might start by listening more deeply to a trusted friend or colleague through an **empathy map** (card 005.20).



In the second cycle, that new way of listening might turn into a new way to listen in departmental meeting you regularly attend.



In the third cycle, you may ask folks in your departmental meeting to try a **come back circle** (card 005.10), where you each go around in turn, reporting out what you normally would say ad hoc, endeavoring to listen well and give each person the group's time and attention.

In the fourth cycle, you might identify a colleague in that meeting that's interested in talking more about restorative environments. Together, you brainstorm other possibilities for this work.

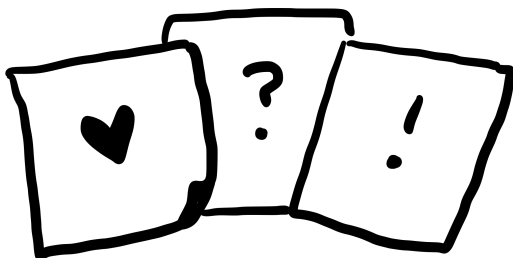


In the fifth cycle, you and your colleague might walk around the library on a **go along** (card 101.30), identifying restorative features of certain spaces.



In the sixth cycle, you might decide to **play pretend** (card 103.30) to imagine a restorative environment. You repurpose an empty storage closet, equipping it with a pair of noise canceling headphones and a door hanger that requests privacy.

In the seventh cycle, you might set out post-it notes for colleagues to share their **kudos, questions, and concerns** (card 103.20) and realize that people feel weird about hiding out in a closet.



In the eighth cycle, you might put a comfy chair and the headphones near a window in the staff room that has a nice view. You might conduct a **field observation** (card 101.20) to see how folks use it.

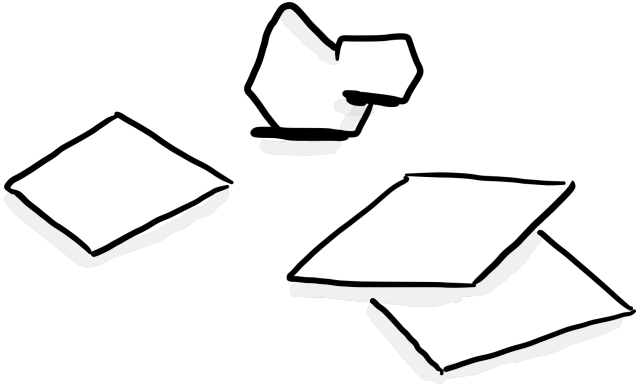
Whether you are trying to listen more deeply to a colleague or designing a new space in the staff room, you will begin again and again, using what you've learned and made in prior attempts. The changes you experience will be both fast and slow. Some cycles will provide immediate relief, others will take a long time for their effects to become known.

Like any field guide, keep this handy so you are ready to make and remake your library world when you happen upon something inspiring.



DESIGN

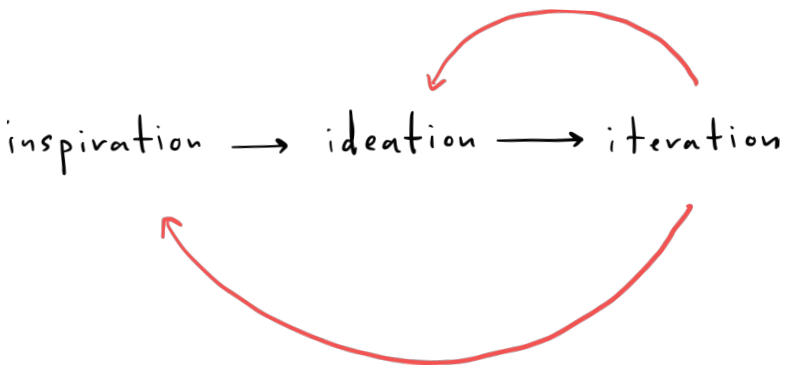
METHODS FOR PATIENCE,
COURAGE, AND LETTING GO



THE DESIGN PROCESS

There are as many design processes as there are designers. In general, they all serve to get us from the blank canvas to something that solves a problem in the world.

In our design work, we're going to focus on three phases: inspiration, ideation, and iteration. Design work typically goes on from iteration to implementation and/or integration, but here we're focusing on the first three phases because we're going to design in such a way that the iteration phase never ends.

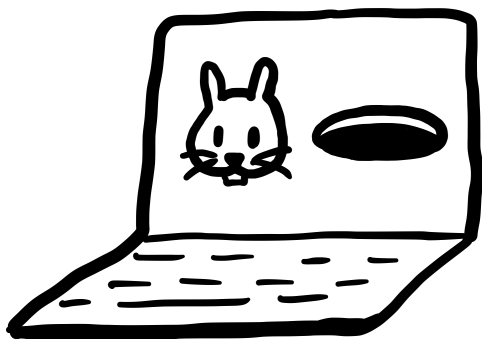


Sometimes, from iteration, we will go back to ideation, other times, we'll go all the way back to the beginning. **We are always beginning again.**

INSPIRATION

We tend to think of inspiration as something that happens to us. *We are inspired.* But in the design process, inspiration is a practice of patience, it is a skill that can be developed over time.

Because inspiration requires patience, part of the skill building required is spending more time *being* than *doing*. This allows you time to notice, to contemplate, to gain clarity and understanding, all of which will lead you to ideas in the next phase.

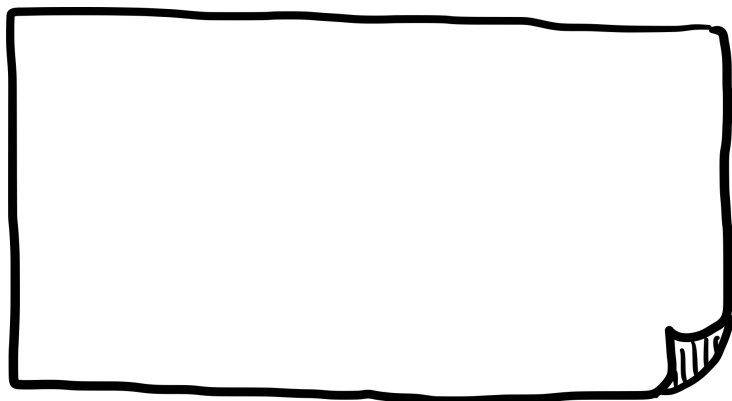


Inspiration is a time to indulge internet rabbit holes, to sit and watch the world go by, to talk out your thoughts to yourself (or to a friend you trust), to do nothing at all. Experiment, try things you've never done. Do things you do all the time, but pay more attention than you typically do.

Sit with your thoughts but do not act upon them. Postpone having "ideas" and observe the world around and inside of you. Follow your instincts, be purposefully purposeless. There's no commitment, just curiosity. It's an intuitive and thoughtful time. It can last as long as you like.

IDEATION

In ideation, we face the blank page.



This might be exciting or intimidating idea to you. Either way, ideation is a practice of courage. And like inspiration, ideation is a skill that can be cultivated.

Creating ideas requires us to take what's in our head and heart and put it out in the world. We share our ideas with others, revealing what we think and hope for, and what we don't yet know or understand. This is scary because those who see our ideas (including ourselves) can reject them. Rejection is a powerfully negative experience and it takes courage to make ourselves vulnerable to it, especially over and over again.

Ideation is a messy phase. We must persist through uncertainty, for the best ideas often come later after we've exhausted the obvious. This isn't easy for anyone, and it can be a profoundly discouraging place to endure. With practice, we get better at cultivating the courage to face rejection, uncertainty, and mess.

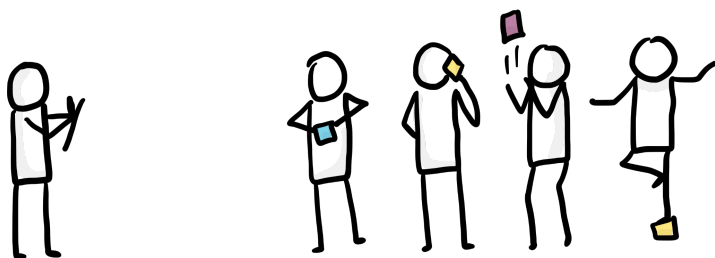
ITERATION



It can be easy to think of iteration as betterment, or growth, or progress, but for our purposes, it is a practice of **letting go**.

This letting go shows up in many ways. You will let go of control as you see others use and make meaning (or not) from your ideas. You will let go of (some of) your hopes for it as they meet realities that you didn't anticipate. Sometimes, you will let go of it completely, deciding it's not the right time or the right idea. The very best ideas also require you to let go over ownership because they are so informed by the lived experiences and ideas of others that it's no longer possible to tell who did or thought what.

Letting go can also be liberating. As you share your ideas and watch them live in the world, they might exceed your hopes, you may have to reach beyond what you think you can do to keep pace the possibilities others see in it.



Iteration is a phase where you *do* things. You cycle through building, testing and evaluating your prototype, each round asking another question about how it will be experienced, and for whom.

Iteration is the most powerful phase of the design process because it allows our lived experiences to inform what we make.

IDENTIFYING AS A DESIGNER

This field guide helps you develop the mindset of a designer. It invites you to not only discover and use restorative environments, but to make (and remake) them. This is because research on individuals that have used this guide suggests that the work of designing restorative environments *for others* is personally restorative to the designers themselves.

It gives a purpose to rest and renewal in a culture that sees those things as purposeless. When we design for others to restore, it can help us connect with each other, be more self-aware, slow down and notice the world around us, see our environment with new eyes, and, in some cases, use technology differently.

So, engage *both* the design and discovery phases, whether you're aiming to cultivate contemplative experiences for yourself; to connect with others; to design spaces in your home or library, or even to create your own guide!

✨ **Learn more:** The [Design Thinking for Libraries Toolkit](#) is a robust and library-specific resource that follows the same phases laid out here. Check out [the reading list](#) they've developed.¹

✨ **Learn even more:** For a theoretical exploration of design in libraries, check out the work of [Rachel Ivy Clarke](#). A great place to start is her article, [Toward a Design Epistemology for Librarianship](#).²

DISCOVERY

RECOGNIZING WHAT
DEPLETES AND RESTORES US



THE DISCOVERY PROCESS

This guide is as much about discovery as it is design. It helps you discover the restorative potential already around you. It also helps you self-discover what restores and depletes you, and it facilitates connecting with others over these topics, so you can discover what is common and different among you.

We will need to develop a new set of eyes for the world around us, one where we notice the restorative **allies and adversaries** (card 003.30) in our environments. This new awareness feeds the design process, inviting us to practice patience (inspiration), courage (ideation) and letting go (iteration) as we work to make restorative space.

Part of developing new eyes is understanding how our attention works and the how our culture chronically depletes it. We need to know how to restore our attention passively and actively. We need to see the myriad ways technology companies use behavioral design to distract us and capture our attention for sale in a marketplace called "The Attention Economy."³

HOW ATTENTION WORKS

In the late 19th century, William James noted that attention had two modes: effortless and directed.⁴



The **effortless** mode is the attention we use when something grabs our attention. A great example is a bell ringing or a light flashing. The **directed** mode is the attention we use when we pay attention. It takes effort. You are using directed attention right now to read this guide.

Psychologists and neurologists have since come to understand that directed attention depletes as we use it.⁵ They've also discovered that our directed attention rests when our effortless attention is evoked. We can intentionally use our effortless attention to restore our directed attention.

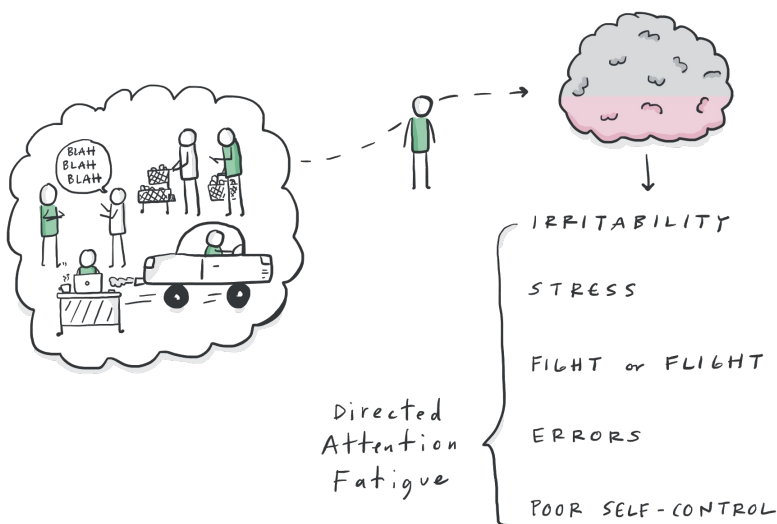
ATTENTION FATIGUE

We spend our days in *demanding environments*.⁶



These environments are all around us all the time and everywhere we go.

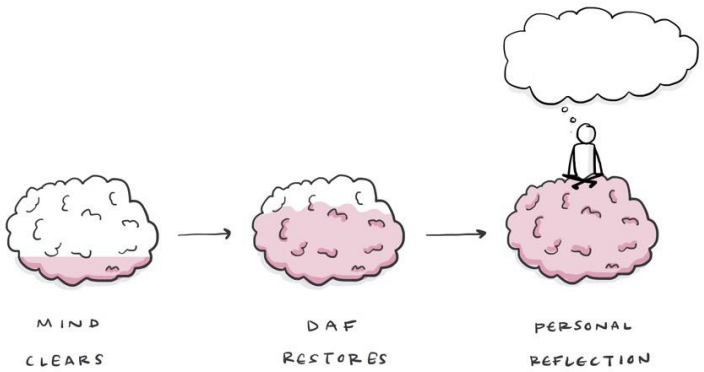
The more time we spend in demanding environments, the more depleted our directed attention becomes. We enter a state psychologists called *directed attention fatigue*.



We become irritable, less sensitive to others, more error-prone, and more distractible. We feel stress and our autonomic nervous systems can engage our fight, flight or freeze response.⁷

ATTENTION RESTORATION

We can restore our directed attention by evoking our effortless attention. When we effortlessly pay attention to something, our mind clears first, then our directed attention restores, then we engage in personal reflection. This is the process of attention restoration.⁸

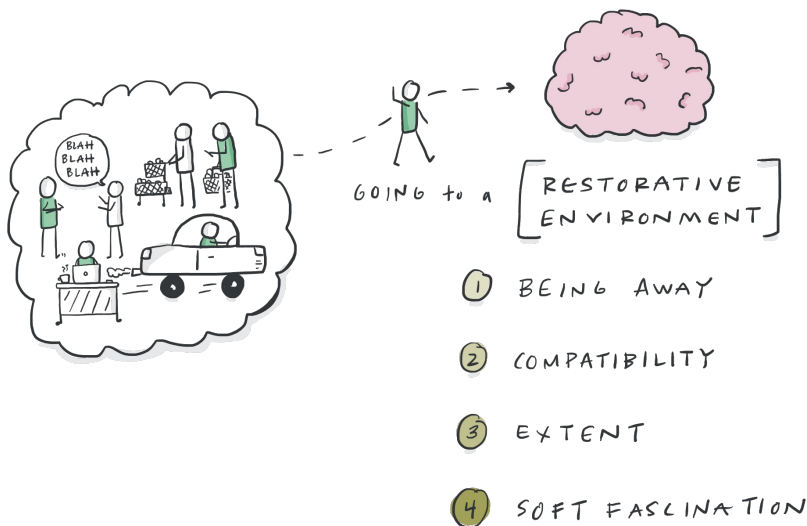


We can activate this process by spending time in restorative environments, and also through contemplative practice.⁹

RESTORATIVE ENVIRONMENTS

Environmental psychologists have empirically shown¹⁰ that environments that meet the following four conditions restore directed attention fatigue:

- **Being away:** removing yourself from the demanding environment
- **Compatibility:** going to a place that allows for you to be there and doing the things you want to do to restore
- **Extent:** going to a place that has enough to do, but not so much that it's overwhelming
- **Soft Fascination:** going to a place that evokes effortless attention in a softly fascinating (as opposed to hard or riveting) way



It's important to note it's not enough to just get away, or to only pay attention to something softly fascinating. For an environment to restore directed attention, it must meet **all four** of these conditions at the same time.

For example, if you were in a lovely garden, sitting on a bench, watching a bee pollinate a flower, but the garden was in someone's yard and you weren't supposed to be there, you'd be away in a softly fascinating environment with extent, but it wouldn't be restorative because it doesn't have compatibility (you aren't allowed to be there).



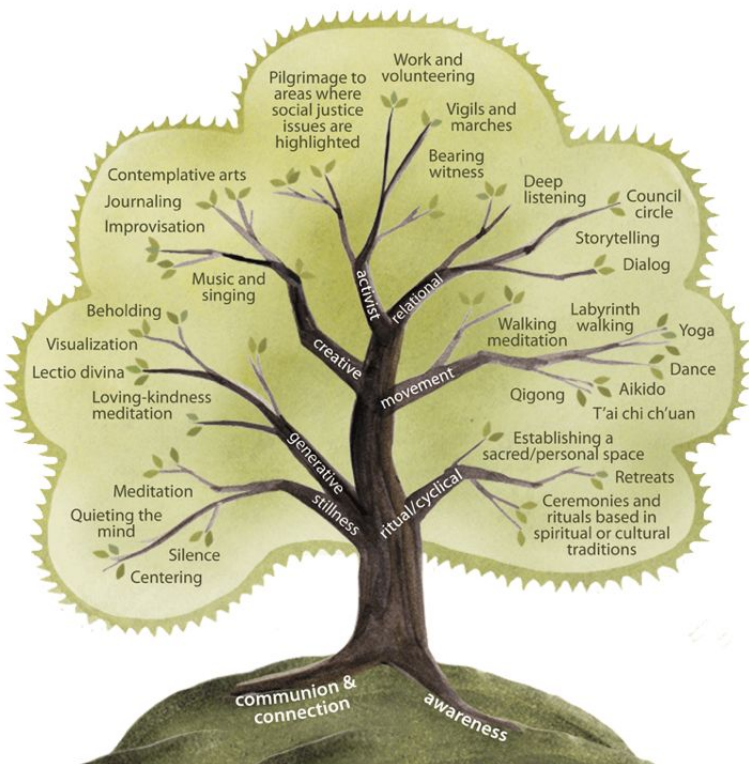
Restorative environments come in all shapes and sizes and they are shaped by our lived experiences and personal histories.

CONTEMPLATIVE PRACTICE

Restorative environments are a passive way to restore directed attention, but there's an active way to engage this process as well, and that's through contemplative practice.

For our purposes, contemplative means living moments of our lives with a deep sense of connection and awareness. It's also noticing when we've drifted and are caught up in thoughts of the past or future. Contemplative practices are simply anything we do while trying to be simultaneously connected and aware.

The [Tree of Contemplative Practices](#)¹¹ illustrates the myriad ways we can attempt such presence.



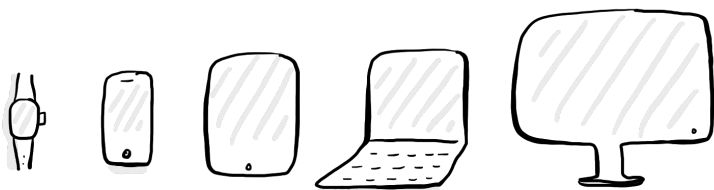
For example, we can go running for exercise. Or, we can run contemplatively, noticing the experience of running, running with an intention to connect to the world and others in it. We can write or sew or draw to create something, or we can write or sew or draw contemplatively, paying attention to the process itself—each word, stitch, or mark—connecting to ourselves or others through it.

One of the environmental psychologists that created Attention Restoration Theory also theorized that contemplative practices evoke the same attention recovery that restorative environments do.¹²

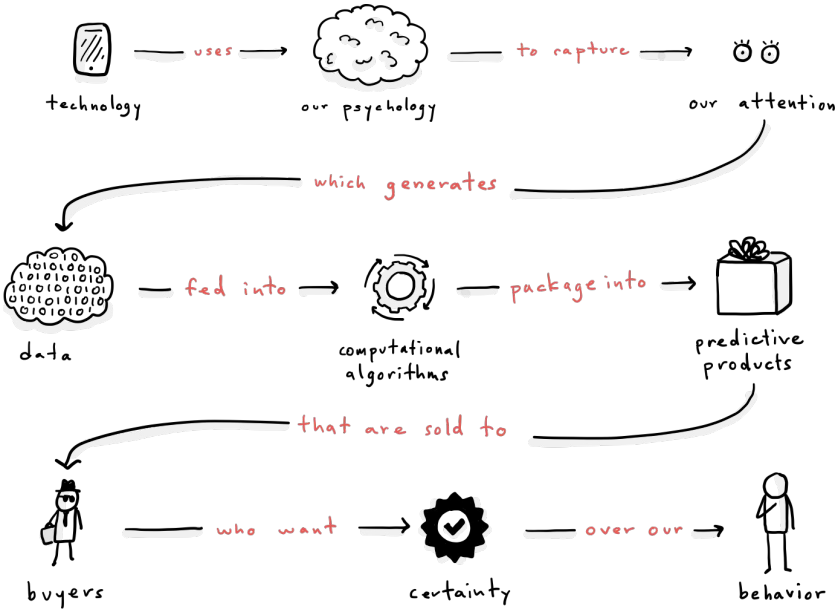
Used together, restorative environments and contemplative practices give us powerful ways to counter the effects of demanding environments. They also can be used to protect and restore our attention from the harms of digital culture and the attention economy that fuels it.

THE ATTENTION ECONOMY

While we spend our days in demanding environments, there is, at present, a huge attention adversary in the form of the technology that we use and carry with us nearly everywhere we go.



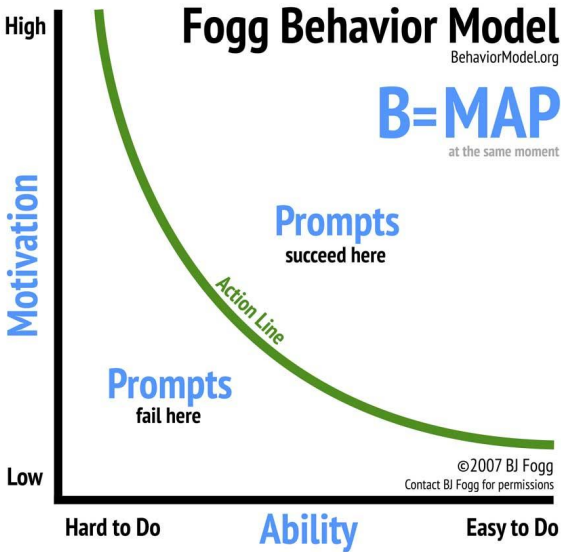
Nearly all the technology we use competes in a marketplace called *The Attention Economy*. This marketplace incentivizes companies to harvest, commodify, and trade our attention.



Another word for this economy is *surveillance capitalism*.¹² Tech companies design products to distract us. Once distracted, we pay attention to those products by creating or consuming content. They generate data about how we spend our time and feed those data into computational algorithms that make predictions about who we are and what we are or are not likely to do. Advertisers, political campaigns, and other buyers purchase those predictions to sell their product or ideas to us when we are most receptive (or you might say vulnerable) to their message. The more data collected, the higher the certainty, the greater the value.

BEHAVIOR DESIGN

Tech companies exploit our attention by using *behavior design* to design their products. ¹³



The creator of behavior design, BJ Fogg, has developed a formula, **B=MAP**, for human behavior.

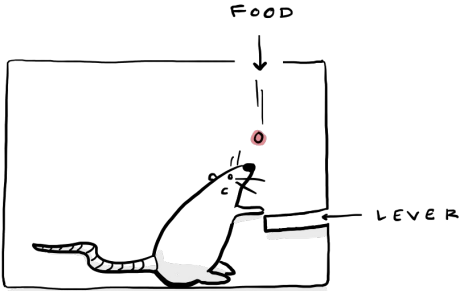
$$\text{behavior} = \text{motivation} \times \text{ability} \times \text{prompt}$$

Designers can tweak any part of this formula to trigger our behavior. For example, they can make it more motivating, easier to do, or change how or when the desired action (e.g., refreshing the feed, liking a post, purchasing a product, etc.) is prompted.

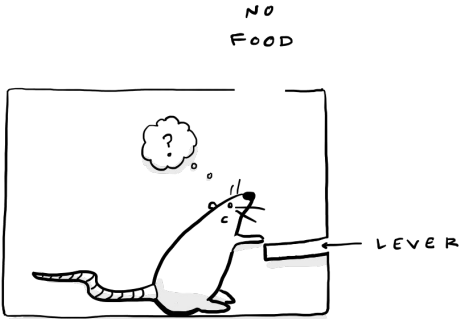
A common example of this is a pop-up window that

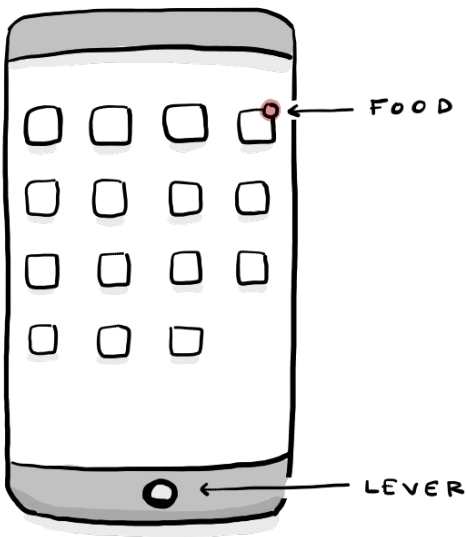
prompts us to subscribe to a newsletter when we visit a website. Designers make it very easy to subscribe and they often offer a discount or freebie to make it more motivating. You can imagine how likely you'd be to subscribe if it wasn't triggered (the pop-up), or if you had to fill out a bunch of information (ability) and there wasn't any incentive or reward promised (motivation).

This theory is built upon work on the work of BF Skinner called operant conditioning and variable rewards.¹⁴



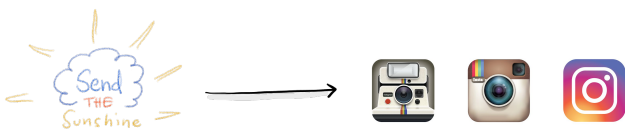
Skinner famously put animals in cages with a lever that delivered food. If the animals got food everytime they pressed the lever, they would only eat if they were hungry. If the only sometimes received the food, they became addicted to pressing the lever.



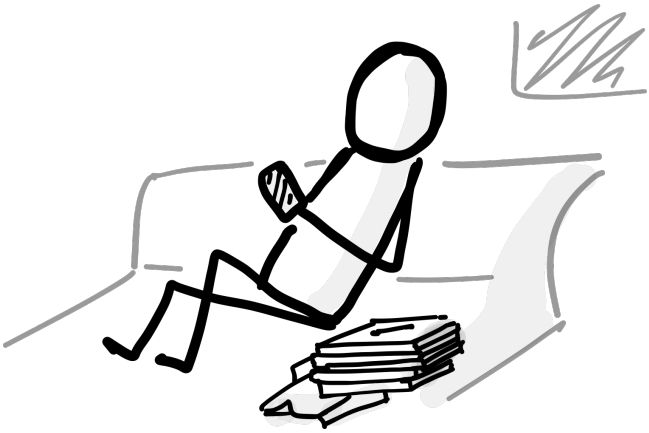


The technology that we use has essentially become a Skinner's box, variably rewarding us with "food" in the form of notifications and content. We don't need to be rewarded, we just need to see *if* there is a reward. This knowledge satisfies our impulse.

Instagram is a good example of how companies use behavior design to capture our attention. Whistle blowers have revealed that the company would hide how many likes a photo had so that they could batch them in higher numbers later, increasing the reward and making it more likely we'd check again soon.¹⁵



Instagram didn't start by dosing dopamine to addict its users. It started as "Send the Sunshine," an app that notified users if it was raining where their friend was and encouraged them to send a sunny photo.¹⁶

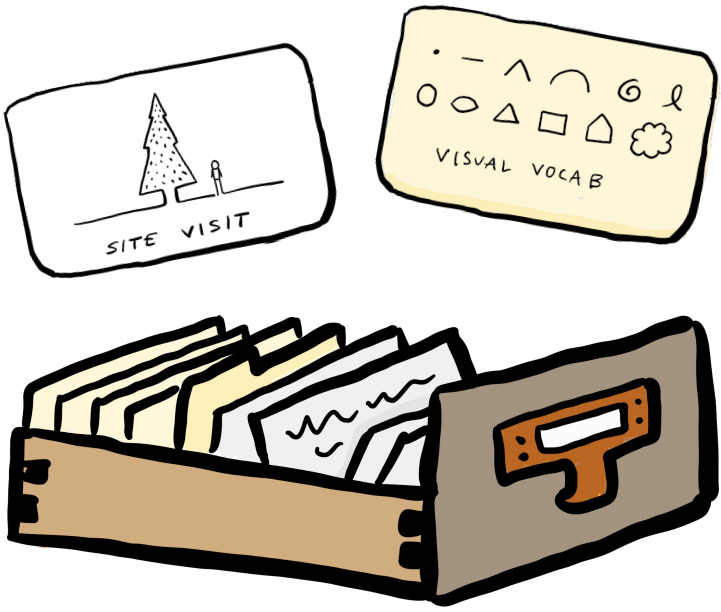


Competing in the attention economy morphed Instagram into the kind of app it is today. And every app (and increasingly things that aren't apps, like thermostats, doorbells, and cars) competes in that economy. It's why we can feel so powerless in the face of technology. It's tapping vulnerabilities to engage us, promising pleasure, acceptance, and hope; threatening us with pain, fear, and social rejection.¹⁷

Restorative environments and contemplative practices aren't *the* solution to this manipulation, but they are allies in balancing the effects technology has on our attention, our relationships, and how we spend our lives.

As James Williams, a contemporary technology ethicist says, "Attention is paid in possible futures forgone."¹⁸ When we pay with our attention, we pay with our lives—the things we did or didn't do with that time, the people we did or didn't see, the person we do or don't become.

TIPS



USING THE CARDS

This field guide is one part of a suite of tools created to support you in designing and discovering restorative environments. The activity cards, which come in both printed and digital versions, are an essential component. This guide gives context for the cards. The work of design and discovery are facilitated through the cards.

The cards are organized by call numbers because they are intended to grow over time. In general, the 000 cards are focused on discovery and the 100 cards are focused on design. They work together, and sometimes overlap, but build different skills.

Expansion packs are planned in the future. They will feature activities specific to certain library roles, types, and sizes. The call number system will allow new activities to be added.

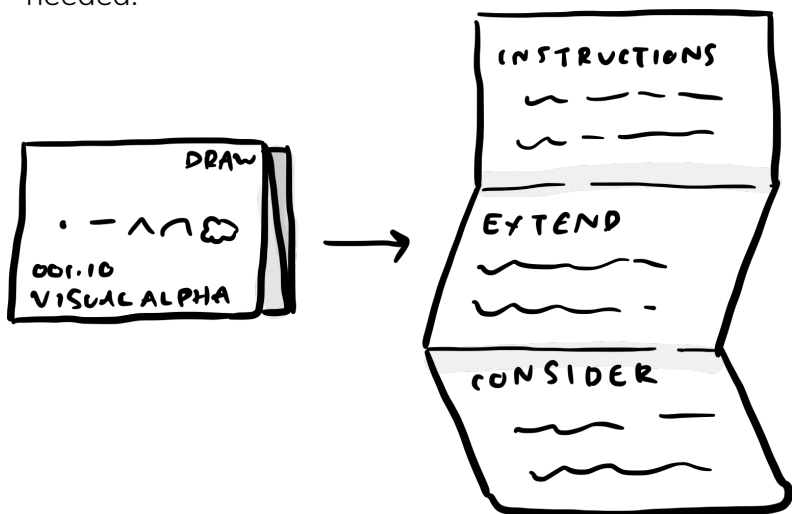
Here are some conditions that can help us see how we deplete and restore. They are each potentially restorative and potentially depleting. There's no right way to be and no way to be all the time.

Think about the following conditions as a continuum. Where do you land on the spectrum, and when? What, if any, conditions are missing?

inside	----- ? -----	outside
with others	----- ? -----	alone
tech	----- ? -----	no tech
defined plans	----- ? -----	wide open plans
blank page	----- ? -----	fill-in-the-blanks
saying yes	----- ? -----	saying no
listening	----- ? -----	daydreaming
inner looking	----- ? -----	outward looking
patience	----- ? -----	spontaneity
stillness	----- ? -----	movement
private	----- ? -----	public
complexity	----- ? -----	simplicity

✨ **Remember:** Restorative space is different for everyone, and what restores you one day might not on another day.

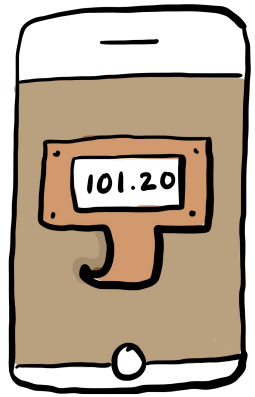
The cards cover a range of activities and some may need more or less space for the instructions. Because of this, the cards accordion so they can still fit in the card catalog, while also conveying the information needed.



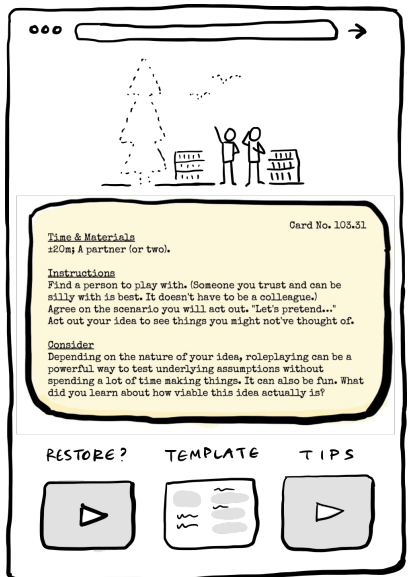
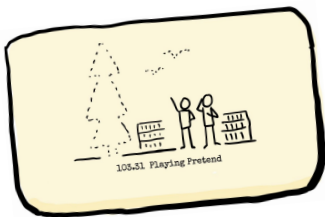
In general, all cards plainly state how much time is required, if any materials or other people are involved, and how to do the activity. All cards list reflection questions for you to consider. The website, available by tapping your phone on the card catalog and typing in the card number, provides worksheets and examples.

USING THE WEBSITE

A robust website accompanies the field guide. It contains a link to a PDF download of the field guide and interactive pages for all activity cards, which often include templates and examples. There are details on community meetups to learn about and discuss specific activities with other library workers.



To access the website, you can type in the website address, which is **restorativelibrary.org**, or you can simply tap your phone on the card catalog drawer pull, which contains a near-field communication tag, the same technology that allows our phones to pay for things at the grocery store. In this case, the phone loads a page on the website that prompts you to type in the call number of the card you're wanting to look up. It will load the page for that card.



The website also provides a way for you to submit your own card ideas and print out any cards that aren't in your set. It is the forever home of the dissertation work that led to these tools.

BUILDING A REFLECTIVE HABIT

A critical component of designing and discovering restorative environments is the clarity and understanding you will develop through reflection. Every design and discovery activity card prompts reflection and will benefit from it.

Many things today ask us to reflect and we don't because we don't have time. For this work, reflection is probably the most important work you can do. It will work magic in your life. Use whatever methods you already prefer to reflect on things. If you don't have a preferred method, many of the discovery cards will invite you to try out various modes: freewriting, solitude, conversation, moving your body, drawing.

FINDING COMMUNITY

This guide was developed in community. Dozens of library workers, creative professionals, and informatics students devoted time and effort to the design and evaluation of this field guide.

These tools would not exist without community and they are not intended to be used in isolation. The activities themselves invite you to involve others in the work. Meetups are regularly scheduled to talk about specific activities and your experiences at your library. Meetups are an open invitation. You can learn more about them on the website, or subscribe to the newsletter to be notified of when they occur.

CONTRIBUTING

The guide was developed through participatory design and it remains a participatory project. You are invited to share feedback of your experience, your own activities and ideas for directions the project might go, and to build upon the work yourself. It has a [Creative Commons Attribution NonCommercial ShareAlike 4.0 International license](#).

ENDNOTES

1 *p. 18*

The toolkit and reading list can be accessed by visiting the following website:

<http://designthinkingforlibraries.com>

2 *p. 18*

Rachel Ivy Clarke's faculty website is here:

<https://ischool.syr.edu/rachel-ivy-clarke/>

Here is the citation for the article referenced:
Clarke, R. I. (2018). Toward a design epistemology for librarianship. *The Library Quarterly*, 88(1), 41-59.

3 *p. 20*

Coined in 2001, the attention economy was originally defined as a way for businesses to succeed through understanding and managing our attention.

Davenport, T. H., & Beck, J. C. (2001). *The attention economy*. *Ubiquity*, 2001(May), 1-es.

4 *p. 21*

James, W. (1892). *Psychology: The briefer course*. Holt.

- 5 *p. 21*
Kaplan, S., & Berman, M. G. (2010). Directed attention as a common resource for executive functioning and self-regulation. *Perspectives on psychological science*, 5(1), 43-57.
- 6 *p. 21*
Kaplan, S. (1995). The restorative benefits of nature: Toward an integrative framework. *Journal of environmental psychology*, 15(3), 169-182.
- 7 *p. 22*
Staats, H., Jahncke, H., Herzog, T. R., & Hartig, T. (2016). Urban options for psychological restoration: Common strategies in everyday situations. *PLoS One*, 11(1), e0146213.
- 8 *p. 22*
Herzog, T. R., Black, A. M., Fountaine, K. A., & Knotts, D. J. (1997). Reflection and Attentional Recovery as Distinctive Benefits of Restorative Environments. *Journal of Environmental Psychology*, 17(2), 165-170.
- 9 *p. 23*
Kaplan, S. (2001). Meditation, Restoration, and the Management of Mental Fatigue. *Environmental Behavior*, 33(4), 480-506.

- 10 p. 23
See note 6.
- 11 p. 25
Duerr, M., & Bergman, C. (2011). *The Tree of Contemplative Practices*. [2019/2/18]
- See or download an image of the tree here:
<http://contemplativemind.org/practices/tree>
- 12 p. 27
Zuboff, S. (2019). *The age of surveillance capitalism: The fight for a human future at the new frontier of power*. Profile Books.
- 13 p. 28
Fogg, B. J. (2009). A Behavior Model for Persuasive Design. Proceedings of the 4th International Conference on Persuasive Technology Persuasive '09, 40:1-40:7.
- See also <https://behaviormodel.org>
- 14 p. 29
Ferster, C. B., & Skinner, B. F. (1957). *Schedules of reinforcement*. Appleton-Century-Crofts.

- 15 *p. 30*
CBS. (2017). 60 minutes. Brain Hacking,
13:50.
- 16 *p. 30*
The scientists who make apps addictive.
(2016, October 20).
[https://www.1843magazine.com/features/the
-scientists-who-make-apps-addictive](https://www.1843magazine.com/features/the-scientists-who-make-apps-addictive)
- 17 *p. 31*
See note 13.
- 18 *p. 31*
Williams, J. (2018). *Stand Out of Our Light:
Freedom and Resistance in the Attention
Economy*. Cambridge University Press.

APPENDIX F: THE MVP PROTOTYPE: DESIGN ACTIVITY CARDS

This is a **solo** activity.

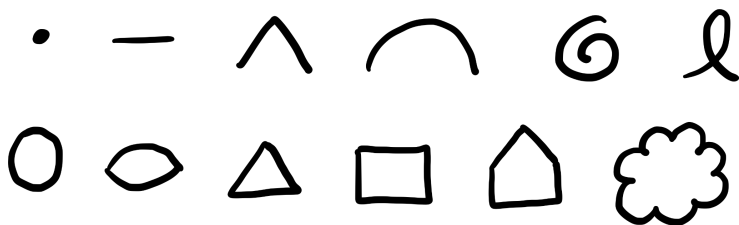
You will need at least **2 minutes**.

Grab a piece of **paper** and a **marker**.

restorativelibrary.org/00110



DRAW



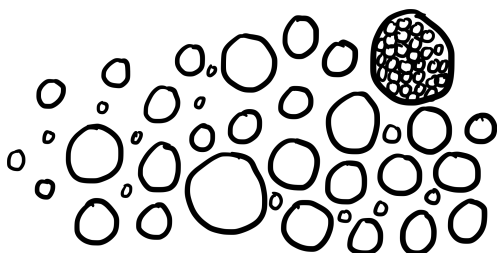
001.10

VISUAL ALPHABET

INSTRUCTIONS

Pick a single shape from the front of the card. ○

Practice drawing only that shape for two minutes.



EXTEND

Pick other shapes, or draw every shape.

Fill the shapes in.

Combine some (or all) of the shapes.

Learn more about the visual alphabet and visual thinking at [Dave Gray's Visual Thinking School](#).

CONSIDER

Where are you drawing from?

Your fingers? Wrist? Arm?

Which parts of the shape flow freely?

Which seem to hang up?

What do you notice when you draw with the opposite hand?

Can you draw this shape from a different direction or starting point?

This activity can be done **solo** or in a **pair**.

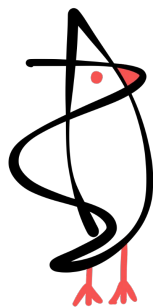
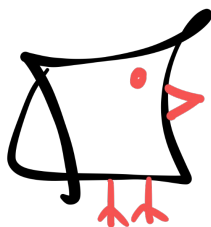
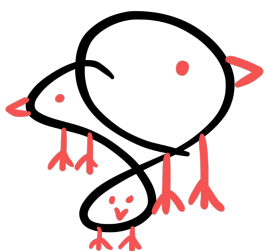
You will need at least **5 minutes**.

Grab a piece of **paper** and a **marker** or two.

restorativelibrary.org/00120



DRAW



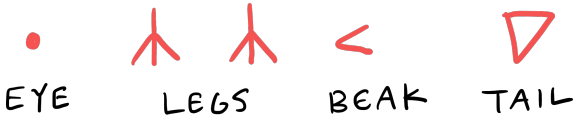
001.20

SQUIGGLE BIRDS

INSTRUCTIONS

Draw some squiggles (3–5 is good).

In a different color (if you have it), add a dot, line and angle to each squiggle to turn it into a bird.

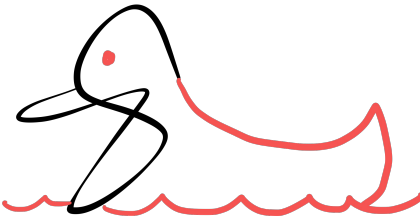


Source: Chris Glynn, [Personal Website](#)

EXTEND

Trade your squiggle with someone else and then make a bird.

Embellish your squiggle with improvised shapes.



Turn your squiggle into a puppy or a robot.

CONSIDER

How did it feel to place the different elements?

Were any a little risky to put down?

This is a **solo** activity.

You will need at least **10 minutes**.

Grab a piece of **paper** and a **pen** or **pencil**.

restorativeivlibrary.org/00130



DRAW



001.30

ZEN OF SEEING

INSTRUCTIONS

Look around, let your eyes land someplace.

Close your eyes for a minute or two. Settle.

Open your eyes, and place your pen on the page.

Without looking down, draw what you see.

Source: Frederick Franck, [*The Zen of Seeing*](#)

TIPS

This activity works best with living things.

Decide to throw away the drawing afterward so that you let go of what it looks like and just look.

Redraw specific parts repeatedly without starting a new drawing or a new sheet of paper.

CONSIDER

What did you notice about what you drew?

Which parts did you linger on, and which parts did you draw quickly? Did you avoid any details?

What was it like not to look down?

What did it feel like to finally see what you drew?

Did you draw anything you didn't realize you saw?

Do you experience a difference between drawing living things vs. inanimate things?

This is a **solo** activity.

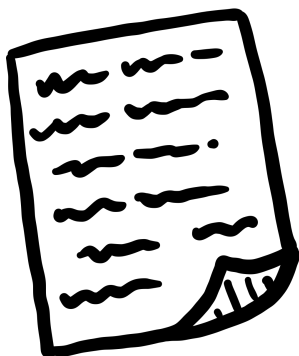
You will need at least **20 minutes**.

Grab a piece of **paper** and a **pen** you like.
Or, use your favorite **text editor**.

restorativelibrary.com/00210



WRITE



002.10
FREEWRITING

INSTRUCTIONS

Set a timer for 20 minutes.

Write whatever is on your mind until the timer goes off.

Anything goes. There's no wrong way to freewrite.

If you get stuck, write about being stuck.

EXTEND

Experiment with writing prompts. For example, starting every sentence with phrases like, "I am waiting for _____." or "I need _____."

Instead of writing for a specific amount of time, write for a particular length, like three pages, which is the recommendation for [Morning Pages](#).

Learn more about freewriting by reading Peter Elbow's [Toward a Phenomenology of Freewriting](#).

CONSIDER

What conditions do you need to write freely?

What kind of ritual might help you get started?

What changes if you burn or recycle the pages after writing them?

What happens in the body as you write?

This is a **solo** activity.

You will need at least **20 minutes**.

Grab a piece of **paper** and a **pen** you like.

restorativeivlibrary.org/00220



WRITE



002.20
LEADS TO

INSTRUCTIONS

Make a list of any/all the cards you've tried so far.

Pick one card and draw an arrow from it. Label the arrow with the phrase "leads to."

Write down a small thing that card might lead to.

Create another "leads to arrow" from the new idea.

Repeat lots.

EXTEND

After you've exhausted ideas for one "leads to" path, start at the beginning with the same card, and write out an entirely new scenario.

Pick a different card and repeat the process.

Create two paths from the same card: one that leads to *inward* growth or behavioral changes and another to *outward* cultural change involving other workers or community members.

CONSIDER

How optimistic, pessimistic, or realistic were you?
How does the path change if you explore where things lead with a different mindset?

Were you thinking of a single person, a group of people, or a combination of both as you imagined possibilities?

Who might you discuss the map with to explore unintended consequences you haven't seen?

This is a **solo** activity.

You will need at least **30 minutes**.

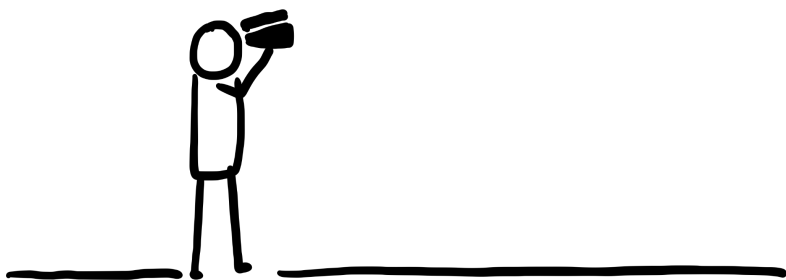
Launch your favorite **text editor**.

Or, grab a piece of **lined paper** and a **pen** you like.

restorativeivlibrary.org/00230



WRITE



002.30

VISIONING

INSTRUCTIONS

Pick a future time, months or years from now.

Optimistically imagine that life has changed at your library based on the work you or your team has done to design restorative environments.

Write in a first-person, present tense (e.g., *I see...*) about what life is like. Explain *what* things have changed, not *how* those changes happened.

Source: Ari Weinzweig, [Why and How Visioning Works](#)

EXTEND

Write in the same way, but instead of imagining changes at your institution, imagine changes outside the library (e.g., in your life, your colleagues' lives, your community).

Share your vision with colleagues or community members and ask for feedback. Ask colleagues or community members to write their visions, too. Share with each other.

Change the time frame. If you looked months ahead, try years, and vice versa.

CONSIDER

What surprises you about the future?

What are some of the first steps you might take to get to this future?

Who else helped make this future possible?

This is a **solo** or **group** activity.

You will need at least **20 minutes**.

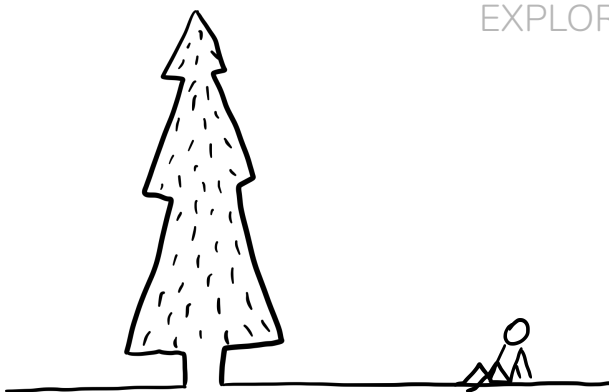
Bring a **camera** along.

(If you use your phone as your camera, consider putting it in "do not disturb" mode.)

restorativelibrary.org/00310



EXPLORE



003.10
SITE VISIT

INSTRUCTIONS

Go someplace you tend to go to come back to yourself, fill up, rest, or restore.

Spend about 20 minutes there. Experience the place and consider the questions below.

Take a photo.

EXTEND

Try this with a different place you like to go.

Try this at home or on your commute.

Make it a group experience. Find 1-3 other folks and take each other to your favorite secret spots. Share your answers to the questions below with each other while you're there.

CONSIDER

What do you notice in this place?

What is natural? What is built?

What do you usually do here? What do others do?

What enables you to come here? What prevents?

How is technology used here, if at all?

This is a **solo** activity.

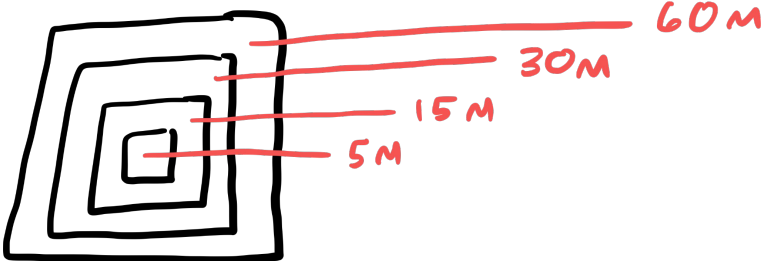
You will need about **20 minutes**.

Grab a piece of **paper** and a **pen** or **marker**.

restorativeinventory.org/00320



EXPLORE



003.20

RESTORATIVE "ENVENTORY"

INSTRUCTIONS

Draw four concentric squares on the page.

Label each with a time: 5m, 15m, 30m, 60m.

Inside each square, list restorative environments you can access in that amount of time.

EXTEND

If you made a work map, make a home one (or vice versa).

Create a group map by drawing the squares on a whiteboard, writing places on post-it notes, and placing them.

What is one minute away? What is a day away?

CONSIDER

When you imagine environments, consider things you can see (windows, plants, wildlife), hear (silence, music, conversation), and do (stretching, stillness, movement).

Which environments benefit from others, which benefit from solitude, when, and why?

Keep this map nearby for when you have a break.

This is a **solo** or **group** activity.

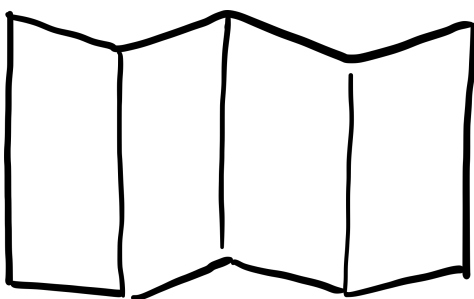
Time varies, but spend **about an hour** to start.

Grab plenty of **paper** and several **markers**.
(11x17 paper is great for this.)

restorativeivlibrary.org/00330



EXPLORE



003.30

ALLIES AND ADVERSARIES

INSTRUCTIONS

Create a very rough sketch of your library campus.

Walk around the library, looking for restorative places. These are allies. Mark and label them in one color.

Walk the same route again, looking for depleting places. These are adversaries. Mark and label them in a different color.

EXTEND

Redraw the map for tidiness, accuracy, or fun. Illustrate the different areas and color-code them.

Draw paths through the library that increase your access to restoration and avoid depleting places.

Expand your map if you did not include both in and outside the library.

Map your home, neighborhood, and commute.

CONSIDER

How much time do you typically spend near allies?
How much time do you spend near adversaries?

Can you change anything in your life to experience more allies? What support would you need? Who can help?

This is a **solo** or **group** activity.

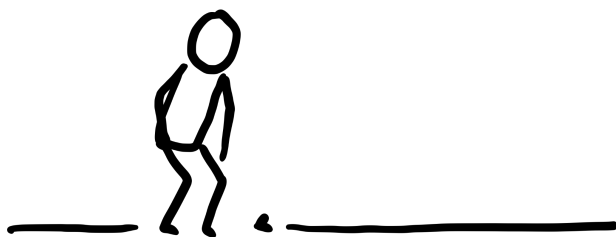
This activity is done while you do other things.

You'll need your **phone** or a **camera**.

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NOTICE



004.10

NOTICING PRACTICE

INSTRUCTIONS

Pick a shape (e.g., a heart, a star) or color (e.g., the color yellow, fall colors, gradients) or an object (e.g., feathers, the sky, the number 42).

Take a photo when you see it.

EXTEND

Invite others to notice the same shape and text photos of it to each other.

After a while, switch to only taking photos of exceptional discoveries.

CONSIDER

How does it feel to find your shape/color/object?

How easy is it to remember to notice?

When do you tend to forget to notice?

What does finding the object mean to you?

This is a **solo** or **group** activity.

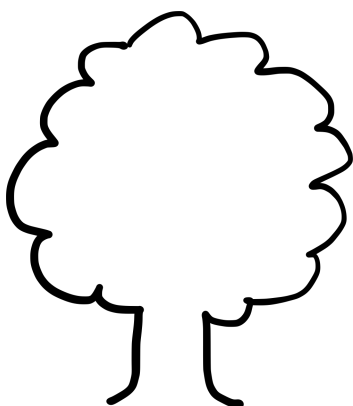
You'll need at least **20 minutes**.

You'll need the **internet** to access the tree image.

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NOTICE



004.20

TREE OF CONTEMPLATIVE PRACTICES

INSTRUCTIONS

Visit the [Tree of Contemplative Practices](#).

Review each branch and consider which are familiar, accessible, and/or challenging.

Reflect on the energy you have today. Do you want to try something easy or challenging?

Select the practice that matches the energy you have and try it.

EXTEND

If you picked a challenging practice, try a particularly accessible one. Or, if you selected something you're familiar with, try something new.

Try this practice every day for a week.

If you did the activity alone, try it with someone else. If you did it with others, try it alone (if possible).

CONSIDER

How did you feel about the practice you tried?

Do you want to do it more? Less?

Which branches are you drawn towards? Which ones do you resist? Why?

What's missing from the tree?

This is a **solo** activity.

You'll need about **20 minutes** (or less).

There's **nothing** (ha!) you need for this activity.

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NOTICE



004.30

DOING NOTHING

INSTRUCTIONS

Set a timer for 20 minutes (or less to start).

Do nothing in that time.

EXTEND

Do nothing for less or for longer.

Do nothing while waiting (in a line, for a website to load in your browser, while cooking, etc.).

Do nothing in different environments—at work, at home, during errands, on your commute, etc.

Try it regularly. How does it change?

CONSIDER

What do *you* do when you "do nothing?"

Is it always the same to do nothing, or does it change based on what you're (not?) doing?

What was it like?

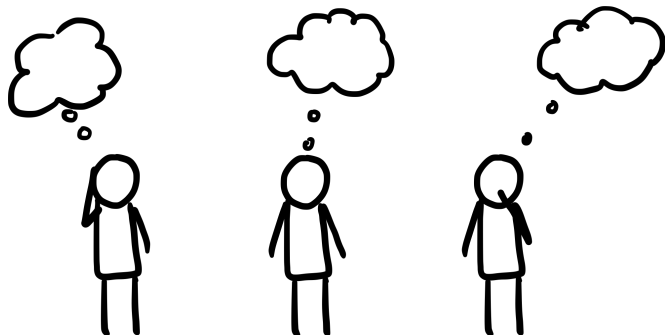
What would you have typically done instead?

This is a **solo** or **group** activity.

Timing is variable.

You'll need **someone** to listen to.

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005.10

COME BACK CIRCLE

GROUP INSTRUCTIONS

Go around in a circle and share something in turn (e.g., "How are you, really?" or "What's the best sandwich?")

Before your turn, try not to rehearse.

During your turn, try to stay present while talking.

After your turn, avoid rehashing what you said.

Notice when you've drifted from being present and try to re-engage in listening.

SOLO INSTRUCTIONS

In a meeting or conversation, secretly practice presence while listening and speaking. You don't need others to practice coming back.

EXTEND

Use for meeting openers or updates.

Use in one-on-one conversations.

CONSIDER

Did you drift? Why, when, and how often?

Where did you go when you drifted? Is this where you usually go? If not, where do you usually drift?

Was it like for you to listen in this way?

This is a **two-person** activity.

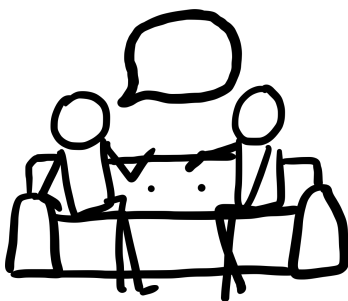
At least an **hour**.

You'll need **a good friend**.

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LISTEN



005.20

EMPATHY MAP

INSTRUCTIONS

Watch Celeste Headlee's TED Talk.

Schedule an hour with a friend.

Prepare some questions (see the [empathy map template](#) on the website for examples).

Focus on them. Avoid making the conversation about you, even if it seems you have the perfect thing to add.

TIPS

Ask open-ended and neutral questions (e.g., ask "What do you think about ____?" not "What frustrates you about ____?")

Embrace silence. Pursue tangents. Observe body language. Thank them when you're done.

EXTEND

After, map their answers using the [empathy map template](#) (see the website).

CONSIDER

How do you feel about the conversation?

What was it like to listen in this way?

What did you learn about this person? What did you learn about yourself?

How did your body feel as you focused on listening? What doors did your friend's words open?

This is a **small group** activity.
(4-6 people is ideal)

You'll need **30-60 minutes**.
It depends on how many folks you have.

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LISTEN



005.30
CLINT'S CIRCLE

INSTRUCTIONS

Spend the first ten minutes creating a list of 3-5 questions to facilitate a conversation you'd like. Make sure they cover a range of ways to respond (see tips below).

Go around in a circle, each person picking a single question from the list to answer or passing.

TIPS

When creating the questions, aim for questions that allow people to speak from their minds or hearts.

Create questions that can be factual or philosophical for those who don't want to discuss their personal lives.

Create an "easy" question that pretty much anyone can answer. These are often the best ones!

Create a "juicy" question that seems pretty hard to answer. These are also often great!

EXTEND

If you have time, go around again in the same order and respond to each other's answers or pass.

This activity pairs well with the **Come Back Circle** (card 005.10)

CONSIDER

How did these "rules" affect the conversation?

Is there anything you'd change next time?

This is a **solo** activity.

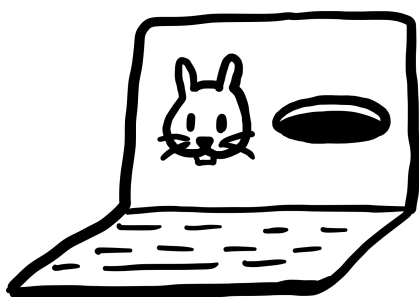
Take **as much** time as you want.

You'll need the **internet**.

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INSPIRATION



101.10
RABBIT HOLE

INSTRUCTIONS

Decide how you will document what you learn.

Give yourself time and permission to dive down an internet rabbit hole involving whatever topic interests you.

Document what you learn (if you decide to do so) in whatever way makes sense. You may want to revisit these notes in the ideation stage.

EXTEND

Consider learning about topics that may inspire your design work: attention restoration, the attention economy, behavior design, restorative environments, or contemplative practices.

CONSIDER

What questions do you still have about what you were researching? Make a list!

How did it feel spending time in this way?

What are the most salient points you discovered?

Who can you talk to about this?

How well did your documentation method work?

This is a **solo** or **group** activity.

This will take at least **20 minutes**.

You'll need a **notebook** and a **pen**.
(A clipboard or something to write on will help.)

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INSPIRATION



101.20

FIELD OBSERVATION

INSTRUCTIONS

Pick a spot to observe. It could be either a restorative environment or a depleting one.

Sit off to the side and notice what people do in this space. Make notes in your notebook.

EXTEND

Sketch what you see.

Using a timer, formalize your observation using participant observation techniques.

If you picked a restorative environment, choose a depleting one or vice versa.

CONSIDER

What did people do? Were there patterns?

How was technology used and experienced in this space? What about nature, the built environment, or social interactions?

Did you see any evidence of rest or distraction?

This is a **two-person** activity.

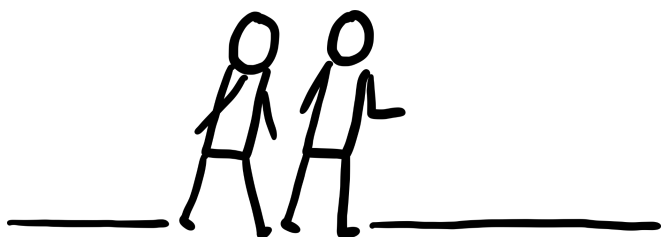
It will take about an **hour**.

You might want a **notebook**, a **camera**,
and even a **recorder** (video or audio).

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INSPIRATION



101.30
GO ALONG

INSTRUCTIONS

Take a colleague, community member, or friend on a **Site Visit** (card 003.10), but treat the experience like an **Empathy Map** (card 005.20).

Ask "Where do you go to come back to yourself, fill up, rest, or restore?" and then follow them there, asking questions along the way. Questions should give you a deeper understanding of why they go to this place and what they do while they're there.

TIPS

If the person seems a little nervous, ask them to first walk you through how they leave for the day. Ask questions just as you would if you were trying to design something about leaving.

EXTEND

Visit several places in one go along.

Process what you learned using this template on the website.

Ask people across a range of different experiences and identities to do this.

CONSIDER

What stressors does this person encounter?

What do they find restorative?

How often do they take the time to visit? What enables them to come? What prevents?

How could the library make it easier for this person to visit this place (or places like it) more often?

Is the library making it hard to visit this place?

This is a **solo** or **group** activity.

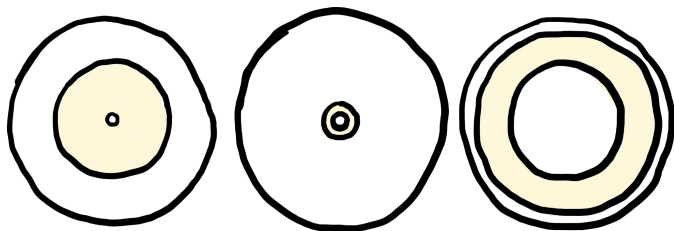
It takes about **2 minutes**.

You'll need something to write on and with.
(e.g., a piece of **paper**, a **whiteboard**
(analog or digital) and a **pen** or **marker**.

restorativelibrary.org/**10210**



IDEATION



102.10

COMFORT/CHAOS

INSTRUCTIONS

At any time in the design process, but especially in ideation, consider the challenge you are facing and then draw three concentric circles on a sheet of paper.

Label the center “comfort” and the outer circle “chaos.”

Assess where you are on this map.

TIPS

The shape of our circles is dynamic and changes over time and based on what we're doing.

Consider that your comfort zone may be tiny or very large. Same with chaos and learning.

There is no "goal" place to be. Sometimes comfort is just what we need, and even chaos can be desirable, too. Use this activity to reflect on where you are and where you want or need to be in any given step of the design process.

EXTEND

This is a great activity to do in a group.

It's also informative to do it regularly to see how you (and others) are doing over time.

CONSIDER

How do things change depending on what you're doing, who you're with, or how you feel?

When is comfort best for you? When is chaos?

This is a **solo** or **group** activity.

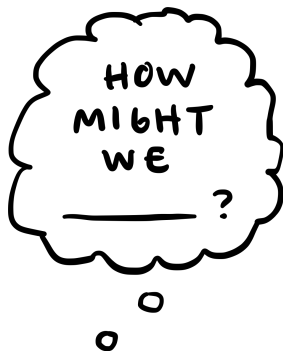
It takes about **10 minutes**.

You'll need a **text editor** or **paper** and a **pen**.

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IDEATION



102.20

HOW MIGHT WE?

INSTRUCTIONS

Start with a problem or perspective you've noticed in discovery and inspiration activities (e.g., a place of untapped restorative potential or a depleting behavior you've seen amongst folks in a space).

Set a timer for 10 minutes.

On each line, fill in the blank: HMW _____?

Write as many HMWs as you can until time's up.

TIPS

If you get stuck, begin **Freewriting** (card 002.10) while making your list.

You can also aim to generate a number instead of timing your HMEs. Start with 20. As you get more comfortable brainstorming HMWs, aim for 50.

EXTEND

This is a great activity to do in a group. Give everybody stickers (five is good) and vote for your favorites by placing stickers next to ideas.

CONSIDER

How doable are these ideas?

Which are too broad, too narrow?
Is there a middle way?

What would the "opposite" be?
(For example, the opposite of "How might we shelter people when it rains?" might be, "How might we encourage people to play in the rain?")

This is a **solo** or **group** activity.

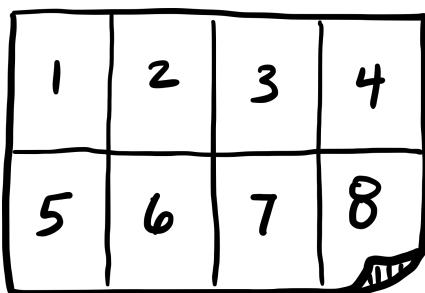
It takes **8 minutes**.

You'll need **paper** and a **pen**.
(11x17 paper is best.)

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IDEATION



102.30

HASTY EIGHTS

INSTRUCTIONS

Start with an idea you'd like to brainstorm or a problem you'd like to solve (**HMWs** (card 102.20) are great for finding a starting point).

Fold the paper in half three times, so you have eight segments. Number each segment.

Set a one-minute timer and draw an idea in the first segment. When the timer goes off, reset it and fill the next segment. Repeat for each segment.

TIPS

Best to sketch your ideas instead of writing words.

Quantity over quality. This activity is about generating many divergent ideas.

EXTEND

This is a great activity to do in a group. Give everybody stickers (five is good) and vote for your favorites by placing stickers next to ideas.

CONSIDER

Are there clusters or similarities in the ideas that point in a similar direction?

If in a group, where was there convergence? Which ideas are most divergent?

Which ideas are doable? What is made possible?

This is a **solo** activity.

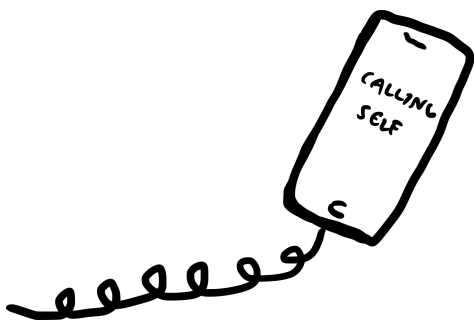
It takes **5 minutes**.

You'll need your **phone**.

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ITERATION



103.10

I JUST CALLED TO SAY...

INSTRUCTIONS

At any time in the design process, but especially in iteration, where we often need to let go of an idea because it's not working or resonating, think of something discouraging you.

Imagine a friend you trust and care deeply for.

Pretend they are feeling the way you do.

Call (or text) *yourself* and leave *them* a message.

TIPS

This can be a fictional person, a pet, or yourself at a younger age, whatever opens your heart.

Give them perspective, cheer them up.

The point of the message is the compassion you generate toward yourself. You can delete the message if you want—no need to revisit it (though, there's no reason not to, either).

CONSIDER

How do you know when you're struggling?

Who else might feel the way you do?

Did this feel genuine to you? If not, what might?

This is a **group** activity.

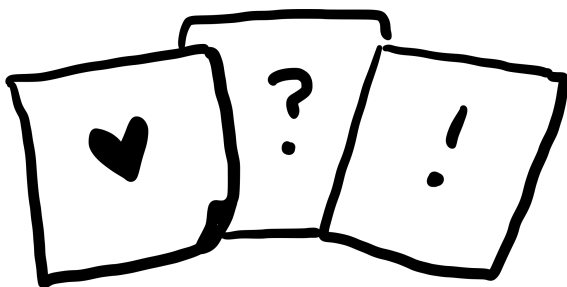
It takes about **10 minutes**.

You'll need **sticky notes** and a **marker**.
(It's best if the stickies are three different colors.)

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ITERATION



103.20

KUDOS, QUESTIONS, AND CONCERNS

INSTRUCTIONS

In the iteration stage, you need lots of feedback from others to evaluate your idea. A quick and effective way to get this feedback is by asking people to share kudos, questions, and concerns.

Give folks three sticky pads of different colors. Assign each color a theme (e.g., "concerns" might be yellow, "questions" blue, "kudos" green). Invite them to make stickies while you present your idea or prototype. Give them time after as well.

TIPS

If you don't have three colors of sticky pads, ask them to indicate their feedback by writing K, Q, or C on each sticky they share.

EXTEND

This is a great way to get a bunch of feedback from many people at once. Place stickies on a wall and invite everyone to cluster them into themes.

Ask folks to share their stickies to make sure you understand their feedback.

CONSIDER

Questions and concerns can be discouraging, but they are precious feedback that saves time and makes our designs more relevant.

How did it feel to receive feedback? Was there a difference in how kudos felt vs. questions vs. concerns?

What will you do next? This is a great time to go back into ideation, especially **How Might We?** (card 102.20) and **Hasty Eights** (card 102.30).

This is a **two** or **three-person** activity.

It takes about **20 minutes**.

You don't need anything, but if you have a prototype or a place in mind, involve them.

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ITERATION



103.30

PLAYING PRETEND

INSTRUCTIONS

Find a person to play with (someone you trust and can be silly with is best. It doesn't have to be a colleague).

Agree on a scenario you will act out and pretend. Ideally, this scenario will help you understand how your idea or prototype will be used and identify issues you haven't thought of yet.

TIPS

It's okay to be awkward or for it to feel forced.

Roleplaying can be a powerful way to quickly test underlying assumptions without spending much time making things.

EXTEND

Roleplaying is even better with folks who might use the idea or space you're making.

CONSIDER

What did you learn? How viable is this idea?

What can you immediately change or tweak to improve the idea or prototype?

What can you let go of?