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**DESIGNING FOR BELONGING: HOW INSTRUCTIONAL DESIGNERS SUPPORT
ONLINE LEARNERS' SENSE OF BELONGING**

A Dissertation in
Learning, Design, and Technology

by

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ABSTRACT

This research explores the ways that instructional designers and those with similar responsibilities at higher education institutions interpret and negotiate the concept of belonging in their learning designs. This qualitative study utilizes practitioner inquiry and speculative design activities as a way to evoke discussion about how participants interpret and include pedagogical values in their designs such as belonging. Findings show that instructional designers used specific student behaviors as indicators of belonging, and select intentional design strategies to support those outcomes.

The results of the study uncovered four design themes: 1) warm, informal language and tone; 2) reduce the impact of digital culture shock; 3) encourage learner agency; and 4) ensure tools and technology support a belonging culture. In addition to these themes, four critical moments of belonging are described: 1) preparation, which occurs prior to the start of an experience and is when designers are considering all the belonging strategies the design needs to support; 2) beginning, which is when specific strategies should be enacted that encourage learner agency and set up a culture of belonging; 3) belonging maintenance, which acknowledges that belonging needs to be nurtured throughout an experience and becomes part of learners' responsibilities; and 4) belonging aftercare, which describes specific actions that take place after the conclusion of an experience that encourage learners to return to or continue on their journey.

The results of this work contribute to the limited scholarship on what belonging looks like in online learning environments and also emphasizes strategies for designing systems that make all learners feel a sense of belonging from the outset, rather than creating interventions aimed at helping learners reduce their belonging uncertainty. This

study also positions practitioners as research collaborators and validates practice as a productive site for research activity. This work also comments on the potential of speculative design to make instructional design practices more visible, and aims to increase understanding regarding the ways these professionals interpret and negotiate pedagogical values such as belonging and implement them in a learning design.

Keywords: instructional design, online learning, belonging

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Chapter 1 Introduction

This work is an exploration into the practices of instructional designers working in higher education contexts to design online learning experiences. Historically, instructional design has been considered as a systematic process with linear steps that are dutifully executed, however, recent research that focuses specifically on elevating the voices of practicing instructional designers has shown that it is a much more contextualized process (Campbell & Schwier, 2019; Stommel & Burtis, 2022). The day-to-day specifics of the typical instructional designer might look different across varying colleges and universities, but these professionals are generally involved in collaborations with subject-matter experts, such as university faculty, to create online learning opportunities. They offer expertise on learning theories, educational technology tools, learning management systems, and other services that may be specific to their employing institution related to online learning or educational technology.

Due to their role in the online learning design process, instructional designers are an ideal research population for this study. As online learning becomes more widespread, the role of instructional designers becomes more central to the student experience. In the wake of the COVID-19 pandemic, initiatives aimed at improving learners' sense of belonging in online learning spaces have become more widespread. In this practitioner inquiry, I organized a workshop series for instructional designers aimed at understanding how these professionals interpret and negotiate belonging as a design priority.

Significance of the Problem

The significance of this problem of belonging in education has occupied researchers for many years, but this study aims to fill a gap in scholarship on this topic surrounding belonging in online learning specifically. In the few published studies that do focus on belonging in online learning, researchers conducted interviews and surveys with students, faculty, and tutors, but the voices of instructional designers are missing from the current research landscape. As described above, given their role in the design and development of online learning experiences, instructional designers should also be included in these studies.

Not only is the lack of inclusion for instructional designers a problem, but the impacts of belonging on student success make this subject worthy of further study. For many students, online learning is not their first choice, but it is the practical option that allows them to balance their educational goals with the demands of their everyday life. Sokolowich, et. al (2022) argue that as cultural diversity increases within the U.S., so too will the diversity of students seeking higher education, and as a result, these students will obtain some or all of their education online. Existing literature on belonging, which is explored in more depth in chapter 2, demonstrates many connections between students' sense of belonging and positive outcomes for their learning, such as increased self-efficacy (Naidoo, Quaynor, & Shen, 2023), and resilience (Peacock et al., 2020). In addition, students who feel a sense of belonging also reported enjoying their learning more, and were less likely to disengage (Thomas, et al., 2014). It stands to reason that as historically marginalized students, diverse learners could benefit immensely from increased sense of belonging in online learning.

Study Purpose and Research Questions

This study aims to achieve a few different goals. First and foremost, this study intends to contribute to the research landscape by providing a rich description of the ways instructional design professionals interpret, negotiate, and design for belonging in online learning. This is achieved through participatory workshops and analysis of design artifacts. In addition, this study also explores the potential of speculative design as a way to learn about instructional designers' processes and practices. Finally, this study was also designed to provide a professional development opportunity for designers to connect, share, and learn together through the workshop activities.

The goals above pertained to the design of the study. The intended outcomes of this work are to develop a framework for encouraging a sense of belonging in online learning spaces, and also to provide potential directions for the design of professional development opportunities for instructional designers. Additionally, design strategies for supporting belonging in online learning experiences will ideally result from this work.

This study was designed answer the following research questions:

1. How do instructional designers interpret and negotiate belonging as a design priority?
2. How do instructional designers design for belonging in an online learning experience?
3. What can be observed about instructional design practitioners' professional practices through speculative design activities?

Chapter 2 Review of Literature

Introduction

Online learning is increasingly a part of college students' paths to degrees in the wake of COVID-19 as learners seek choices in how they achieve this educational milestone. For some students, online learning is their first choice and the one that best suits their needs in terms of flexibility and compatibility with other life priorities. As a result, it is important for instructional designers and professionals in related roles to carefully consider their designs to ensure they are creating meaningful learning experiences for online learners. In the field of instructional design, accessibility and Universal Design for Learning are principles practitioners follow to provide accommodations that promote inclusion for neurodiverse learners, but these guidelines do not address a growing area of concern within the profession: how do we apply our design skills to support diverse students' sense of belonging to foster equity in online learning environments?

The concept of belonging in online learning design has re-emerged as a priority as the instructional design profession considers what the future of online learning can be in the wake of the COVID-19 pandemic. This research aims to uncover the ways instructional designers interpret and negotiate the concept of belonging and translate those interpretations into practice. As crucial partners in designing learning, instructional designers and other professionals who support online learning should be experienced in executing a learning design based on priorities such as belonging.

This supporting review of literature is structured in two parts. First, I summarize research that deals with how belonging is experienced in online settings, and why

belonging is an important priority with implications on student success, particularly for traditionally marginalized students. Then, I explore research around the instructional designer's role and preparation. It is important to understand how instructional designers are involved in online learning design in order to appreciate the gap this research addresses.

Defining Belonging

Belonging has been established as an important factor in student success, even appearing in Maslow's (1962) hierarchy of needs. But what is belonging, exactly? Some researchers also include the idea of "perceived fit" in their definitions of belonging (Sokolowich, et. al, 2022), with "fit" relating to students' perceptions of whether they fit in with their peers at their university. Researchers acknowledge the lack of a single definition (Peacock et al, 2020), but generally align on ideas that students need to feel connected but also respected in a learning environment. Scholars frequently point to Goodenow's (1993) definition as a productive starting point for describing what constitutes a sense of belonging:

"being accepted, valued, included, and encouraged by others (teachers and peers) in the academic classroom and of feeling oneself to be an important part of the life and activity of the class. More than simple perceived liking or warmth, it also involves support and respect for personal autonomy and for the student as an individual." (Goodenow, 1993, p. 25)

Other related but distinctive concepts are frequently introduced to conversations about belonging, such as developing community (Thomas, 2014). It seems that some research may use the terms interchangeably.

While educational research regarding the impacts of belonging on students has been around for some time, belonging in online contexts is only now on the rise. Some scholars have explored how students describe a sense of belonging in online learning contexts. Peacock & Cowan (2019) researched how students' sense of belonging grows in an online course, and concluded that students need to be "welcomed, accepted, needed, and valued" (p. 74) in order to feel a sense of belonging online, which aligns with Goodenaw's (1993) definition above. It is reasonable to assume that the definition of belonging remains largely similar regardless of face-to-face or online learning contexts.

Why Belonging Matters for Marginalized Students' Success

While previous interpretations of belonging largely focused on building classroom community in an online environment, instructional design professionals are now considering belonging as it relates to conversations around equity, inclusion, and justice. This is largely due to evidence that seems to show a strong relationship between feelings of belonging and increased academic performance among college students. Scholars have theorized that historically stigmatized students are more likely to experience what they term "belonging uncertainty" which translates to the belief that "people like me don't belong here" (Walton & Cohen, 2007, p. 82-83). Walton and Cohen (2007) argue social belonging is a key component in "intellectual achievement" (p. 82) and that non-white learners are more likely to experience disadvantages based on race and ethnicity. When it comes to seeking just and equitable outcomes for online learners, it makes sense to design learning experiences that cultivate and support increased belonging whenever possible, especially when considering outcomes for historically marginalized learners.

Researchers have been exploring the connections between belonging and academic performance in traditional face to face learning environments. In their study, Walton and Cohen (2007) discovered significant impacts on Black first year students' achievement after receiving a treatment that lowered their sense of belonging uncertainty. Binning, et al. (2020) built upon those findings in a later study that aimed to negate the impacts of stereotypes in college classrooms by designing an activity that introduced students to a narrative that “holds adversity as both normative and surmountable” (Binning, et al., 2020), rather than as a result of learners' racial or ethnic identities. The majority of research around this perspective of belonging as part of conversations around equity and inclusion focuses on how belonging affects learners in traditional face to face environments, but instructional design professionals could play an important role in transferring existing findings to designs for online learning experiences.

Sokolowich, et. al (2022) conducted a quantitative survey with online students to better understand the connection between students' sense of belonging and their perceptions of the racial climate and institutional diversity and inclusion efforts. The researchers found that university diversity, equity, and inclusion efforts influenced online students' sense of belonging significantly. The researchers also found that “culturally responsive experiences” (Sokolowich, et. al, 2022, p. 155) significantly impacted online students' sense of belonging.

While researchers agree that belonging certainly improves outcomes for learners regardless of their race, ethnicity, socioeconomic status or first-generation status, evidence does point to a sense of belonging being a larger factor for learners who identify as members of historically marginalized communities. Since belonging efforts are

frequently tied to diversity, equity, and inclusion initiatives, it makes sense to prioritize belonging as a way to improve outcomes for these students too.

Belonging Research in Online Learning Contexts

As mentioned above, research about the impact of belonging in online learning contexts specifically is growing, especially in the wake of the COVID-19 pandemic. In this section, I examine research that specifically looks at online students' perceptions of belonging through a qualitative lens. In these studies, researchers connect the impact of belonging as described by students to other factors that are linked with successful student outcomes. .

In a study that focuses specifically on online learners who are Ph.D. students, authors connected students' sense of belonging to their writing self-efficacy (Naidoo, Quaynor, & Shen, 2023). Naidoo, Quaynor, & Shen's (2023) findings suggest that learners who feel a sense of belonging also experience positive self-efficacy, which is a concept that is linked to increased student success.

Both students and instructors in online learning contexts placed high value on belonging, according to a study by Thomas, et. al (2014). Researchers found that students reported feeling like they learned more and enjoyed the experience. The researchers also concluded the students in the study who had a sense of belonging were less likely to disengage, and recommended intentional strategies to promote belonging such as icebreaker activities (Thomas, et al., 2014).

In another study, Peacock et al. (2020) also found that a sense of belonging led to "an extra level of resilience" (p.28) for learners in the study who experienced stress, anxiety, or less than stellar support from their institution during an online learning

experience. Resilience has been associated with students' ability to persevere through difficult circumstances, whether within an academic context or outside of academics. This resilience leads to a greater likelihood of success.

The research introduced in this section demonstrates the connection between online students' success and their sense of belonging. These studies specifically elevate the opinions of the learners themselves regarding how belonging impacts their learning experience. The researchers who conducted research with students validate the need for incorporating belonging-focused strategies into online learning experiences.

Some researchers recommend developing curriculum to directly support students' sense of belonging (Sokolowich, et. al, 2022; Thomas, et. al, 2014), which is often a task that instructional design professionals undertake. In the following section I will explore research that contextualizes the role of instructional designers in higher education and builds the argument that instructional design professionals should consider how their practices may support or constrain belonging in online learning.

Who are instructional designers?

In many institutions, instructional design professionals work in partnership with faculty, graduate students, and other subject matter experts to develop courses, provide professional development to faculty regarding technology enhanced learning, and act as consultants for specific pedagogical challenges those in teaching roles face in their classroom contexts, whether online or residually. However, individuals in these roles can often find themselves serving in a technical support role as opposed to pedagogical consultant. In addition, professionals in these positions may be charged with prioritizing the development of content for online courses rather than focusing on resolving complex

problems in teaching and learning, such as designing for culturally responsive teaching or discussing the implications of using specific technology tools.

The roots of instructional design as a field are entrenched in Western, linear models and accompanying processes for designing efficient learning, such as Dick and Carey (1996), ADDIE (Branson et al., 1975), Kemp (1985), and others. These beliefs are changing, and largely as a result of instructional design professionals' advocacy for their field (Stommel & Burtis, 2022). However, the disconnect between their perceived roles as consultants and their given roles as technical support remains can lead instructional design professionals to feel limited in their ability to effect meaningful change within their institutions (Campbell, et al., 2007). Campbell et al. (2007) discuss how the focus on technical applications of instructional design as a linear process “deskills the instructional designer in [higher education] institutions in fundamental human ways” (Campbell et al., 2007, p. 661), and this finding is corroborated in my own professional experience as an instructional designer.

The work of instructional designers in higher education settings more frequently requires integrating contexts such as disciplinary traditions, available technological tools, the needs and preferences of specific instructors, and the greater goals of the program or department for their course offerings in combination with constraints such as budget, staffing, and enrollment goals. In its best form, instructional design is a highly collaborative effort that treats every learning design as its own unique design problem. Instructional designers work with other professionals, subject matter experts, and technical experts to understand the unique context of each problem and use those findings to create a solution within the given constraints and guided by theory. In other words,

instructional design is better described as a highly socially constructed process (Campbell & Schwier, 2019). Interestingly, some researchers have found that many instructional designers who practice in institutions of higher education in North America are enculturated into their employing institution's ethical culture, which influences their design practice (Campbell, Schwier, & Kanuka, 2011). It stands to reason that if these professionals are influenced by their peers, individuals could potentially affect change on a larger scale within their institutions.

Instructional Designers Are Key To Supporting Belonging Online

As professionals whose primary role is to guide subject-matter experts towards sound learning experience design, instructional designers and others who support online learning should be experienced in applying their skillsets to support changing design values. Instructional designers and similar practitioners are well-positioned to influence the design of learning environments, and should be “accountable for the social and political consequences” of their work (Barab, et al., 2007, p. 296). In other words, instructional designers need to be aware of the ways their design decisions support or conflict priorities such as belonging.

Luckily, some professionals in the field were found to have some level of awareness of and enthusiasm for their opportunities as change agents. Campbell et al. (2007) found that instructional designers are often not only aware of their ability to influence change, but that they feel it is an important part of their role. Through their research with instructional design professionals in Canadian universities, these scholars position instructional design as a “complex, socio-cultural process” and those who act in this role are “important participants in shaping interpersonal, institutional, and society

agendas for change” through “reflexive, critical practice” (Campbell, et al., 2007, p. 646). Instructional designers in higher education settings occupy a murky space in the course design partnership, one that affords them a significant amount of power over the outcomes of the design process. In some settings, these professionals are viewed as experts in teaching and learning, and are subsequently able to influence the final design in significant ways. As a result of this unique position, instructional design professionals need development opportunities that help them identify, define, and ultimately dismantle harmful ideologies they may not be aware they are perpetuating through their design decisions.

Campbell et al. (2007) also found that instructional design professionals who are aware of their power and potential to effect change encounter situations where they are asked to apply their practice in ways that conflict with their personally-held professional values, which can lead to conflict between themselves and their teammates, other departments, or the institution at large. This finding suggests that while individuals in the profession may hold a personal commitment to positive social change, professionals involved in instructional design could benefit from professional development that helps them realize ways to turn their values into practices in their work contexts.

Changing from within: Shifting priorities for the instructional design profession

Existing literature in the broader domain of instructional design does point to individual, localized efforts towards this level of critical thinking about adapting practice to today’s priorities. For example, Pipe and Stephens (2021) issue a call to action for educators to consider how “pedagogy and course design should also attempt to dismantle teaching and learning practices that privilege certain knowledge and ways of knowing”

(p. 95), which could lead to exclusionary outcomes that conflict with overarching goals to foster belonging in the online learning environment. A group of instructional design professionals largely affiliated with colleges and universities in North America has recently organized a working group around the Design Justice Principles that aims to engage and support fellow practitioners in considering the ways Costanza-Chock's (2020) conclusions in *Design Justice* can be embedded in the learning design process (Wehr, et al., 2023).

The tide is turning when it comes to rethinking instructional designers' roles towards fostering belonging, and along with it, equity and inclusion in online learning. With this background in mind, this research provides a rich description of the ways that professionals currently in the instructional design field think about, practice, and identify successful design strategies that support belonging in online learning environments through collaborative speculative design activities. This research utilizes participatory research methods to make visible the key moments or design decision points where practitioners rely on their professional knowledge to make a judgment about how to proceed with a design in support of a priority like belonging. The outcomes of this study could potentially support professional development opportunities aimed at increasing awareness of key decision-making points in the instructional design process so that instructional designers may better understand how to navigate these moments, and their broader impact on students' experiences of learning designs.

Summary

In this review of literature, I attempted to provide some definitions of belonging as they appear in research on the topic. Belonging is often described as a feeling and is

related to students' perceptions of how they fit in at their institution. Students feel a sense of belonging when they feel valued and respected in their learning experiences. Research on the impact of belonging situates why this concept is worthy of further study. Scholars have linked belonging to several important factors that lead to student success, such as resilience and self-efficacy. Research also indicates that a sense of belonging might be more important for historically marginalized students who are more likely to experience belonging uncertainty in higher education.

Instructional designers are important partners in the student learning experience online. These professionals are often tasked with developing online learning based on collaborations with subject-matter experts or faculty who may not be experts in teaching. Because of their influential role in online students' experience of their learning, it is important to understand how instructional designers interpret and negotiate design priorities such as belonging. As researchers in online learning uncover more findings about the impact of belonging on student success, instructional designers will need to translate these findings into actionable design strategies that support faculty and instructors in enacting a sense of belonging in online courses. The research study that follows aims to provide a rich description of how instructional design professionals think about and make explicit design choices in service of belonging online.

Chapter 3: Methods

Introduction

This chapter details the methods used to collect data for this study. First, the study rationale will be explored, along with the approaches used to guide the design of the study. This chapter will also demonstrate the intended alignment of the study approach to the research questions. The recruitment strategy and sampling will also be discussed. In addition, this chapter includes an overview of the data collection methods and analysis. Finally, a summary of the overall data collection methodology and limitations of the research will be discussed.

The original intention of this study was to provide a service to practicing instructional design professionals while also learning about how the concept of belonging impacts their design practices. As a former instructional designer whose work focused specifically on designing learning experiences for asynchronous online courses in a higher education context, I wanted to understand how other practitioners thought about belonging in online learning settings and whether the concept influenced their day-to-day work. In order to achieve this, I developed a protocol that brought professional instructional designers together to brainstorm, design, and discuss their work. Some participants were also interviewed afterwards to further clarify and discuss their artifacts, and some participants who signed up but could not attend the sessions were also interviewed one-on-one and provided an artifact to reflect on.

Study Framework

Practitioner Inquiry provides the backdrop for this study. In this research paradigm, practitioners are positioned as “knowers and agents for educational and social change” (Cochran-Smith & Lytle, 2015, p. 37). Though practitioner inquiry is a kind of educational research typically undertaken by K-12 teachers conducting research in practice, I argue this perspective is valuable for instructional designers and this research study in particular. The conditions of this research that help characterize it within the practitioner inquiry family of methods include practice as the site of research, practitioners as researchers, and community and collaboration as essential elements of data collection.

In addition to practitioner inquiry, this research is also informed by grounded theory methodology. The objective of a grounded theory approach is to theorize a phenomenon or process based on connections generated from participant data, and is best deployed when there is very little existing research about the topic of interest (Bloomberg & Volpe, 2019). When it comes to this research study, the concept of belonging and the practices instructional designers carry out to support belonging are not well-researched, which makes grounded theory useful in this study.

Research Design

Data were collected in the form of virtual participatory workshops delivered in two parts. In the first part, I led a focus group where participants reflected on three questions, shared their individual responses, and then discussed one another’s’ perspectives. During these sessions, I attempted to summarize what I was hearing into themes and confirmed the themes with the participants. The second part of the workshop

was organized as a rapid prototyping and share out session. Participants were presented with a speculative design challenge that focused on emphasizing belonging and given a week to develop a wireframe artifact according to the speculative prompt which can be reviewed in Appendix D. A wireframe is generally thought of as a low-fidelity mockup or sketch of a design, as opposed to developing a fully functional prototype. A wireframe was selected for this activity because it was important to not only respect the participants' time and work, but also because speculative thinking can lead to designs that utilize undiscovered tools and technologies in which case the concepts could be communicated through sketching or outlining. Participants shared their artifacts during the second part of the workshop series, and I led discussions about the design choices that were made and how these choices demonstrated the participants' perspectives on belonging. The workshop ran three times, providing 6 hours of conversation about the research topic and yielding eight artifacts for analysis.

Workshop Structure

In the first part of the workshop protocol, a series of three questions were posed to each participant group. Questions were posted one at a time on a Jamboard slide and participants had time to reflect individually and post responses in the Jamboard space. After each individual reflection, discussion of responses ensued. The questions posed are as follows:

1. How do you know when you belong in a space? What does it feel like, look like?
2. What indicators could we look for to measure or assess belonging?
3. What moments do we have in an online learning experience that could impact belonging positively or negatively?

The question series was designed to start with a personal reflection in order to generate a variety of possible definitions of what it means to belong. The second question was intended to shift the participants' thinking towards what evidence of belonging might exist. The goal of the final question was to foster discussion about when we as designers of a learning experience can influence belonging. The question series also served as a brainstorm to help participants ideate in order to complete the design challenge that would be the central focus of part two of the workshop series.

The design challenge prompt was crafted from a speculative perspective in order to encourage participants to think beyond the limitations of their existing work contexts, such as learning management systems or other technology. The prompt text is included in Appendix D. Participants were asked to spend no more than four hours completing the design challenge, and their artifact could take the form of a wireframe, storyboard, narrative, or other lightweight design, so as not to be excessively burdensome on participants' time. Participants were given a week before the next workshop meeting to complete their designs.

In part 2, participants took turns sharing their artifacts and reflecting on their processes. After presenting their artifacts, I led the groups in critiques of each design. The goal of this session was to support participants in making their design processes visible by reflecting on their artifacts and discussing them with colleagues, and asking questions to further clarify how participants conceptualized belonging in their designs.

One-on-one unstructured interviews were also conducted after the workshops. During the workshops, participants were asked to review design artifacts from other cohorts and identify aspects that they felt were supportive of belonging. The goal of this

activity was to explore how similarly instructional designers assessed belonging in a design.

Participants and Sampling

Participation was advertised on my personal LinkedIn page, which I have utilized to connect professionally with instructional design colleagues throughout my 10-year career. Sharing was turned on in the LinkedIn post and followers in my network were encouraged to share to their own networks to increase reach. Participation was also advertised on the Pedago.me social network for instructional design professionals, which has worldwide reach. To be included in the research, prospective participants were required to:

- Work in a higher education context as an instructional designer or related position that supports the development of online learning
- Be 18 years of age or older
- Attend both sessions or participate in an interview if they could not attend the second session

Because this is not an experimental research study, participants who indicated interest in a screener survey and confirmed their consent were included in the study unless they did not meet the above criteria. Ultimately, 12 participants participated in the study. They are referenced individually by the pseudonyms shown in Table 3-1:

Table 3- 1: List of Participant Pseudonyms

Alex	Casey
Andy	Cameron

Austen	Emerson
Bailey	Dale
Blair	Francis
Bryce	Gale

Practitioner-Researcher Identity

As a practitioner in the field of learning design, it was difficult to remove myself entirely from the process of conducting this research. Instead, I embraced my place within the community of learning design professionals and intentionally participated in the workshop alongside the research participants. While I retained some level of power or authority over the cohorts, I actively encouraged others to steer the conversation and regularly allowed pauses in the discussion for others to take the lead in questioning. Ultimately, my positionality was beneficial to this research. By using the language and carrying out the practices of learning designers, I gained the trust of participants that allowed me to ask deeper questions and model thoughtful critique for each cohort. I believe this relationship allowed participants to engage in a level of critical reflection that otherwise would not have been possible had they been discussing the topics with someone not as familiar with the practices of learning design.

Data Collection & Procedure

Workshop sessions were held virtually through the Zoom web conferencing platform. Sessions were recorded. Each workshop session was approximately one hour. Artifacts were collected through shared links where I was granted access by participants. Interviews were also conducted virtually through the Zoom web conferencing platform

and recorded. Interviews were intended to be 45 minutes in length but sometimes went for a full hour. Sessions and interviews were transcribed with the assistance of Sonix.ai and reviewed for accuracy. Transcripts were used for analysis. In addition to the transcripts, the collaborative whiteboards were also included in the data as well as artifacts participants generated for discussion during the second workshop. During interviews, participants reflected on the artifact submissions from the workshop in order to understand how belonging might be identified in a design. Figure 3-1 shows an overview of the data collection process.

Figure 3- 1: Data Collection Process



Data Analysis

Qualitative methods were used to analyze the data collected in this study. Interim analysis was conducted throughout the data collection process in order to inform the workshop and interview protocols. Table 3-2 aligns each research question with its intended data source.

Table 3- 2: Research Questions and Data Sources

Research Question	Data Source
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(1) What can be observed about instructional designers' practices through speculative design activities?	• Workshop Discussions • Interview Responses • Artifact Analysis
(2) How do instructional designers interpret and negotiate belonging as a design priority?	• Researcher Observations • Workshop Discussions
(3) How do instructional designers design for belonging in an online learning experience?	• Artifact Analysis • Researcher Observations

Interim analysis calls for researchers to analyze data in a cyclical process rather than waiting until data collection is complete. This analysis strategy is common in qualitative research because it allows researchers to obtain a deeper understanding of the topic (Johnson & Christensen, 2020).

In addition to analyzing session transcripts and comparing artifacts from study participants, memoing was completed throughout the study. Researchers use memoing to compose reflective notes about data, observations, and early findings in order to focus their analysis later on. When memoing, researchers are generally looking for early patterns or themes emerging from the data. During this study, I recorded written memos after each session, and also jotted notes during the sessions to facilitate the discussions.

Keeping with the traditions of grounded theory, transcripts from the focus groups and interviews were coded in multiple rounds according to categories that emerged from the data. Thematic analysis techniques guided this process. Thematic analysis goes beyond tallying up the number of words or phrases attributed to specific codes, and involves the researcher in interpreting themes that summarize the ideas expressed by participants in the data (Guest, MacQueen, & Namey, 2012). Thematic analysis worked

particularly well for this research because of the varied data sources used to determine findings. I duplicated the collaborative whiteboards from each cohort and manipulated the notes there to theme and re-theme the contributions of the participants, which also became codes used in analyzing the transcripts. These inductive codes are intended to reflect the experiences and understandings of the research participants. After the first stage of coding, generalized themes and patterns were identified. During the second stage of coding, evidence of these themes and patterns was confirmed, and in some cases, new codes emerged to better describe them. These codes are shown in Table 3-3. Participants' learning design artifacts were also analyzed using the codes from the interview and focus group transcripts to better understand how designers' descriptions of their practices translated into discrete design choices. These codes are shown in Table 3-4. Member-checking was conducted with selected participants via follow up interviews to confirm the codes and themes drawn from their data.

Table 3- 3: Codebook

Code	Description of Code	Example	Instances
Ownership/Agency	A sense of control, supporting learner autonomy	"Autonomy," "are any of [the norms] set by students?"	25
Choice	There are options for participating and contributing	"You kind of acknowledge the whole person and provide... choices as to how you can actually engage"	25
Expectations	Knowing what to do	"Understanding the norms of a space"	25
Feelings	Emotions that are evoked by belonging	"Vulnerability," "comfort," "confidence"	39

ID Practice	Application of job-related knowledge or skill	“Working one on one with faculty, we develop rapport and relationship with them and that trust”	11
Interactions	Actions between individuals, or between one individual and the learning environment	“How many voluntary responses were there versus expected contributions”	36
Language/Tone/Voice	How individuals express and communicate	“When you provide feedback, you want it to be positive... something that encourages somebody to achieve...”	32
Anti Belonging	Factors that negatively impact belonging	“They don’t have belonging when they’re having to ask for that help”	26
Related Concepts	Mentions of other design pedagogies, such as inclusive design, accessibility, humanizing online, etc.	“Community of practice style,” “inclusive practices,” “humanizing”	22
Shared Goals/Values	Motivation for doing something is similar to others in the learning experience	“To what extent is it necessary for us to have shared goals ... for us to also feel that sense of belonging?”	14
Strategy	A strategy for influencing belonging	“An ice breaker,” “assign different roles”	44
Student-Student	Belonging among students	“Connection with their peers”	3
Time	Length of time to develop belonging	“We do seven week courses here... and I often worry about that timeline and the ability to create ... that sense of connection...”	7

Visual Design	Indicators of belonging that are visual design elements	“The tone of the colors that you use”	7
Welcome	Formal welcome, acknowledgement, send off, expressions of acceptance	“I am welcomed into the space”	29

These codes were derived from content analysis, using the codes from the table above to analyze the artifacts participants created as part of the data collection procedure. Not all codes that were derived in the transcript analysis were present in the design artifacts, though there is some overlap. While the code title may be the same, some descriptions may have changed slightly to exemplify aspects of design artifacts that are represented by each code.

Table 3- 4: Design Artifact Code Examples

Code	Description	Design Example
Expectations	Assignment instructions, participation requirements, and other necessary information for successful completion of the course are communicated	Sections in the design artifact labeled: “Trigger Warning,” “Procedure Summary,” “My Hopes For You”
Language/Tone/Voice	Examples of intentional language used to communicate	“Should you find inspiration in others' ideas or writing on this subject, be sure to cite them so I can understand which ideas and writing are your original work and what sources you used.”
Welcome	Formal welcome, acknowledgement, send off, expressions of acceptance	“We have a student body full of rich cultural and ethnic diversity whose experiences with nutrition and food vary widely.”

Ownership	Learners have autonomy, learners control the learning space in some way	Students generating their own VR spaces; learners participate in establishing rituals
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Limitations of the Research Design

Speculative design as a research method does not prioritize rigor in the traditional sense. Rather, the goals of speculative design activities are to think beyond participants' current contexts and focus on using design to "present alternate social and cultural realities" (Galloway & Caudwell, 2018, p. 85). To that end, successful speculative design requires participants to generate artifacts or narratives that detail designs that share an alternative future where online learning experiences are designed to prioritize belonging above all other design requirements. A potential limitation with this goal is creating conditions that allow participants to think and create in a speculative fashion. In addition, what each participant determines to be speculative was also unique across individuals, resulting in varied interpretations and artifacts.

Another traditional limitation of a research like this is reliability and validity of the results, which refers to the ability to generalize the research findings based on the participants in the research. Practitioner Inquiry such as this study frequently pushes back against traditional ideals of validity and generalizability, instead emphasizing the knowledge generated during these projects is intended for practical application within the contexts that it is developed (Cochran-Smith & Lytle, 2015). In other words, the outputs of practitioner inquiry research, which could include updated conceptual frameworks or new ways of practicing and being, are developed by practitioners for use in their own work context, rather than by traditional researchers. Thematic analysis, the primary

analytic technique used in this research, is also a point of potential concern with regard to reliability due to the highly interpretive nature of the process (Guest, MacQueen, & Namey, 2012).

Because of the qualitative methods employed in this research, only a small participant pool is needed. As a result, this research relies primarily on convenience sampling and will draw findings from the unique experiences of a small selection of participants, there are populations and contexts that are not represented. Using existing networks of instructional design professionals can only reach those who are aware of or already involved in those networks, and snowball sampling is likely to turn up additional participants who are also aware of those networks. This may affect the research outcomes because the sample is composed mostly of people whose institutions and connections are members of these organizations, or those who practice similar approaches in their instructional designs.

Other possible threats to the rigor of this study are those that are common in qualitative research such as trustworthiness of the results. I aim to combat concerns about trustworthiness by prioritizing an inductive approach to data analysis that uses direct quotes and phrases from participants to describe their experiences as instructional design professionals. The use of multiple methods of data collection also supports the credibility of this study. Interview methods allow participants to share their experiences in their own words, and allow opportunities to probe for deeper understanding between the researcher and the participants.

Participant feedback and member checking has been incorporated throughout the interim data analysis in the study to ensure misconceptions are clarified before any further data analysis or collection are conducted.

Chapter 4: Analysis & Results

Introduction

This study was conducted with several goals in mind. First and foremost, this study aimed to uncover the ways instructional designers interpret and negotiate the concept of belonging and translate those interpretations into practice by asking practitioners to design an artifact and reflect on their process among other practitioners. A secondary goal of this work was to bring practitioners into the research process as participants rather than research subjects through the use of participatory practices during data collection. Additionally, this work also explores the potential of speculative design methods for making the practices of instructional designers more visible.

The specific questions this research addresses are (1) What can be observed about instructional design practitioners' professional practices through speculative design activities? (2) How do instructional designers interpret and negotiate belonging as a design priority? And (3) How do instructional designers design for belonging in an online learning experience? The analysis revealed that instructional designers in this study were likely to engage in speculative design, though they may have been limited by their level of familiarity with speculative design; instructional designers in this study largely described belonging as something that must be actively curated; and instructional designers identified specific outcomes that they wanted to support through design in order to encourage belonging online.

This research yielded several themes related to the ways instructional designers think about and make design decisions in service of belonging. Findings suggest that speculative activities were ultimately a useful tool for encouraging participants to engage

in critical reflection, even though their artifacts did not always demonstrate an alternative future. For most participants, speculative design allowed them to create a learning experience where they were in charge of the design and facilitation of an activity.

Findings related to the second question regarding how instructional designers interpret and negotiate belonging as a design priority indicate that belonging is currently woven into existing practice, although it may not be the explicit goal of every design. Participants noted that many of their current practices supported belonging, and frequently reflected on how they might improve or make this priority more visible in their designs.

Finally, in response to the third research question, instructional designers cited concepts like humanizing online learning, inclusive design, universal design for learning, and similar practices as the foundation for belonging in online courses. Participants were largely in agreement that using these design practices signals a level of commitment to student-centered learning, without which belonging would be difficult to curate in an online classroom environment.

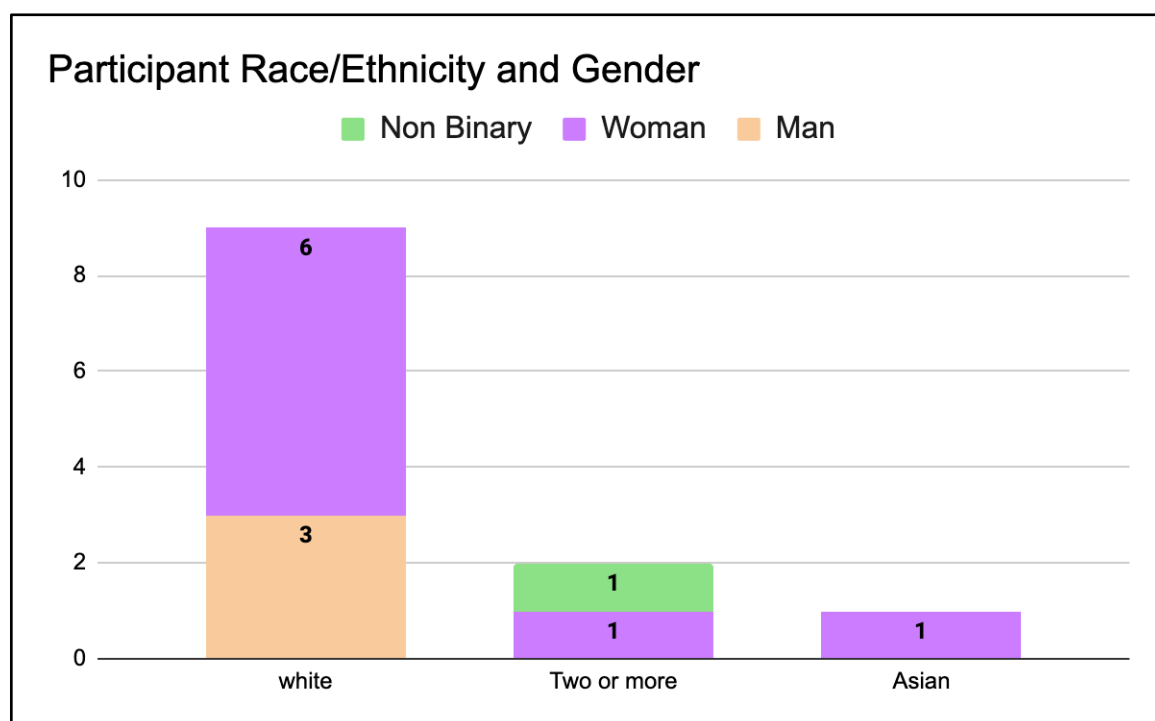
This chapter is organized based on findings related to each of the three research questions. I begin with an overview of the participants, and then discuss observations about how the participants engaged in speculative design. Next, I present findings to show how the participants in this study interpreted and negotiated belonging. This section covers how the designers collaboratively identified student outcomes that signaled a sense of belonging for the designers, and how they worked backwards from those outcomes to identify instructor actions that encourage them, and the specific design strategies to support those actions in their artifacts. Next, I share findings about the ways

instructional designers leverage their practices to specifically support belonging by identifying four strategic themes, and four critical moments during which specific belonging-focused actions should occur. The chapter concludes with a summary of the results.

Participant Overview

The participants in this research were recruited primarily through the Pedagome social network for instructional design professionals where I have been an active member since 2021, and my personal LinkedIn page which I have used to network with colleagues throughout my 10-year career. Pedagome is “an online, grassroots community” whose mission is to serve as “a digital campfire” for casual networking, idea sharing, and social connection (Pedagome, 2023). Hosted on Slack, the community has 730 members at the time of this writing. Any elearning professional can sign up.

Ultimately, 12 instructional design professionals participated in this research, with ten participating across the three workshop cohorts and follow-up interviews, and two participating in interviews only. The terms “participants” and “designers” are used interchangeably to refer to the individuals who participated in this study throughout this dissertation. Individual participants are referred to by pseudonyms.

Figure 4- 1: Participants' Race/Ethnicity and Gender

As shown in Figure 4-1 above, the majority of participants were white, identified as women, and had attained at least a master's degree as shown in Table 4-1. I as both a practitioner and the researcher also fit into this demographic. Participants' employing institutions ranged in size and mission, shown in Table 4-2, which provided variation in the working experiences of those in the workshop sessions and led to fruitful discussion.

Table 4- 1: Participants' Level of Education

Level of Education	Number Reported
Master's	9
Doctorate	3

Participants were not required to describe their employing institution, but other descriptors that were chosen included Research University (5), Public (8), Private (1),

and Primarily Residential (2). Participants also described the location of their employing institution regionally, and were spread across most of the United States, with some Canadian participants as well.

Table 4- 2: Size of Employing University

Size	Number Reported
Large university (> 15,000 students)	11
Medium sized college/university (2,000 - 15,000 students)	1

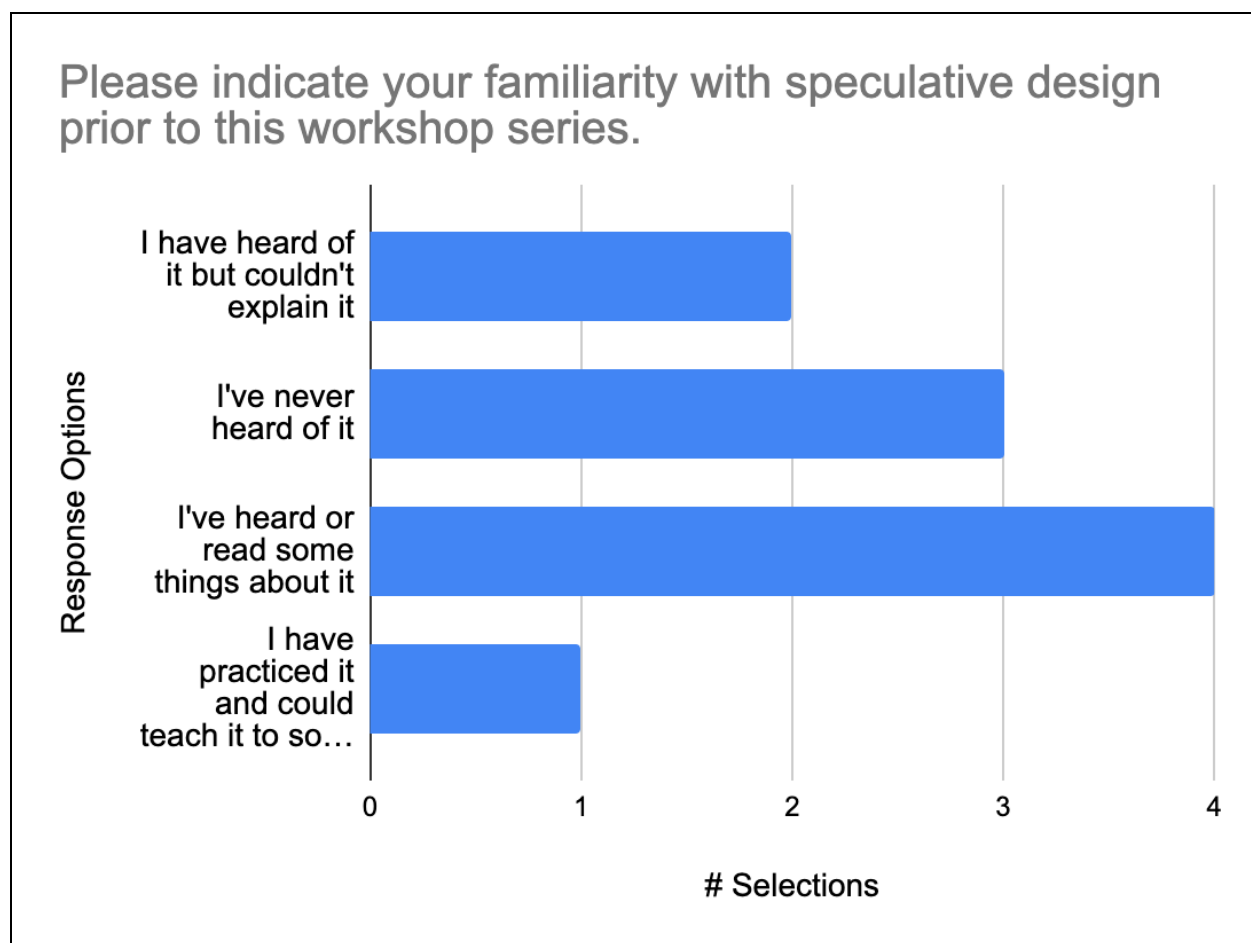
**Research Question 1: What can be Observed About Instructional Designers’
Practices Through Speculative Design Activities?**

This research was designed to encourage participants to think speculatively about a future world where instructional designs prioritize belonging, and reflect on what that could look like in practice. Goals of speculative approaches to conducting research include “envisioning or crafting futures or conditions which may not yet currently exist, to provoke new ways of thinking and to bring particular ideas or issues into focus,” (Ross, 2019). While I do not believe a speculative lens was required for this research, I utilized a speculative design prompt because I believed it would allow the participants to think outside the constraints of their day-to-day work contexts and critically consider how they can use design to support belonging in a learning experience.

While some participants did embrace the lack of practical constraints when designing their artifacts for the share out portion of the project, most of the designers chose existing artifacts and iterated on them based on the conversations from part one of

the workshop series. This may be due to the participants' previous exposure, or lack of, to speculative activities, shown in Figure 4-2. Most participants had heard of or read something about speculative design, but had not practiced it before.

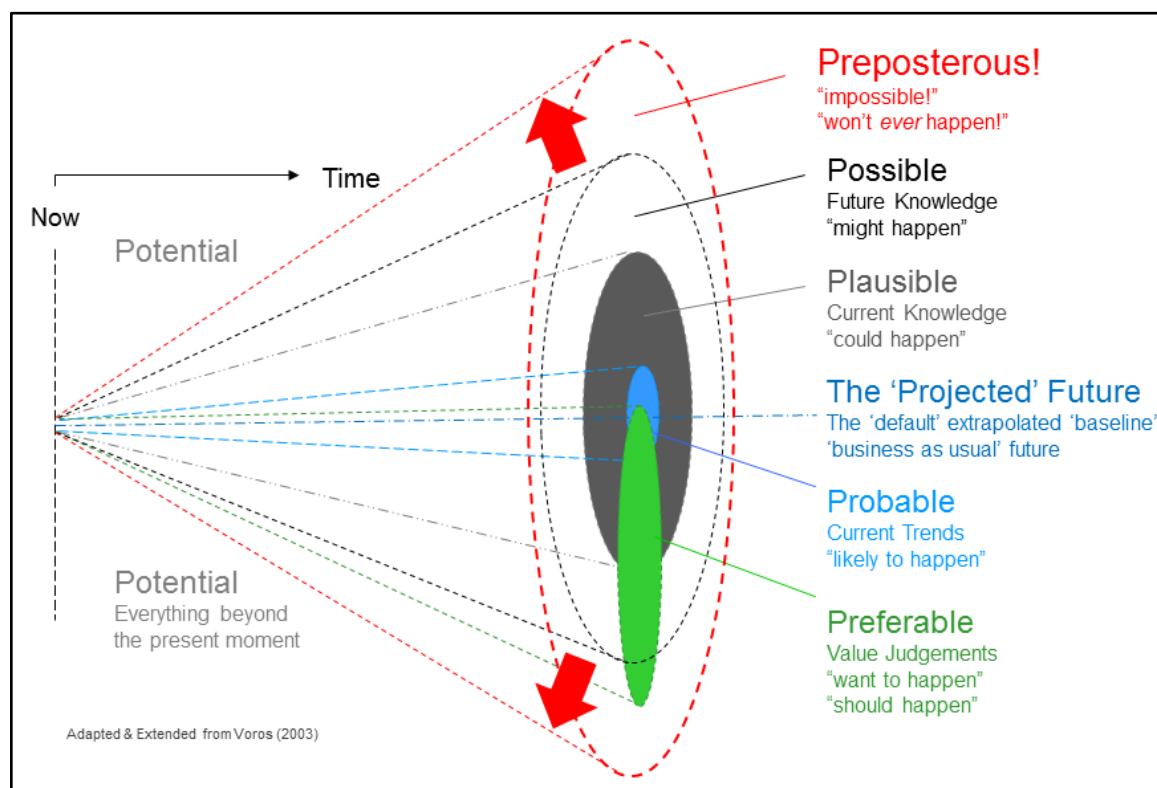
Figure 4- 2: Participants' self-reported familiarity with speculative design



In his work on futures studies, Voros (2017) utilizes a cone diagram to illustrate a framework for describing different futures, shown in Figure 4-3. This framework is helpful for categorizing the artifacts participants created in this study since collectively agreed-upon standards for evaluating speculative activity don't currently exist. According

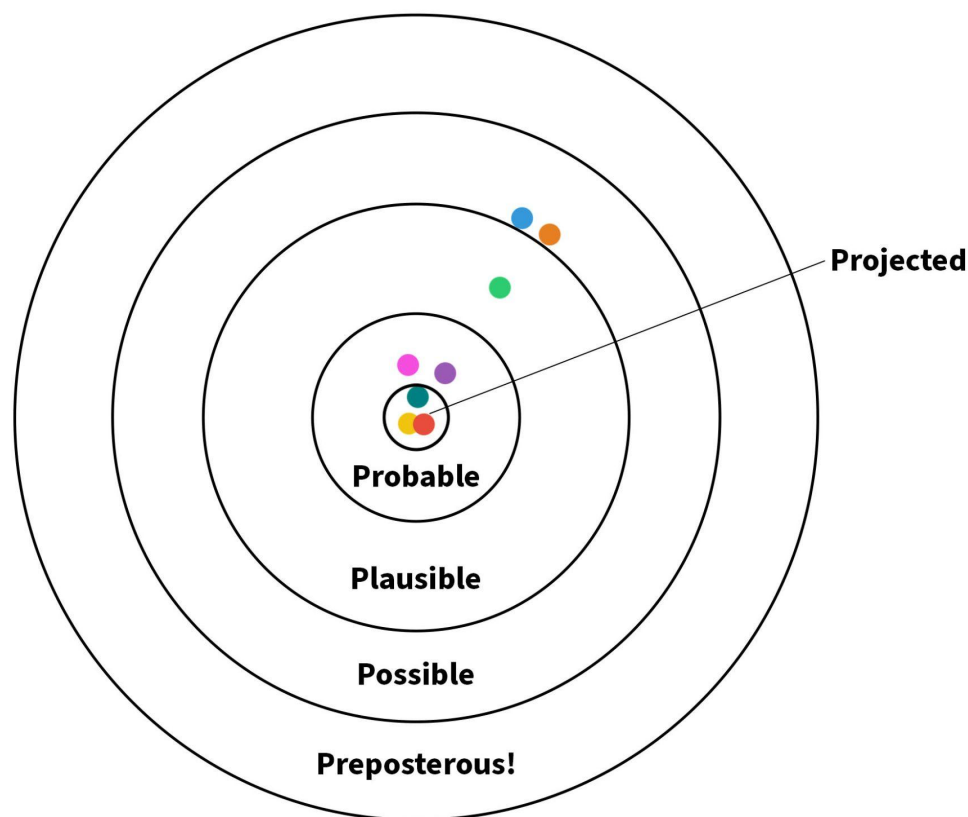
to Voros (2017), the cone is a visualization that encompasses both imagined and unimagined futures and considers the descriptions as “nested classes” rather than distinctive labels.

Figure 4- 3: Voros's Futures Cone (2017)



This framework was productive for analyzing the artifacts participants generated for this study. Of the 12 participants, eight produced and shared original work during the workshops. In the figure below, I attempted to map the 8 artifacts on a cross section of Voros's cone diagram, shown in Figure 4-4. Each artifact is represented by a colored dot.

Figure 4- 4: Artifact Map



Mapping the artifacts onto the futures cone diagram makes visible how participants' designs clustered in certain types of futures. As the map shows, most artifacts were mapped within the Projected and Probable classifications, with a few remaining distributed between the Plausible and Possible zones.

To map the artifacts, I reviewed transcripts from Workshop 2 and located the artifact based on how participants described their artifact. Participants who shared artifacts that already function in the online learning environments that exist today were included in the Projected category, such as templates for syllabi and learning management system modules, or using an existing tool as it is intended to be used.

The artifacts in the Probable category were placed there because the participants described them as modifications to existing designs. For example, one artifact that is placed in this category was borrowed from an online course and re-designed according to the workshop prompt to be re-deployed in the same course. These artifacts could still function in today's online learning environments as they are currently designed, making them likely to happen if they are incorporated into a course redesign.

The sole artifact in the Plausible class was placed there because the technology and knowledge to execute the design currently exist, but were being used in different ways than originally intended in order to meet the goal of prioritizing belonging. The artifact also relied on students' acceptance of, and ability to execute, this new use for existing tools within the learning management system, which could happen but isn't guaranteed.

The artifacts placed in the Possible zone belonged to participants who described some type of alternative future that doesn't currently exist today, but could as knowledge advances. The dots representing these artifacts are intentionally placed very close to the boundary between Plausible and Possible because both artifacts utilize tools or knowledge that currently exists, but thought beyond the constraints of their current contexts. For example, Austen in Cohort 2 envisioned a future where they held a different role in the learning design process: "I took this from the perspective of like, how would I, if I was teaching a course which I don't have an opportunity to do right now, but, you know, how would I incorporate belonging into it?" (Workshop 2). Given that teaching roles in higher education institutions often require a terminal degree, and that most of the participants in this research had master's degrees but not doctorates, it is reasonable for a

participant to envision a future where they could take on this otherwise inaccessible role as an alternative future.

Another participant designed an artifact using existing virtual reality tools, but envisioned a future where this technology is more widespread and concerns about accessibility are already resolved. In describing the features of the tool, participant Alex said, “they're currently not very accessible, which is a whole other problem for belonging in this context. But this is the future we're talking about. So, you know, it's more fancy-free and usable than it is currently” (Cohort 1, Workshop 2). Considering Ross’s (2019) definition, it seems Austen was considering conditions that do not yet exist when thinking about ways to design with belonging as a priority, which places the artifact in the Possible zone.

Though none of the artifacts landed in the Preposterous zone, this exercise was helpful to demonstrate how difficult it can be for instructional design professionals to ignore the constraints of today’s online learning environments and their workplace contexts. Reflecting on all the participants’ artifacts and share outs during Workshop 2 sessions, the speculative design prompt did provoke new ways of thinking about the goals of their work. As the rest of the findings will show, designers were able to identify specific strategies and choices to support belonging in online learning designs. While their artifacts were often iterations on existing designs, the participants were intentional in connecting the choices they made to specific outcomes that, to them, demonstrated the presence of belonging in a course.

Research Question 2: How Do Instructional Designers Interpret and Negotiate Belonging as a Design Priority?

The following section addresses the research question: How do instructional designers interpret and negotiate belonging as a design priority? This section begins with a description of how participants talked about belonging during the first part of the workshop which was structured as a focus group. During these conversations, participants were asked to reflect and discuss three questions that were designed to elicit conversation about belonging and instructional design practices. The reflection was accompanied by note-taking on a virtual whiteboard so that other participants could read, react, question, and expand on each others' contributions. While there were many overlapping descriptions across the three focus group sessions, each group's discussion ended up providing a description of belonging that addressed different dimensions of the concept. The following section will expand on how participants described belonging through certain student behaviors, interpreted belonging as something that is spread from person to person in a class through specific actions, and how it is inextricably tied to values like cultural awareness, accessibility, diversity, equity, and inclusion.

Finding 1: Designers interpret certain student outcomes as indicating the presence of belonging

When asked to share their interpretations of belonging, participants found the question difficult. Some recognized that there were multiple academic definitions of belonging that exist in research and asked for clarity about how I was defining belonging

(Gale, Interview), but I wanted to hear the participants' interpretations and negotiations of the concept. Instead, participants often began by listing observable student behaviors that they felt indicated the presence of belonging in a course. A sample of these responses is included in Figure 4-5.

Figure 4- 5: Participants' interpretations of belonging, whiteboard contributions



Throughout the workshops, participants identified and agreed on certain behaviors that, to them, indicated students were feeling a sense of belonging in their course. While

these behaviors may not always result from intentional design decisions, identifying and agreeing on these behaviors as indicative of the presence of belonging among a class was helpful for the participants to then brainstorm what design strategies could facilitate those behaviors and potentially increase students' sense of belonging or, in some cases, mitigate instances of belonging uncertainty. Behaviors that participants across all three cohorts discussed included:

- Student-initiated subcultures or norms: this behavior was described as students creating their own norms for interacting in courses, such as initiating group chats or using emoji
- Students engage beyond expectations: this behavior was interpreted as students posting more than required in discussion boards, providing more feedback to others than required, or otherwise interacting in ways that exceed the minimum requirements set by the instructor;
- Students ask questions: this behavior refers to students asking relevant, on-topic questions about course content
- Students take risks: this behavior was described as trying new skills that they may not have yet mastered, especially in performance-based disciplines like the arts, or making unique choices when offered options for how to demonstrate their learning

While it seemed challenging for the designers to define belonging independent of student outcomes, considering what signs or symptoms of belonging could be in online learning was a productive conversation starter for participants across focus groups and interviews.

Finding 2: Belonging Is Encouraged and Inhibited Through Discrete Actions that prioritize choice and agency

Conversations across all three cohorts were distinctive in many ways, but when commonalities did emerge, they were very noticeable. All cohorts were in agreement that belonging is a feeling that is encouraged or inhibited through discrete actions. There are actions that participants universally agreed support belonging, and actions that clearly worked against this feeling of belonging. Belonging “looks different on day 1 than it does on day 15,” and while the beginning of an experience is an important time to establish belonging, sustaining it throughout requires ongoing maintenance, suggesting that at different points, belonging may increase and decrease. This raises the question, how does belonging grow in a course?

As participants in Cohort 1 discussed different interactions that indicated the presence of belonging, they began to describe the idea that individuals within a course could spread belonging through discrete interactions. Participant Bryce ignited the conversation by posting “The degree to which [students] interact with each other - how many interactions, how many people” on the collaborative whiteboard. The other participants began to describe discussion activities as a site for measurable interaction, which raised questions about a frequent discussion practice: required posts and replies, and whether belonging can occur when interactions are not voluntary.

Participant Casey called attention to another common theme among all cohorts, consideration of the language students use and whether they “carry on” (Bryce, Workshop 1) the conversation or provide a response that simply acknowledges another student’s post. Casey explained:

“The nature of the language they’re using to reply... just a few words, or are they acknowledging what you actually said and expanding on it? ... I think, it’s basically they’ve passed on that feeling, you know, they felt like they belonged. And so they’re passing on that acknowledgement to someone else.” (Casey, Cohort 1, Workshop 1).

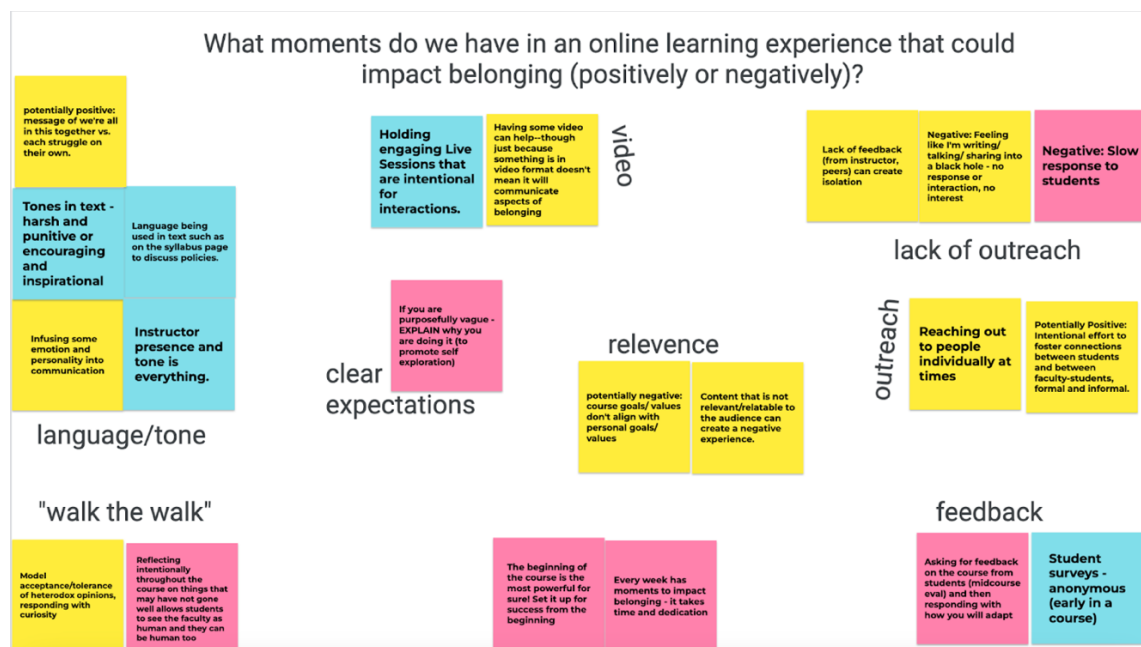
This interpretation of belonging places some of the responsibility on students for creating and sustaining belonging in an experience. By “carrying on” a discussion with their response, a student provides another opportunity for others to connect by adding their own response.

Later, Bryce clarified their whiteboard contribution in a way that further solidifies this conception of belonging as something that can spread. Bryce elaborates, “I guess I was thinking, in general, if I’m in a part space or something... do I stick to myself, do I talk to lots of people, or just one or two people?” Bryce continues, acknowledging that individuals’ personalities may influence how many people they interact with in a given situation: “Ideally, there could be just only one connection, and that would be enough to make me feel like I belong,” narrowing in on the sense that individuals can extend belonging based on their actions.

Further supporting this idea that belonging can be spread, Cohort 2 dialed in on the instructor’s role in extending belonging as well as the closely connected role of the instructional designer in modeling belonging for instructors. During the reflection portion of the workshop, participants in Cohort 2 contributed ideas for ways instructors can increase belonging. Qualities such as outreach (“reaching out individually”), feedback, and video (“holding engaging live sessions”) are usually the responsibility of the

instructor. One participant even identified instructor presence itself as a moment of impact. This conversation led to deep discussion around the intentions of the designer and the responsibility of the instructor to execute the design as intended.

Figure 4- 6: Cohort 2 Collaborative Whiteboard



During the discussion of the contributions shown in Figure 4-6, participant Emerson shared a common learning design practice: “With faculty, as we build rapport with them, it gives us a great opportunity to encourage some of these best practices,” in reference to strategies for supporting belonging in online classes. This cohort’s focus on instructors as the primary conduit for belonging within a course caused the learning designers to reflect on their own role in creating belonging between themselves and the instructors they work with. In modeling the behaviors they want to see the instructors practice with students, the designers recognized they had some power in creating and sustaining belonging in a course. As the conversation continued, another participant,

Cameron, specifically identified ways they engage with instructors with the goal of helping them feel like they belong within the design process: “I try to have them collaborate in the process, in my designing process, in a way, ... just to help them belong in that area... help the instructors feel they belong...” By bringing the instructor into the design process, the designer allows the instructor to have some ownership and agency in the experience design. Through this action, the designer has extended the sense of belonging to the instructor.

Belonging is Multifaceted: The Problem with Group Work

Designers in Cohorts 2 and 3 also considered the context of group work heavily in their conversations. Group work is included here to further support the primary finding that learner agency and choice are key design strategies that support belonging. In Cohort 3, participants weighed the impact of shared values as an impacting factor when it comes to belonging. Participant Andy reflected on their experience designing learning activities and the impact of shared values:

“I think, you know, sharing the values of the other people inhabiting that space with you is really important... everyone being in the same kind of situation automatically gives everyone sort of a baseline amount of values [in common], to a certain extent, maybe not with group work...” (Andy, Cohort 3, Workshop Part 1).

Group work seemed to pose some conundrums when thinking about how belonging could affect the functionality of a group. Cohort 2 had rich negotiation around what indicators of belonging could be in the context of a group work setting, which led to

a conclusion that belonging is multi-faceted. The situation the designers posed was based on a whiteboard contribution that read, “Is the instructor getting emails asking to mediate problems in group projects?” In the conversation that evolved from that note, the designers discussed whether this was an indicator that students were experiencing belonging, or a negative that indicates a lack of belonging. Participant Austen summarizes the discussion well: “We always hear how much students and faculty hate group work. But that probably ties into not having a sense of belonging, not having a sense of connection with the people that they could work with...” (Austen, Cohort 2, Workshop 1).

Considering the other factors this research identified as important to sustaining belonging, sustaining belonging in group work settings may be difficult for a few reasons. First, choice and agency were frequently identified as factors that increased belonging in a learning experience. Working in groups reduces, or in some cases entirely removes, choice and agency, as individuals must work together and compromise in order to achieve the objective. Participant Austen also reflects on the nuances of belonging, asking, “Is that a level of belonging because they feel comfortable asking [the instructor] for that support?” indicating that while students may not feel that sense of belonging among one another, they may feel more belonging between themselves and their instructor since asking for support could be a vulnerable moment.

Based on this episode, it seems that belonging can be sustained between students in a course, as well as between a student and the instructor. The parties involved seem to influence what indicates a positive or negative sense of belonging. Thinking back to Cohort 2’s conversation around the potential for learning designers to extend belonging

to instructors, there could be staff-faculty and perhaps even staff-student dimensions of belonging to be examined as well.

Finding 3: Belonging is intertwined with other best practices

As the literature review of this paper demonstrates, there are many practices and pedagogies in existence that claim goals of equity and inclusion. The literature review sought to position these practices as unique from one another, but this research showed practitioners frequently describe many of them as important to sustaining belonging in a design, and when considering design choices specifically to encourage belonging, participants frequently borrowed strategies from within these existing pedagogies. Table 4-3 below shows the related concepts mentioned in interviews, focus groups, and the collaborative whiteboards. In order to be coded as a related concept, excerpts either explicitly mentioned one of these practices by name or described it without naming it.

Table 4- 3: Mentions of Existing Practices

Concept	# Mentions
Humanizing	4
Inclusive Practice/Pedagogy	3
Universal Design for Learning (UDL)	2
Accessibility	3
Community Building	3
Community of Practice	1

There were many ways participants talked about these practices in relationship to belonging. Some participants cataloged certain practices as part of larger approaches,

such as participant Bryce who described expectation-setting as an “inclusive practice” designed to reduce anxiety and cognitive load in their reflection on strategies for supporting belonging. Sometimes these practices were equated with belonging. Later in Workshop 2, Bryce reflects on the difference, or lack of difference, stating, “This is the part that's difficult for me to separate, this inclusion and welcoming piece from belonging” (Bryce, Cohort 2, Workshop 2). Another participant, Francis, described belonging as one of the goals of “inclusive pedagogy” (Francis, Interview). Similarly, participant Emerson also described inclusive practices when describing an emphasis on the language that is used to community with learners in a designed experience. Here, Emerson points out the impact of the phrase “refer to” in place of “see the.”

“Even in email language is, ‘see the attachment,’ ‘see attached.’ Right? But not all persons see. So changing that to ‘refer to’ honors the fact, the fact that not all people can see, that they may be using a screen reader for this. So it's a more inclusive word than ‘see the resources page,’ ‘refer to’ honors the fact that we have all types of learners plugging in.” (Emerson, Cohort 2, Workshop 2).

Contrary to Francis, who categorized belonging as part of a pedagogical approach, some designers applied existing frameworks in service of belonging. Participant Casey described the goal of creating a “community of practice” to encourage a sense of belonging, which is a discrete and highly researched framework of its own. Following best practices and requirements to proactive meet accessibility needs was also frequently discussed among the participants, which is a goal of the widely known Universal Design for Learning (UDL) approach to learning design. Recall from the

literature review that inclusion and equity for those with specific access needs is a goal of UDL practices.

Some participants described this use of existing frameworks and pedagogies as the foundation for belonging, and implied that belonging can't exist, or would be difficult to sustain, without following these existing principles. For example, one designer explained that practicing UDL strategies could be perceived as a signal to students that their differences are embraced:

“...If somebody has a sense of [that] I'm resolved to be prepared as an instructor to provide as many avenues as possible to make your content accessible to everybody so they feel a sense, they don't feel alienated..”

(Gale, Interview)

As Gale explains, the proactive accommodations prescribed by UDL demonstrate to students that the learning space is one that is considerate of different needs and preferences: “That itself shows a student that, you know, that they, that the instructor is thinking about their well-being and wants them to be an active participant in this class” by ensuring that everyone can participate (Gale, Interview).

This aligns with designers' frequent repetition of the idea that belonging is elicited when learners are acknowledged and accepted for who they are as individuals, and that learners have choices in how they consume content, interact, and demonstrate their learning. While it seems that designers don't currently practice a specific pedagogy of belonging, this research shows they instead assemble a collection of practices and pedagogical approaches to support belonging and consider these strategies as required elements if belonging is a priority.

Research Question 3: How do Instructional Designers Design for Belonging in an Online Learning Experience?

A goal of this research was to better understand how belonging appears in learning designs with a show and tell activity. So far in this work, we have discussed how designers interpret and negotiate belonging. This section will cover the design choices participants made when creating their artifacts. The data presented here include observations from the artifacts as well as analysis from the transcribed design share out sessions. The study showed that designers frequently focused on setting the right tone through the use of specific language that could be perceived as warm and informal; tried to prevent “digital culture shock” by being clear about expectations and norms; and increase learner agency by designing opportunities for students to influence the norms of their courses and provide choices in how learning goals are achieved.

Finding 4: Strategies that specifically encourage belonging

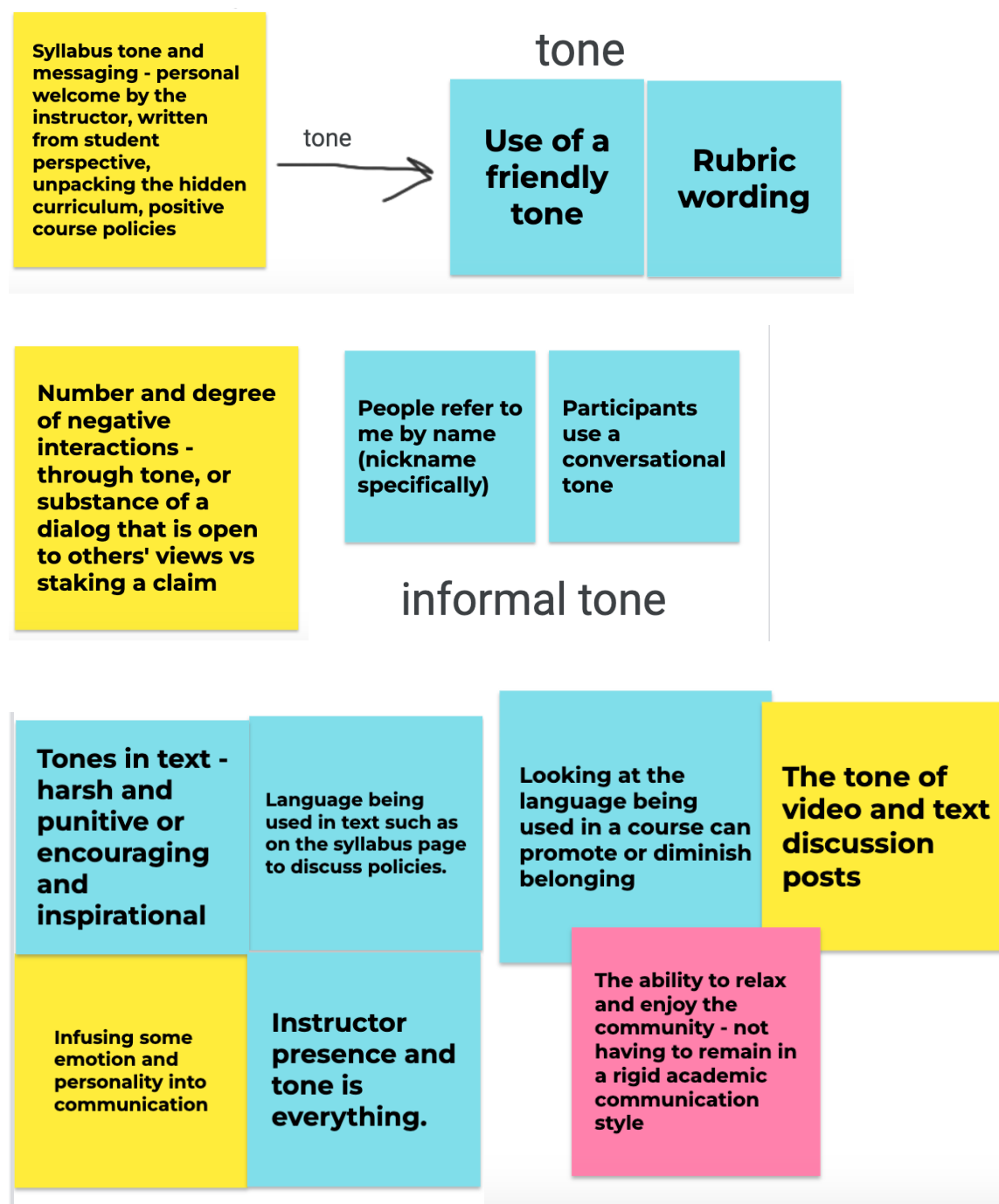
The following section will cover four themes that came through in the analysis, which were collections of strategies that specifically encourage belonging in an online learning experience. These themes were generated from coded artifacts and the conversations from workshops and interviews. Codes were based on the way participants described specific design strategies and their connections to belonging outcomes.

Theme 1: Language and Tone

The importance of language and tone was nearly unanimously discussed by every participant. Many participants expressed deep reflection and intention in the words they used in their designs, and also evaluated the language and tone of the words instructors and students use as well. In this section, I will discuss the elements of a design that participants most frequently talked about the impact of language, tone, and voice. I will also share examples of the language and tone used in the artifacts participants created.

Participant Emerson's example of careful attention to inclusive language was discussed above, but there were other ways designers leveraged language and tone to support belonging in their artifacts. Designers were particularly attuned to the impact of language in rubrics and in welcome messages. The participants emphasized the importance of using language that is "encouraging and inspirational" rather than "harsh and punitive" (Cohort 2, Workshop 1), which could also be described as asset-based language. This contribution on the collaborative whiteboard appeared multiple times, as shown in Figure 4-7, calling out instructor communications and feedback as additional sites where language, tone, and voice could impact belonging.

Figure 4- 7: Collaborative whiteboard contributions coded for language/tone/voice



When sharing their artifact, depicted in Figure 4-8, Blair discussed the language used to write the assignment prompt specifically. Blair explains: “Whenever I am writing something that is meant to be seen by a student, I always try to write it in my own voice.

And I'm very sort of conscientious about that and understanding that my voice is more casual," (Blair, Cohort 3, Workshop 2). Indeed, the casual tone can be observed in the prompt Blair submitted, included in the figure below.

Figure 4- 8: Blair's Introductory Activity

Introduction Discussion Board Prompt (Class Playlist):

In online courses, it can feel difficult to connect with members of our class community. Introduction boards are one way we can get to know each other as real live human beings, and find some commonalities and connections that we can build on together throughout the semester.

In the spirit of getting to know each other as people, please share a song that means something to you. Maybe it's just a song you like, maybe it's a song that gets stuck in your head, or makes you think of someone you care about. You could choose a song from a favorite artist, or something that you associate with a special time in your life. Please feel free to disclose at a level that's comfortable to you. It's totally fine to just play one of your favorite songs!

You can share a link to a song that's online on any easily-accessible platform (Spotify, Youtube, Bandcamp, Apple Music). Describe why you chose the song and why it's personally meaningful.

Find some common ground with at least two classmates and respond to their song and explanation. Why did you like a certain song? Does it make you think of something in your own life? Maybe someone chose a song for the same reason you did!

I'll compile all our songs into a class playlist that I'll share with everyone as a memento of our time together.

Blair described their writing as casual, which aligns with the whiteboard contributions above that identified an informal tone as one way to encourage belonging online. This artifact is also an introductory activity, which would appear at the beginning of a course according to Blair. This choice aligns with additional findings about the beginning of a

learning experience being a critical time for promoting belonging, which will be discussed later.

Participant Austen’s artifact, depicted in Figure 4-9, offers another use of language and tone, communicating commitment to responding to students’ needs. Phrases like “we will strive to respect” and “we can work together” position students as part of a whole class. Austen confirms the intention behind the wording, explaining in their share out: “[I’m] really tailoring those syllabus statements to the subject matter and also the individual faculty member and the community that they're trying to create” (Austen, Cohort 2, Workshop 2), specifically linking the language to an intentional strategy of creating community in service of belonging.

Figure 4- 9: Austen's Intentional Statements

Nutrition 101

Syllabus Statement

Trigger warning: Nutrition courses sometimes trigger emotional responses for students due to food insecurity or eating disorders. Please reach out to me if you have any concerns or questions and we can work together to modify assignments to fit your needs.

Inclusion Statement: We have a student body full of rich cultural and ethnic diversity whose experiences with nutrition and food vary widely. In this course, we will strive to respect and explore the dietary experiences of multiple cultural backgrounds. I am committed to creating an inclusive environment in my class where a diversity of ideas and values is welcomed and considered necessary for success. My class is a space for everyone to be heard and supported.

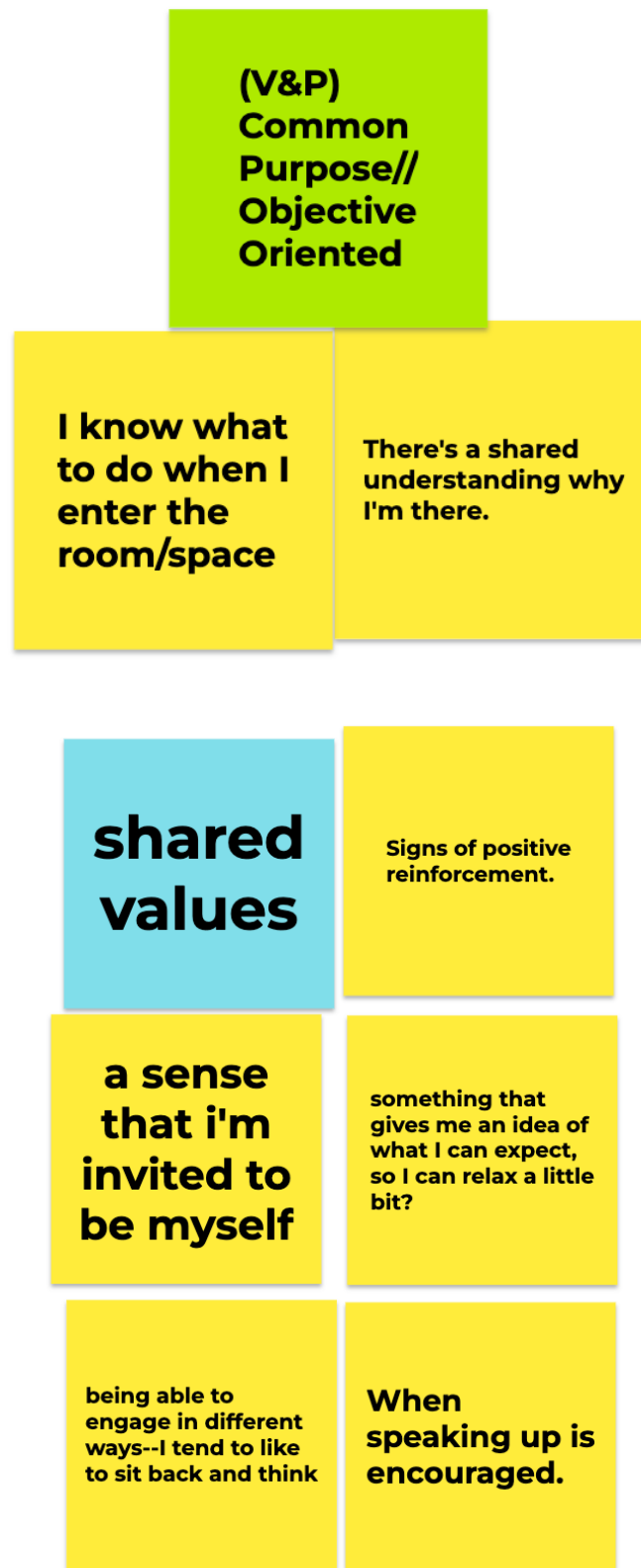
Language was also a factor for Gale when they were reviewing an artifact. In their interview, Gale reflected on the ways some language can be intimidating for learners who

are new to a discipline, particularly when communicating objectives which are often written in a formulaic way. Gale explains, “When you (*sic*) talking about, like, I guess learning objectives... [it is] a very complex learning objective to meet to begin with,” (Gale, Interview). Gale goes on to discuss how the formality of learning objectives can put “stress” (Gale, Interview) on learners who aren’t experienced at interpreting them.

Theme 2: Designing Opportunities to Prevent “Digital Culture Shock”

Participants also honed in on the importance of making expectations clear for learners as a means to reduce anxiety and increase belonging, as Figure 4-10 shows. Designers identified multiple strategies, such as specific ways of writing syllabi, to using module introductions and “How to Be Successful” pages in courses to communicate expectations. Expectations were not limited to late work and Netiquette policies, but encompass “the norms of a space” (Andy, Cohort 3, Workshop 1) like welcoming respectful disagreements and “what we hope to get out of” activities and assessments (Blair, Cohort 3, Workshop 2).

Figure 4- 10: Whiteboard contributions about expectations



One specific design choice that exemplifies clarifying expectations was provided by Casey, who utilized a “Procedure Summary” that appeared after the assignment description to fulfill this important belonging strategy. Figure 4-11 depicts Casey’s Procedure Summary.

Figure 4- 11: Casey's Procedure Summary

Procedure Summary

1. Clearly state what you aim to achieve with this activity. For example, enhancing communication, fostering trust, or establishing common ground among team members.
2. Write a description of the scenario for your activity. Be sure to incorporate an aspect of your own cultural, age, or experiential background into the scenario for authenticity.
3. Create an outline of instructions and technology requirements for the activity.
4. Write a one-page reflection:
 - a. Describing how the activity incorporates aspects of your own culture, age or experiential background.
 - b. Explaining how your activity will be inclusive of various cultural, age, and experiential backgrounds.
 - c. Describing how you will measure the success of the activity in achieving its objective and fostering team building.
 - d. Describing how the scenario [relates](#) to sociocultural learning theory.
5. Post your activity to the assignment discussion board for peer review.

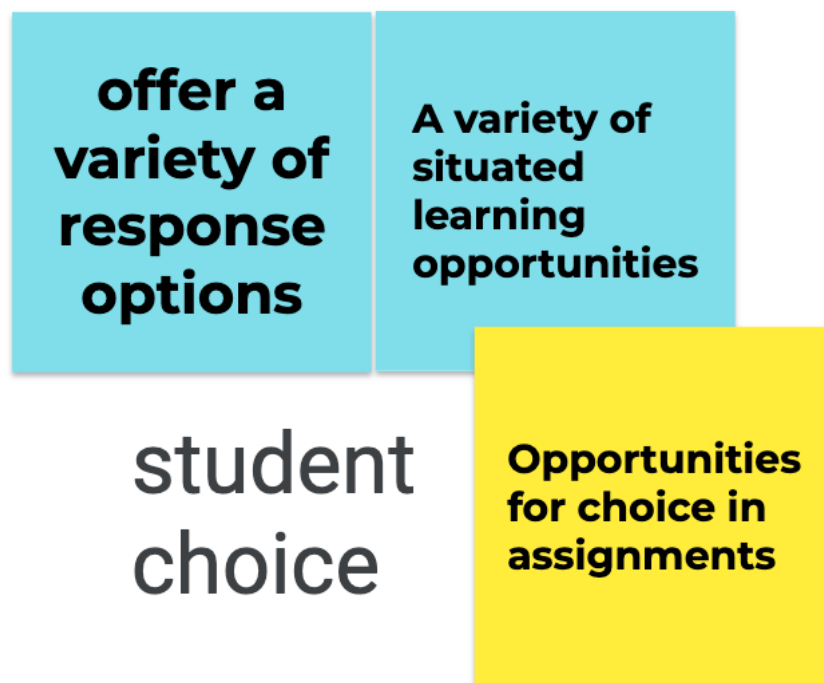
Emerson shared an example of a course page that is included in all the courses they work on titled “How to Be Successful” (Emerson, Cohort 2, Workshop 2). On the page, Emerson points out expectations around estimated time to spend in the course and explains that “we also go further into expectations here about discussions, live sessions, group work, written assignments and productive dialogues, which I think helps with the belonging piece,” (Emerson, Cohort 2, Workshop 2). This is an important example of sharing expectations about the norms in a course. Another participant, Andy, pointed out

that learners sometimes don't know what the norms in a course might be until they unintentionally break them (Cohort 3, Workshop 1). Andy used the phrase “digital culture shock” to describe the experience of students starting a new online course every semester, and explained that communicating about expectations helps lessen the shock.

Theme 3: Encouraging learner agency

Designers believed that when students participate in determining the expectations and norms, they may experience an increased sense of belonging. Coded as “ownership” in the analysis, concepts like agency and choice frequently arose in the workshops and interviews as strategies for supporting belonging. Figure 4-12 depicts a sample of whiteboard contributions related to this theme.

Figure 4- 12: Whiteboard contributions about learner autonomy



During Workshop 2, Bailey shared how they considered specific features of a tool in order to support agency in a reading activity. Bailey’s artifact is a design for a book club approach to readings. The tool they used is Perusall, and according to Perusall’s website, it is “an online social annotation platform” (Perusall, n.d.). Bailey explains how the tagging feature in Perusall allows learners to create their own categories and have discussions with others in the class who are using similar tags. This customization gives learners some agency in the reading activity.

“So as [learners] create tags, then [they] can also create a curated list, almost of topics that come up. And as people are interested in that topic, they can then come back to that. But also the add function helps you to have conversations with specific people or with a whole group in some

way. So that was something that we intentionally encouraged to not just add your thoughts to it, but then intentionally respond and engage with others.” (Bailey, Cohort 2, Workshop 2).

The identification of this feature to serve a specific purpose of supporting belonging exemplifies the way learning design professionals consider a priority, in this case, providing some aspect of choice and flexibility in a space; and making a design choice to employ specific features of educational technology tools to try to fulfill that priority.

An additional example of an explicit design choice to support learner agency was described by Alex. Alex talked about the idea of establishing rituals during workshop 1, and embedded the concept in their design, which depicted an activity specifically for determining norms as a class. In the design, Alex employs a virtual reality tool called Spatial as the location for interaction in the class, and the activity is an opportunity for learners to explore and determine together how they will use the VR space to achieve the stated learning objective.

“So something that I was thinking about on this is that. To a certain extent. If you bring in a diverse body together, you do not have a preconceived group. So you have to create belonging within that group through the establishment of shared ritual and understanding. So I think it's really important from the onset that students partake in that.” (Alex, Cohort 1, Workshop 2).

Alex embraced the speculative aspects of the prompt and took on the challenge of designing specifically for belonging in every design choice, imaging a future where VR

has advanced enough to “remove the distance that we have with digital learning now” (Alex, Cohort 1, Workshop 2). Alex also discusses the potential for Spatial, and VR tools like it, to allow students more choices for how to demonstrate their learning.

“Students can generate their own [VR] spaces and then share them out as well, which I think also helps create their own understanding of how to manipulate information, objects, artifacts as an instructional device. And that really, I think, helps to kind of reestablish how a flipped classroom should feel” (Alex, Cohort 1, Workshop 2)

Interestingly, these two designers were the only participants who utilized specific features of technology tools in their artifacts and verbalized direct connections between the use of these features and how they supported belonging.

Opportunities for autonomy were also identified by participant Gale in an interview where they reviewed some designers’ artifacts. In interviews, participants were asked to think aloud while reviewing an artifact. Gale, when observing the deliverable for a colleague’s activity design was a written paper, pointed out that an improvement to increase belonging could be to offer options. “If somebody is daunted by writing, they’re going to probably not want to engage at this point,” Gale said in the interview. What Gale describes is related to a finding that one group of scholars have identified when conducting research with students about belonging uncertainty in online learning settings. Students’ writing self-efficacy was linked to sense of belonging (Naidoo, Quaynor, & Shen, 2023). Based on Gale’s reflection about the singular option of a written deliverable, it seems they were describing that design choice as a moment that could introduce belonging uncertainty.

In summary, design choices that encouraged learner agency were popular strategies for supporting belonging in participants' artifacts. Even participants who reflected on others' artifacts talked about the lack of choices as an anti-belonging practice. Conclusions from one study on graduate students' sense of belonging online aligns with what designers in this study claim as well: designing experiences that give learners agency, options, and opportunities to set norms and expectations can support students' sense of belonging online.

Theme 4: Technology design can influence belonging

Additional design choices participants intentionally described had to do with the visual and organizational aspects of online spaces. Participants discussed existing concepts linking color to emotional responses as supportive of belonging; for example, considering the emotional impact of the color red as potentially negative and blue or green as more positive. Another participant described the organization of the first page learners see in the tool they used to design their artifact. Bailey discusses their perception of the opening page: "...it seems very businesslike. And so just aesthetics. I was like, okay, this might not be necessarily what I would want [learners] to see the first time they open up this learning space" (Cohort 2, Workshop 2), indicating a desire to control the space and change it based on design priorities.

Andy in Cohort 3 discussed similarities in how the layout of a course page can communicate intentions, similar to how furniture is used in physical spaces to communicate how to use a space. Andy explains that "a place to sit down means typically you're welcome to spend time in that space. If there's nowhere to sit down, typically they

don't want you in there for very long” (Workshop 2). Francis also alluded to this idea during their interview, when considering the design of traditional discussion forums in comparison to another tool, Discord. When asked to elaborate on the ways Discord’s design better supports belonging, Francis explained:

“[Discussion forums are] teacher owned – like the control is on the instructor, and so, like, just starting it out. Like out of the gate, I feel like there's an element of non-belonging there... You can create like discussion threads in the Discord as a regular user. Which you can't usually do in a discussion forum in the way that most instructors set them up.” (Francis, Interview)

Francis is describing the way the functions of traditional LMS-based discussions can constrain the type of activity that occurs there, which can in turn influence belonging.

Finding 5: Critical Moments of Belonging in Learning Designs

In addition to describing specific strategies for encouraging belonging in online learning settings, participants also identified some critical moments where belonging could be impacted the most. In some instances there is natural alignment between the moment of application and the strategy being applied, such as setting expectations at the beginning of a course, or using warm, informal language in the welcome page. But I introduce the idea of “belonging maintenance” which refers to the specific designed opportunities to influence belonging throughout a course experience.

Moment: The Beginning

It was undeniable that the beginning of a learning experience is a crucial moment for setting up a sense of belonging among a class. “Digital culture shock” has already been discussed in this paper, and the beginning of a course is a prime moment for learners to feel that shock, or begin to question themselves in ways that lead to belonging uncertainty. Syllabi, welcome pages, module introductions, and rituals for convening online synchronous meetings were all offered as moments for encouraging belonging through the application of specific strategies.

Moment: Belonging Maintenance

Based on the conversations that took place during the workshops, it was clear the designers believed belonging was something that needs to be attended to throughout an experience. As Blair puts it, “A lot of [belonging] has like a sort of temporal element, right? Your first day is very different than your 15th day, and so I’m trying to also think about what was different in that first and that 15th day” (Cohort 3, Workshop 1).

Routines that were once new become established practices, and based on participants’ understanding of belonging, those who do feel a sense of belonging seem to take on more responsibility for maintaining it through the language used in communications, such as student discussion posts and other interactions like peer review activity; and instructors’ language and tone when providing assignment feedback and conducting frequent outreach to students (Collaborative Whiteboard, Cohort X). Opportunities to continue supporting learners’ agency can be provided in the form of feedback requests through surveys about the state of affairs in the course.

Moment: Belonging Aftercare

This concept of “belonging maintenance” is tied to another frequent contribution on collaborative whiteboards from all three cohorts, characterized in Figure 4-13, and also mentioned in participant interviews about the end of an experience and the importance of design, and what practices can encourage learners to return. The goal of incorporating these “aftercare” (Francis, Interview) strategies is to sustain belonging during the individual moments of an online learning experience. Creating communications that summarize or commemorate what’s been accomplished so far and setting up what comes next is one strategy. Whiteboard contributions from multiple cohorts suggest setting up specific spaces for continuing discussions and keeping in touch outside the experience, and inviting feedback about the experience.

Figure 4- 13: Whiteboard contributions about continuation



Moment: Preparation

While not explicitly called out by the designers in this study, the process of organizing my findings into the framework of these “moments” uncovered an additional moment that is important to acknowledge: Preparation. This moment occurs before the

experience convenes, and would incorporate all of the design work and critical reflection that goes into the creation of a learning experience. In fact, all of the practices that were undertaken by participants for this study could be considered preparation for supporting belonging in an experience. The preparation moment also includes the strategies for modeling belonging behaviors for instructors and faculty mentioned in Finding 2. Table 4-4 summarizes the four critical moments.

Table 4- 4: Critical Moments of Belonging

Moment	Strategies
Preparation	• Designing the course • Selecting technology tools • Designing opportunities to enact and sustain belonging • Modeling belonging for partner faculty
Beginning	• Formal welcome/acknowledgement • Develop learner agency • Establish and communicate norms • Use warm, friendly, informal language
Belonging Maintenance	• Use warm, friendly language when providing feedback • Frequent instructor to student outreach • Seek continuous feedback from students • Incorporate student feedback
Aftercare	• Provide space for continued connection • Encourage learners to return to or continue their learning journey • Provide takeaway materials summarizing or commemorating what was accomplished

In some ways, the ebbs and flows of belonging throughout a learning experience can be compared to a plane's flight. First, a pilot must undergo intentionally designed preparation experiences before they can commence their first flight. Getting the plane in the air is crucial for a successful flight, much like hitting the right notes in the beginning of a learning experience is crucial for belonging to take hold. While in flight, pilots need

to apply specific skills based on factors like weather, wind speed, and other air traffic, just like belonging requires the application of different strategies in order to be maintained throughout a course. And then at the end of the flight, it's time to execute a safe landing and invite passengers to fly with the airline again. The end of a learning experience provides a similar moment to act intentionally to sustain belonging with the goal of encouraging learners to remain connected, and come back to continue on with their educational journey.

Summary

In summary, I designed this study to explore the ways instructional designers think about and design online learning experiences to explicitly encourage belonging. In addition to gathering data for this under-researched subject, I also wanted to provide an opportunity for instructional design professionals to gather and discuss practice and potentially expand their networks. I employed a speculative design prompt to encourage the participants to think beyond the constraints of their day-to-day work contexts.

Participants successfully envisioned alternative futures for themselves when considering their design artifacts. Some imagined futures where technologies that are still being refined today, such as virtual reality, are more prevalent and accessible to the everyday learner. Others imagined futures where they were in the role of instructor, giving themselves the power to execute their designs exactly as intended.

The instructional designers in this study interpreted and negotiated belonging by first identifying what student outcomes they felt were indicative of sense of belonging. Using those behaviors, the designers worked backwards to identify and refine design

strategies to further encourage those outcomes as they shared their design artifacts with their cohorts. The designers in this study often pointed to existing design approaches, such as Universal Design for Learning and inclusive design as required foundational steps before delving into more targeted strategies for encouraging and sustaining belonging in online learning.

By analyzing these conversations and the artifacts, I was able to conclude that designers think about belonging as discrete actions that their designs need to support. Through their design work, instructors and students can enact and sustain belonging throughout a learning experience. They also view their work with faculty as an important step in encouraging belonging by modeling practices for partner faculty so those faculty can in turn practice these actions with students.

Four design practices for supporting belonging were identified through this work. Careful attention to the language and tone of written communications in the experience, such as email, discussion board posts and assignment feedback, needs to be paid. Language should lean more towards informal, and convey a friendly, warm tone. Next, designers should pay attention to opportunities for reducing the impact of “digital culture shock” by making sure expectations for completing coursework and interacting with others, including the instructor, in the course are clear. Related, designers should look for ways to encourage learner agency in the experience, particularly when determining class-wide norms for how interactions should be. And finally, designers need to pay attention to the technology design when creating learning experiences. The tools, colors, and organization of spaces all play important roles in communicating desired outcomes to

students. It is important to be aware of whether those tools and spaces are aligned with goals to support and grow a sense of belonging.

Finally, four “Critical Moments” or phases during which explicit belonging-focused actions should occur were identified. The first is the Preparation phase, which occurs before an experience begins and includes much of the instructional design work discussed in this paper. Next is the beginning of an experience, in which instructors should be performing specific actions such as obtaining learner input on norms to encourage learner agency, and communicating expectations clearly in warm, friendly language. The next phase is “belonging maintenance” which occurs throughout the rest of the course, where the work that was done by instructional designers in the preparation phase should allow instructors to continue to sustain belonging through the use of intentionally warm and friendly language in assignment feedback. Students should also be taking up some responsibility for sustaining belonging at this phase, by following through on the norms they ideally helped to establish in the beginning, and providing continuous feedback which their instructor should be seeking. Lastly, the final phase is the “aftercare” during which specific actions to encourage learners to return or continue should be enacted. These actions could include previewing what comes next, providing a means for learners to stay in touch beyond the confines of the initial learning experience, and providing some takeaway materials that learners can refer back to that summarize what they achieved.

Chapter 5 Discussion

Summary

This practitioner inquiry attempted to uncover the ways instructional design professionals make design decisions to support specific design priorities, namely belonging. Belonging is an increasingly important construct in online learning due to existing scholarship which shows how students' sense of belonging is linked to successful outcomes for students (Walton & Cohen, 2007; Binning et al., 2020; Naidoo, Quaynor, & Shen, 2023; Peacock et al., 2020). Since instructional designers can influence the design of online learning experiences, it is important for these professionals to understand and interpret belonging as a design priority in order to ensure belonging is supported in their work.

Speculative Design Activities

This study utilized a speculative design prompt as a means to elicit designers' specific strategies and choices when developing an artifact that promotes belonging. The use of a speculative prompt aimed to encourage participants to imagine alternative futures (Ross, 2019) and ideally allow them to think beyond the constraints of their day-to-day work contexts to design artifacts that support belonging as the number one priority. More than half the artifacts remained within the realm of projected or probable futures (Voros, 2017), but participants' rationale confirmed this was a successful method for allowing participants to consider a future in which they could utilize cutting-edge technologies without today's practical constraints, and take on roles that are otherwise not available to them, such as that of instructor. Participants' speculative thinking may have been limited

by their self-reported lack of familiarity with the practice, or the time constraints placed on the activity due to the research protocol. They may also find it challenging to ignore the constraints of day-to-day work due to institutional cultures that limit instructional designers to roles such as technical support rather than true partners in the design of online learning.

Interpretation and Negotiation of Belonging

This study primarily aimed to provide a rich description of the ways instructional design professionals interpret and negotiate belonging. The participants described belonging in ways that, after analysis, can be summarized succinctly as discrete, intentional actions, suggesting that supporting belonging online is a continuous practice that must be attended to. As the findings show, designers were likely to use student outcomes they associated with students' increased sense of belonging as guideposts for their design strategy. The behaviors participants identified included:

- Students initiate subcultures or norms
- Students engage beyond expectations
- Students ask questions
- Students take risks

These student outcomes, particularly those that support students' autonomy, are well-aligned with Goodenow's (1993) definition of belonging, which is used widely in research on students' sense of belonging (Peacock, et al., 2020). The designers then considered specific design choices to support the behaviors they identified, ensuring the design allowed opportunities to either support the faculty or instructor in enacting

belonging-focused practices, or designing activities that allow students to participate in behaviors that will help them develop a sense of belonging.

Belonging was also difficult for participants to disentangle from other related concepts, such as inclusive design, humanizing learning, and Universal Design for Learning (UDL). Some participants questioned whether belonging has been an unintentional outcome of best practices all along. The analysis of data collected during the second workshop in the study later showed that designers utilize these existing design approaches in specific ways to support belonging, and that the use of some of these existing approaches, such as UDL, serves as a signal that the experience was designed in a student-centered, flexible way.

How do instructional designers design for belonging?

To address the question of how instructional designers actually design for belonging, designers shared the results of their speculative design activity with their cohort in a share out. During the share outs, it became clear that there were four main design strategies for supporting belonging that the participants most frequently described when discussing how their artifacts specifically addressed belonging.

First, designers emphasized the importance of a warm, friendly, somewhat informal tone when composing written communications and while recording audiovisual media. They also strove to make expectations clear at every opportunity in an effort to limit the effects of what one participant termed “digital culture shock” (Andy, Cohort 3, Workshop 1), which could also be interpreted as limiting moments where students may experience belonging uncertainty if they are unable to discern what they are supposed to be doing. The next strategy designers used was encouraging learner agency by designing

opportunities for students to provide continuous feedback, participate in the establishment of norms, and give learners choices for how they want to demonstrate their learning. Finally, the last strategy involves acknowledging that technology design can influence belonging. This strategy involves ensuring that design choices, such as page organization and any additional tools or plugins that will become part of the learning experience, align with the goal of encouraging a sense of belonging.

Finally, participants identified some critical moments of belonging through their discussions. These critical moments include the preparation, where the actual work of design is being performed, strategies for encouraging belonging are identified, and any partner faculty are invited to collaborate and learn about the intentions of the design. The next moment is the beginning, when the experience convenes, and this is when designers indicate it's important to welcome and acknowledge the students with language that is warm and friendly, and involve the students in establishing some norms for the class, and try to mitigate the impacts of digital culture shock. Next is the belonging maintenance moment, where actions like incorporating student feedback and providing feedback on students' work in a warm tone, should be undertaken by instructors. Additionally, in this phase the design should also support students in taking on some responsibility for sustaining belonging. Finally, the moment of aftercare, which occurs at the conclusion of an experience, should incorporate strategies that encourage learners to return or continue their engagement, connect with others beyond the confines of the learning experience, and offer some sort of commemoration or acknowledgement of what has been accomplished during the experience.

Conclusions

Some conclusions can be made as a result of this research. First, according to the designers, belonging is practiced continuously throughout a learning experience. Belonging is also tied to related concepts like accessibility, cultural awareness, and inclusive design. Finally, belonging may have been one of many outcomes when designers implement best practices for online learning design, but drawing awareness to belonging as a priority caused the designers to reflect critically on their design choices and make specific connections regarding how their choices supported belonging online.

Implications for Instructional Design Practice

One of the goals of this work was to develop recommendations for instructional designers hoping to support belonging in online learning through their work. This research suggests that instructional designers should continue to invoke existing approaches like UDL and humanizing online learning, but be explicit about the ways specific choices support or constrain belonging in the final design.

Instructional designers should also be mindful of the ways their personal practices model belonging for partnering faculty and instructors. When faculty are engaged as true partners, instructional designers can involve them in the design process similar to how the participants in this study indicated students should be involved in defining norms within a course. Using the collaboration with faculty as an opportunity to demonstrate and articulate the ways the design is intended to support belonging can go a long way in supporting instructors and faculty in sustaining belonging with students during an online learning experience.

Instructional designers should also consider the design of the learning experience through the lens of the Critical Moments of Belonging. Practitioners can ask themselves how their design supports the activities described under each critical moment to ensure they are considering all the opportunities to support and sustain belonging.

Implications for Professional Development

Overall, a participatory workshop format was a productive structure for conversation and learning. Since access to professional development opportunities for practicing instructional designers is often prohibited by costs and logistics, designer-led activities focused on singular concepts could fill the gap. Including a show-and-tell activity could be a useful way for groups of professionals to discuss processes in depth and learn from one another.

Implications for Theory

This study supports recent research on instructional designers and their skills as much more than simply technical support (Campbell, et al., 2007). It also demonstrates how instructional design is in fact a highly socially constructed process (Campbell & Schwier, 2019), which is mediated by factors like the prevailing culture of the individual's workplace (Campbell, Schwier, & Kanuka, 2011). The designers who participated in this study largely drew from their own workplace experiences to situate their design approaches when sharing their artifacts with the group. This study also demonstrates that instructional designers, when positioned appropriately within their employing institutions, could feasibly act as change agents who play a pivotal role in

designing learning experiences that encourage learners' sense of belonging online (Campbell, et al., 2007).

In Chapter 2, I introduced the work of scholars Walton & Cohen (2007) and Binning et. al. (2020) whose goal was to reduce learners' belonging uncertainty through specific classroom interventions. Walton & Cohen (2007) hypothesized that historically marginalized learners were more likely to feel belonging uncertainty, and as a result, were less likely to succeed in higher education, and sought to lessen the impact on these students, which Binning et. al. (2020) later built on.

Aside from being focused on traditional face-to-face learners, the other issue I take with this line of research is that these scholars locate the problem of belonging uncertainty within the learners, making it their problem to overcome, rather than tasking the institutions that create environments where belonging uncertainty takes root. My work with the instructional designers who participated in this study takes a different perspective by leveraging practitioners who can use their expertise and positionality to change the learning environment into a more welcoming space that encourages belonging for all students, rather than trying to design interventions that encourage learners to accept belonging uncertainty as status quo.

The ways the participants described belonging in online learning also aligned well with Goodenow's (1993) definition of belonging, particularly on the aspects regarding students' need to feel valued and accepted. The findings of this study that deal with increasing learners' autonomy also align to Goodenow's (1993) description of belonging, which is used in much of the research cited in Chapter 2. In fact, recall that in some studies (Sokolowich, et. al, 2022; Thomas et. al, 2014), researchers recommended

designing curriculum specifically to enhance students' sense of belonging. My work extends these recommendations by offering a potential framework for instructional design practitioners who might partner with faculty and subject matter experts in the design of such curriculum. This also further demonstrates the validity of the instructional designer's role as an advocate for the student experience.

Implications for Future Research

There are many avenues for further research based on the results of this study. First, more research into the role of instructional design as a practice is justified given the nuanced insights the participants in this study elicited through their discussions and artifacts. An entire study devoted to critical review of existing designs could yield even more evidence for the ways instructional designers intentionally design to support different priorities and values.

It would also be productive to obtain a student and instructor perspective on their sense of belonging in a course that an instructional designer has intentionally designed to support belonging. A comparative study that investigates students' sense of belonging in a course that has intentionally been given the belonging treatment versus a course that has not could give some quantitative evidence for the impact instructional designers' choices can have on students' sense of belonging.

I also believe it would be worthwhile to further explore the impact of language and tone on students' sense of belonging. Because so much of online learning occurs in text-based formats, the impact of written communication cannot be overstated. As many of the participants in this research observed, concepts like tone and voice in writing are somewhat tied to individual culture. What someone with one cultural background may

perceive as warm and friendly, someone with a different cultural background may perceive the lack of formality as negative. Students' own capability in reading comprehension may also be a factor when considering the impact of language, tone, and voice in online learning, making this a rich potential topic of future study. It could also be productive to explore whether a better distribution of multimodal sources of information in a course lessens the impact of written communication for learners.

Conclusion

In conclusion, this study accomplished the goals it was designed to achieve. Practitioner inquiry often results in updated conceptual frameworks or new ways of thinking about practice, and this study delivered both results in the form of the Critical Moments of Belonging framework, and the four design strategies for encouraging belonging online detailed in the results chapter. In addition to fulfilling the study purpose, this work also provided a participatory professional development opportunity for instructional design professionals to connect and discuss their work. It also provides a rich description of the ways these professionals interpret and negotiate a design priority, and translate that priority into specific design choices.

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Appendix A: Participant Questionnaire

1. Preferred Name
2. Preferred Email address (will only be used for study-related contact purposes)
3. Would you consider yourself...
 - a. Black and/or African American
 - b. Alaska Native or Native American
 - c. Asian
 - d. Hispanic or Latino/a, Latine (LatinX)
 - e. Native Hawaiian or Pacific Islander
 - f. North African or Middle Eastern
 - g. white
 - h. I prefer not to answer
 - i. I self identify as ...(fill in below)
4. Do you identify as...
 - a. Man
 - b. Woman
 - c. Non-binary
 - d. I prefer not to answer
 - e. I self-identify as... (fill in below)
5. What is your educational background?
 - a. High School Diploma/Equivalent
 - b. Some college, but no degree
 - c. Associate Degree
 - d. Bachelor's Degree
 - e. Master's Degree
 - f. Professional Degree
 - g. Doctorate Degree
 - h. None of the above
 - i. I prefer not to answer
6. Which of the follow best describe the college or university you work at? (select all that apply)
 - a. Public
 - b. Private
 - c. For-profit
 - d. Small College (< 2,000 students)
 - e. Medium sized college/university (2,000 - 15,000 students)
 - f. Large university (> 15,000 students)
 - g. Technical College
 - h. Community College

- i. Research University
 - j. Liberal Arts/Religious College
 - k. Non-degree/Special Focus
 - l. Tribal College or University
 - m. Primarily Online
 - n. Primarily Residential
 - o. Other
7. Which best describes the location of the college or university you work at?
- a. New England
 - b. Mid Atlantic
 - c. Southeast
 - d. Midwest
 - e. Great Lakes
 - f. Rocky Mountains
 - g. Plains
 - h. Southwest
 - i. Far West
 - j. Online/Virtual
 - k. I typically describe the location another way (please fill in below)
8. You reside in which time zone?
9. Would you be interested in participating in one-on-one interviews after the workshop series?
10. If you answered "yes" to the question above, please indicate your general availability for an interview:
11. Please indicate your familiarity with speculative design prior to this workshop series.
- a. 1: I've never heard of it
 - b. 2: I have heard of it but couldn't explain it
 - c. 3: I've heard or read some things about it
 - d. 4: I know what it is and can explain it generally
 - e. 5: I have practiced it and could teach it to someone else
12. This study involves participating in two live, online sessions which take place via Zoom. The sessions will be recorded for analysis. You are welcome to turn your camera off, change your display name, and/or choose an image to represent you in the live sessions. Names and identifying information will not be shared beyond the study. Publications that include data from the sessions will have identifying information/imagery removed or obfuscated.
- a. I Understand

13. The workshop series will take place via Zoom. We may use virtual collaboration tools like Miro boards or Google docs. Are there any accessibility requests that could make participating in the study better for you?

Appendix B: Workshop Part 1 Focus Group Reflection Questions

These questions were designed to elicit discussion amongst participants about the concept of belonging and how it influences learning design. The questions were displayed one at a time. Participants reflected individually for 1-3 minutes followed by a 10-15 minute group discussion.

1. How do you know when you belong in a space? (virtual or physical?)
2. What indicators could we look for to measure/observe or assess belonging?
3. What moments do we have in an online learning experience that could impact belonging? (positively or negatively)

Appendix C: Open-Ended Interview Protocol

Open-ended interviews were conducted in two ways: some were treated as follow-up interviews after completing the workshop. Most interviews were conducted in place of the workshop for participants who signed up but could not attend. The interviews were conversational and loosely guided by the following protocol.

For participants who missed Workshop Part 1:

1. How do you know when you belong in a space? (virtual or physical?)
2. What indicators could we look for to measure/observe or assess belonging?
3. What moments do we have in an online learning experience that could impact belonging? (positively or negatively)

For participants who attended the workshop:

1. How has your thinking about belonging in online learning changed, if at all?
2. Describe your approach to designing your artifact.
 - a. Probe: How did the idea of belonging influence your process?

For all interview participants:

I'm going to share another artifact for your review. Take some time to review the design, and feel free to ask clarifying questions. When you are ready, I have some questions about how belonging is encouraged or inhibited in this design.

1. What is your overall impression of the design?
2. What stands out to you, if anything, as something that supports or encourages belonging?
3. What stands out to you, if anything, that might inhibit or discourage belonging?
4. What would you change about this design to make it more supportive of belonging?

Appendix D: Speculative Design Prompt

The Prompt

Imagine a future where online learning environments are the epitome of belonging. In this visionary exercise, you are tasked with designing an online learning experience that fosters a profound sense of belonging for every learner, regardless of their background, abilities, or circumstances.

You might consider the following aspects in your design, or something else entirely!

- **Technological Integration:** How can emerging technologies such as virtual reality, augmented reality, or AI be harnessed to create an immersive and supportive online learning experience?
- **Cultural Sensitivity:** How can the experience honor and celebrate diverse cultures, languages, and perspectives to make every student feel valued and represented?
- **Social Interaction:** How can the experience promote meaningful, personalized interactions and connections among students and instructors, fostering a genuine sense of community while meeting learners' unique needs?
- **Access and Inclusivity:** What strategies can be implemented to ensure equitable access to online learning, especially for underserved populations and individuals with disabilities?
- **Wellness and Support:** How can the platform provide emotional and mental health support, creating a safe space for learners to navigate challenges and thrive academically and personally?

Objective

Mock up an online learning experience for college students that prioritizes belonging as a design goal. Document your process as if you were going to present your design at a conference for instructional designers.

Scope

The mockup should take less than 4 hours of time to generate, depending on how inspired you feel by this exercise! You might think about redesigning an element of a course you've worked on recently, or think of something entirely new that as-yet-unknown future technology will allow for. Be as imaginative as you like.

Inspiration

- Speculative Design Long Explainer:
 - <https://youtu.be/UB9UVHGI6AI?si=OXel-3VzQWdJogSa&t=132>
- Speculative Design Super Short Explainer:
 - <https://youtu.be/67ZsArFWDZc?si=nzUuYNv0siH0GinQ>
- A Speculative Design Project: Stanford's "Open Loop University"
 - <http://www.stanford2025.com/open-loop-university>

- A Silly Speculative Design Example: Moovel
 - <https://youtu.be/E-GHh3tB0p8?si=DmOPuclpZl9wzSU->

Deliverable

The deliverable can be a prototype (ex: an assessment that has been re-designed for belonging, or an assignment), or it could be a fiction narrative or storyboard of how students would interact with the envisioned prototype. We'll share our designs and reflect on our approaches together in our next session.

Vita

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Learning Experience Designer & Researcher

Learning Design Experience

Senior Learning Experience Designer, WGU Labs March 2022 – Present

- Partner with teammates and clients to create effective, evidence-based learning experiences
- Lead learning design projects through the product lifecycle
- Plan and conduct original research such as design-based research and qualitative research
- Conduct user research and testing

Instructional Designer, Penn State College of Arts & Architecture June 2018 – Feb. 2022

- Developed proposals for new courses, recertifications, and general education designations and monitor progress through curriculum proposal system
- Collaborated with faculty to develop courses within the interdisciplinary Digital Media Design online bachelor's degree program
- Maintain School of Visual Arts online courses for both distance and residential undergraduate students
- Partnered with faculty to conduct research in the scholarship of teaching and learning online

Instructional Designer, Penn State Smeal College of Business June 2015 – May 2018

- Designed and implemented new marketing analytics professional certificate for-credit program
- Collaborated with teammates to develop information sessions designed to engage and train faculty regarding new technology tools and pedagogical strategies
- Consulted with residential faculty to integrate digital learning experiences in face-to-face courses

Instructional Technologist, Drexel University LeBow College of Business Dec. 2013 – May 2015

- Facilitated presentations and workshops to increase faculty awareness of current approaches and best practices in online education and application of learning technologies
- Consulted with faculty to develop engaging learning experiences for online and hybrid courses
- Provided LMS support to faculty and students in LeBow College of Business

Instructional Design & Training Consultant, Various Organizations Sept. 2012 – Dec. 2013

- Designed Act 80-qualified online instruction for K-12 teachers using Articulate Storyline
- Provided Tier I & Tier II technical support to 75,000 K-12 teacher, student and parent users
- Used help desk data to prioritize production of video and print-based LMS tutorials
- Presented strategic planning and implementation recommendations to PA school district officials

Education

Ph.D., Learning, Design, and Technology Aug. 2018 – May 2024

Penn State University

- Advisor: Dr. Susan Land
- Dissertation: Designing for Belonging: How Instructional Designers Support Online Learners' Sense of Belonging

M.Ed., Instructional Technology Aug. 2012 – Dec. 2013

Kutztown University

- Advisor: Dr. William Jefferson
- Research Interests: Practical applications of instructional technology

B.S., Secondary Education: English & Communications Aug. 2009 – May 2012

Penn State University

- Minor: English
- PA Instructional 1 Certification