Co-Designing with First-Generation Transfer Students

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Co-Designing with First-Generation Transfer Students

by

Randi Petrauskas Harris

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

Doctor of Education
in
Educational Leadership: Postsecondary Education

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ABSTRACT

Roughly 80% of community college students indicate that they intend to transfer to a four-year institution, 30% of those students eventually transfer, and 13% of those students persist to graduate with a baccalaureate degree. There has been previous research on transfer students and on first generation students, but the intersection of first-generation transfer students is under-reported. Prior research indicates that sense of belonging is an important factor in student persistence to graduation for transfer students. Higher education institutions, specifically four-year public institutions, are positioned to support first-generation transfer student sense of belonging by fostering a “transfer receptive culture.” Recognizing that students are experts in their own experiences, design thinking strategies are employed to co-create services to support sense of belonging; however, the experience of the students who participate in co-design activities has not been researched. The purpose of this qualitative exploratory case study was to understand the experiences of nine first-generation transfer students who participated in co-design of programs and services aimed at fostering a transfer receptive culture at Portland State University. Through observations of co-design sessions, analysis of visual data, and semi-structured interviews with participants, the researcher found that the co-design process engaged first-generation transfer students and enhanced their sense of belonging through validation of their identities and experiences; validation of participants’ identities and life experiences shaped their participation in the co-design process as experts; and co-design of programs and services with first-generation transfer students must include action as part of the process.
DEDICATION

This dissertation is dedicated to my daughter, Sasha. I hope you remain curious, creative, and determined throughout your life. You are capable of amazing things that you have not even imagined yet!
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CHAPTER ONE

College students in the United States take various paths to earn their college degree. The community college system has provided greater access to a wider diversity of students who had previously been excluded (Winkle-Wagner & Locks, 2019). The increase in access has resulted in a greater number of students transferring to four-year institutions to complete a baccalaureate degree (Jain et al., 2020) with the goal of increased social mobility through career preparation and advancement (Mayhew et al., 2016). Completion of a baccalaureate degree leads to greater social mobility over time compared to those who do not complete a degree (Jenkins & Fink, 2015). The annual net income over a student’s lifetime is significantly higher for community college students who transfer and complete their bachelor’s degree at a four-year institution, than for those who do not complete their degree (Jenkins & Fink, 2015). Degree completion is thus critical for transfer students if they are to experience the benefits of social mobility.

According to a 2021 update to Shapiro et al.’s (2017) study on Tracking Transfer, in the Fall of 2021 around 40% of new degree-seeking undergraduate students enrolled in community colleges. Approximately 80% of community college students indicated that they intended to transfer to a four-year institution, but only about one third of those students transferred, and even less completed a baccalaureate degree with six years (Jenkins & Fink, 2015; Shapiro et al., 2017; Skomsvold & Horn, 2011). Furthermore, the U.S. Department of Education (2020) reported that 38% of student enrolled in public two-year institutions were first-generation students. Fewer first-generation and historically minoritized students persist and transfer within the transfer population (Crisp...
& Nuñez, 2014; Jain et al., 2020) which is an issue of equity in baccalaureate degree completion.

Higher education institutions, as well as policy makers and education systems, have worked on developing practices and interventions to increase the number of students who successfully transfer from a two-year college to a four-year institution, as well as baccalaureate degree completion (Xu, Ran, et al., 2018). These practices are informed by theoretical frameworks on student success which have been developed to more accurately address the unique needs of transfer students (Bahr et al., 2013; Jain et al., 2020). Included in these frameworks is a student’s sense of belonging, which has been identified as a key factor in transfer student persistence to baccalaureate degree completion (Ellison & Braxton, 2022; Strayhorn, 2018; Vaccaro & Newman, 2022, 2016). Investigation is warranted into how institutions can create environments that foster a sense of belonging for transfer students, and how centering first-generation transfer students make a difference for the transfer system at large given the significant number of students with these intersectional identities.

**Background**

The Center for First-Generation Student Success defines first-generation college students as a student whose parents did not complete a four-year college or university degree (2020). They also acknowledge that there is nuance to the definition of first-generation and that it is often defined differently across institutions. For example, the U.S. Department of Education defines first-generation students as college students whose parents do not have any postsecondary education experience (Redford et al., 2017). There
is not a consistent definition for first-generation students used in higher education (Center for First-Generation Student Success, 2020) and thus data on transfer and completion rates of first-generation transfer students is not reported specifically; yet there are a significant number of first-generation students who enroll in community colleges. The U.S. Department of Education (2020) reported that in 2011-2012, 38% of students enrolled in public two-year institutions had parents whose highest level of degree completion was a high school diploma. Knowing that 80% of community college students intend to transfer to a four-year institution, first-generation transfer students are a significant population of students for whom rates of transfer and degree completion may be under-reported.

Understanding the experiences of first-generation transfer students is necessary because students who do not have an immediate family member who attended college may experience college differently if they do not have the direct support of someone who has experienced going to college and earning a degree (Byrd & Macdonald, 2005). For consistency, first-generation students are defined as students’ whose parents have not completed a 4-year college or university degree. Continuing-generation students are defined as students who have at least one parent who has completed a four-year college or university degree and may have access to specific knowledge, also referred to as capital, on how to navigate and succeed in completing a college degree (Laanan et al., 2010). The difference in experience of parental support in higher education results in first-generation students being at greater risk of not completing their undergraduate degree than continuing-generation students (Radunzel, 2021).
Hawthorne and Young (2010) found that first-generation transfer students, who transferred from a two-year college to a four-year institution, expressed lower levels of satisfaction with their experience of the four-year institution. Lower levels of satisfaction with various aspects of the four-year institution may relate to lower persistence and graduation rates of first-generation transfer students (Hawthorne & Young, 2010). Studies on the experiences and outcomes of first-generation college students over the past several decades consistently showed that first-generation college students are less likely than their continuing-generation peers to complete their undergraduate degrees within six years (Byrd & Macdonald, 2005; Gibson & Slate, 2010; Radunzel, 2021; Redford et al., 2017). What is missing from national reporting, and in the literature, is an analysis of transfer and completion rates of first-generation transfer students specifically and the experiences that support or hinder their persistence to a baccalaureate degree.

Transferring from a two-year institution or community college, to a four-year institution is known as vertical transfer (Jenkins & Fink, 2015; Shapiro et al., 2017). In the fall of 2021 there were roughly 1.2 million transfer students enrolled in higher education (Fink, 2023). Transfer students experience at least two institutions, and the experiences at both institutions impact their persistence (Jain et al., 2020). The transition from a community college to a four-year institution can be a challenge to navigate as students have to learn different systems, processes, and cultures. This transition being particularly challenging for first-generation transfer students who have to navigate several systems without direct support from parents who have direct knowledge of these systems (Jain et al., 2020).
When reviewing the challenges transfer students face in successfully transferring and completing their degree, much of the literature focuses on the attributes of the students themselves or their previous experiences prior to transferring, yet the transfer process and completion of a baccalaureate degree is influenced and supported by four-year institutions (Bahr et al., 2013; Jain et al., 2020). Four-year institutions can focus on effective strategies for supporting transfer student success such as fostering a sense of belonging. A student’s sense of belonging in an institution is an important contributor to persistence and retention (Yeager & Walton, 2011). Students who feel a great sense of connection, or where their identity is tied to the four-year institution, have shown to persist at higher rates (Talaifar et al., 2021). Jain et al. (2020) speak to the impact of a “transfer receptive culture” and its ability to specifically impact sense of belonging for minoritized students. Transfer receptive culture is “a commitment from the baccalaureate-granting institution to provide the support needed for students to transfer and graduate successfully” (Jain et al., 2020, p. 12). Jain et al.’s (2020) framework of transfer receptive culture is grounded in critical race theory and the role of racism in the vertical transfer process. As such, it centers the lived experiences of students within systems of power that must be viewed through a critical lens that is justice and action oriented (Jain et al., 2011). Institutions have an opportunity to impact student persistence through fostering the development of a sense of belonging among students by creating a transfer receptive culture.

Creating a transfer receptive culture to foster a sense of belonging, is multifaceted as it is developed to address a complicated set of issues that impact transfer students (Jain
et al., 2011, 2020). With a foundation in transfer student success theoretical frameworks, institutions have employed various interventions aimed at improving vertical transfer rates and degree completion. One way to address complex issues, is to utilize design thinking strategies to problem pose and develop solutions with stakeholders (Gilbert et al., 2018). In higher education, design thinking processes engage students as experts in their experience to uncover possible solutions to issues they value and prioritize as needing to be addressed (Gilbert et al., 2018; Haley et al., 2021).

Design thinking is used in higher-education in various contexts to address complex problems (Peck & DeSawal, 2021). Portland State University (PSU) is a public four-year university that has used design thinking strategies in student service design (Haley et al., 2021; Jhaj, 2019). An important facet of using these strategies is the inclusion of stakeholders as co-designers (Haley et al., 2021). While literature on design thinking in higher education speaks to students as stakeholders (Haley et al., 2021; Jhaj, 2019), there is less known about the impact of participating in the design thinking process on the students themselves. The known use of design thinking strategies, specifically in service design, makes PSU a unique environment in which to investigate how the use of design thinking strategies impacts the students who participate as co-designers in the process.

**Purpose of Study and Research Question**

Challenges and opportunities for support of transfer students and first-generation students is known, but less is known about the intersection of first-generation and transfer students. Four-year institutions who are working to develop a transfer receptive culture to
support the persistence to degree completion of first-generation transfer students can make an important contribution to the literature on first-generation transfer students enrolled in higher education. The practices they employ, such as design-thinking with students, may provide insight into how sense of belonging can be fostered to support persistence to degree completion.

Portland State University is an urban, public four-year institution in the Pacific Northwest. Close to 58% of the degree seeking undergraduate students at Portland State are transfer students (C. Watkins, personal communication, May 2, 2023). The significant transfer student population has led to the development of services and programs to support their enrollment and persistence. One of those services is the Transfer & Returning Student Resource Center. The design of the Transfer & Returning Student Resource Center was informed by design-thinking strategies utilized during the redesign of Advising & Career Services at Portland State (Jhaj, 2019). There are five full-time staff who work in the Transfer Center, and there are also roughly 10 student employees who work in the center part-time.

Just over 48% of transfer students who enrolled at Portland State in the 2022-2023 academic year identified as first-generation college students, and 44% identified as a race/ethnicity other than white (A. Garrity, personal communication, May 16, 2023). Recognizing the diversity of transfer students at Portland State, the Transfer Center staff utilized Jain et al.’s (2011) transfer receptive culture framework when initially designing their programming and services. They also utilize design-thinking strategies to engage students and other staff and faculty in developing new programming and services. The
context of Portland State University’s Transfer & Returning Student Resource Center made it a unique site for a case study of co-design with first-generation transfer students.

The purpose of this study was to understand the experiences of first-generation transfer students who participated in co-design of programs and services aimed at fostering a transfer receptive culture at a four-year public university. The study discovered how students experience sense of belonging and elements of a transfer receptive culture, and identified recommendations for public higher education practices to improve first generation transfer student persistence and completion. This research project is a qualitative exploratory case study of first-generation transfer students who participated in a co-design process of transfer programming and services for Portland State University’s Transfer & Returning Student Resource Center. The study involved a review of documents and visual artifacts from the co-design process, observation during the co-design process, and interviews with the co-design participants. A constructivist approach was used to explore meaning making of students in regards to their experience as first-generation transfer student co-designers.

The research question for this study was: what are the experiences of first-generation transfer students who participate in co-design of programs and services aimed at fostering a transfer receptive culture at a four-year public university?

**Significance of Study**

The experiences of first-generation students and the experiences of transfer students have been explored in the literature, but there has been less published research on the intersection of first-generation transfer students. Understanding the
intersectionality of this historically underrepresented population of students can lead to a better understanding of how to foster supportive environments for their success.

Similarly, there has been some research on design-thinking in higher education (Costa, 2017; Jhaj, 2019; Peck & DeSawal, 2021) but there has not been research on the impact on students who participate in co-design of services in higher education. Much of the literature has focused on use of design-thinking with in the classroom (Peck & DeSawal, 2021), but much less on students who are participating in broader design of student success efforts at universities. To begin to address this gap, this research study explored the experiences of first-generation transfer students who were involved in co-design of services using design-thinking strategies. The study has implications for future practice and research on transfer student persistence and graduation, and how four-year institutions can design environments that support sense of belonging and support first-generation transfer student degree completion.

**Organization of Dissertation**

Chapter Two is a review of the literature on transfer students and student success theoretical frameworks including: sense of belonging, capital, student validation and development, campus climate, and critical race theory in education. Literature on transfer receptive culture and design-thinking as foundational frameworks for the exploratory case study are examined, and a lens for understanding first-generation transfer student experience is provided. In Chapter Three the purpose of the research, as well as the methodology for the single exploratory case study of co-design of first-generation transfer services at Portland State University is detailed. Chapter Four describes the
themes that emerged from the data-analysis, and in Chapter Five the key findings from the research as well as recommendations for practice and future research are discussed.
CHAPTER TWO

To better understand the landscape of transfer student experience, it is important to look at the literature on college student success and the ways in which it has evolved and been refined over time. The refinement has focused on specific student groups who have unique attributes and circumstances, such as transfer students. In the following literature review, the focus will be on the important aspects of the student experience that impact vertical transfer of community college students to four-year public universities, and ways of understanding these elements specifically for first-generation transfer students. Theoretical frameworks of sense of belonging, capital, student validation and development, campus climate, and critical race theory are explored to provide context for the application of “transfer receptive culture.” Transfer receptive culture is the main theoretical framework used to explore transfer student experience and how transfer student sense of belonging is multifaceted and impacted by complex systems.

Transfer receptive culture as a framework draws on the need to engage communities when working to problem pose and generate solutions. The literature on design thinking and design in higher education are discussed to present how co-design is used in higher education to generate solutions to persistence and degree completion challenges. Finally, a critique is offered revealing the need for a unique approach to understanding transfer student experience in order to impact their sense of belonging to support their persistence to graduation through the transfer process.
Transfer Students

The National Center for Education Statistics (2021) reported that there were 1.2 million undergraduate degree-seeking students enrolled in the fall of 2021 who transferred in from another institution. Comparatively, according to the Community College Research Center’s public dashboard, there were 5.7 million students enrolled in community colleges in the fall of 2021, which represents 41% of all undergraduates (Fink, 2023). This is significant knowing that a majority of community college students indicate an intention to transfer to a four-year institution to complete a bachelor’s degree (Jenkins & Fink, 2015; Shapiro et al., 2017).

Community colleges have increased access to higher education for both historically minoritized students as well as students who are socioeconomically disadvantaged. Increase in access is an opportunity for an increase in socioeconomic mobility (Bahr et al., 2013). Therefore, community colleges play an important role in bachelor’s degree attainment given the number of students who intend to transfer to a four-year institution to earn a baccalaureate degree, especially minoritized students, and the potential to increase future earnings and socioeconomic mobility (Gunderson & Oreopolous, 2020; Ma et al., 2019).

Many historically minoritized, or underrepresented, and socioeconomically disadvantaged students begin their higher education at community colleges (Hagedorn, 2010). More American Indian or Alaskan Native, Black, and Hispanic students were enrolled in community colleges than at four-year public institutions in the fall of 2021 (Fink, 2023). While there are more underrepresented students in community colleges,
more white students ultimately transfer to four-year institutions annually than other underrepresented racial groups (Jain et al., 2020). Even though community college enrollment has increased the diversity of students who access higher education, successful vertical transfer and degree completion rates have not remained equitable across racial and socioeconomic groups (Crisp & Nuñez, 2014; Shapiro et al., 2017). Cahalan et al.’s (2021) report on Indicators of Higher Education Equity in the United States showed there was a 34% difference in bachelor’s degree attainment by age 24 for dependent family members for families in the lowest income quartile (6%) and the highest income quartile (40%). The difference in 2019 was 49% for families in the lowest income quartile (13%) and the highest income quartile (62%).

The disparities in transfer and degree completion rates are rooted in the history of higher education in America, which includes both community colleges and four-year institutions (Smith et al., 2002; Wilder, 2013). These institutions were founded on exclusionary practices that historically kept students of color and women from accessing higher education. While there has been significant progress in dismantling oppressive policies and practices, institutions continue to privilege white, upper-class, heterosexual, cis-gender, Christian, able-bodied men (Smith et al., 2002) who graduate at higher rates than their minoritized counterparts. The historic exclusion of students of color, and the more recent increase in access to education for students of color, has resulted in more first-generation students of color enrolled in higher education (Center for First-Generation Student Success, 2020).
While there is a difference in college completion rates for historically minoritized and first-generation students, it is important to acknowledge that there are many successful first-generation and minoritized college students. Understanding what factors have contributed to their success is useful in understanding how to create environments that support the success of greater numbers of first-generation students. First-generation college students have many assets that prepare them to be successful in college. For example, Byrd and McDonald (2005) found in their study of first-generation transfer students, that through work and family experiences, they had gained skills in time management, development of goals, and self-advocacy which were seen to be essential skills in navigating and completing an undergraduate degree.

Baccalaureate degree completion is the focus of much of the literature on transfer students (Bahr et al., 2013). As stated previously, transfer to a four-year institution and completion of a bachelor’s degree is the goal of most community college students when they begin their education (Jenkins & Fink, 2015; Shapiro et al., 2017; Skomsvold & Horn, 2011). Student characteristics and the experiences of students at the community college are often explored in the research on transfer. Yet, if completion of a bachelor’s degree is the goal, transfer needs to be explored from the lens of four-year institution and the experience of students in the transfer process to the four-year institution (Bahr et al., 2013). Bahr et al. (2013) examined the concepts related to vertical transfer that impact transfer student degree completion: academic performance, integration, involvement, environmental pull, capital, and transfer receptivity. These concepts show up across the literature affecting transfer students, and are derived from foundational student success
theories that center student experience of institutions as a significant factor in persistence to degree completion (Bahr et al., 2013).

**Foundations of Transfer Student Success**

Student success theories proposed by Tinto (1975), Astin (1984), and Kuh (2009) served as formative frameworks in the study of persistence and degree completion of college students. Tinto (1975) and Astin (1984) focused their theoretical models on the influence of student involvement and engagement and integration to the college campus. Kuh (2009) broadened the conversation on engagement to include the work of student affairs professionals and organizational culture in fostering environments that engage students in high impact practices. Critiques of these frameworks center around the lack of acknowledgment of how the systems of higher education were developed for privileged white male students, and that the increase in diversity of students, specifically racially and their socioeconomic status, had not been sufficiently accounted for when developing their models of persistence (Mayhew et al., 2016). They also focused on ways in which students needed to integrate with and adapt to a college or university and separate from their home communities, which is problematic for students with strong cultural communities. There was a need for a deeper focus on the roles of people within institutions to create environments that supported the success of underrepresented students.

One recent contribution to the literature on college student persistence made a specific connection of student experience of an institution’s commitment to their welfare (Braxton et al., 2013). Braxton et al. (2013) explained that commitment to student
welfare is expressed as perception of institutional integrity through the actions of administrators, faculty, and staff as well as policies and programs. Students subsequently have a greater sense of commitment to the institution, which is posed as a significant factor in persistence to degree completion. Therefore, four-year institutions have a critical role in supporting student persistence by focusing on student experience (Braxton et al., 2013; Jain et al., 2020). There was a shift in focus from students needing to integrate and engage with a campus (Astin, 1984; Kuh, 2009; Tinto, 1975) to how campus environments could be shaped to recognize and support the experiences of the diverse students they served (Braxton et al., 2013).

Ellison and Braxton (2022) provided a revised theory of student persistence that included sense of belonging. They asserted that sense of belonging is important to incorporate more explicitly into the previous theoretical model, as sense of belonging is a predictor of student persistence and success. In their revised model, they specified that sense of belonging has two forms for commuter colleges and universities: institutionally anchored sense of belonging and sense of belonging anchored in shared purpose. In their model for commuter colleges, they specifically indicated that institutional commitment to student welfare is a precursor of institutionally anchored sense of belonging. Sense of belonging anchored in shared purpose is found in their model as an antecedent of academic and intellectual development, which stems from organizational characteristics such as institutional commitment to student welfare (Ellison & Braxton, 2022). For residential colleges, their revised theory focused on peer-anchored sense of belonging that is an antecedent of social integration, which is formed through institutional
commitment to the welfare of students, institutional integrity, communal potential, proactive social adjustment, and psychosocial engagement (Ellison & Braxton, 2022). Even across institutional types, the multidimensions of sense of belonging for students are impacted by ways in which they perceive higher education institutions being committed to the welfare of students (Ellison & Braxton, 2022).

Frameworks and theoretical models for student success are foundational to understanding transfer student success. They evolved over time to include the growing diversity of historically minoritized students and first-generation students. The concept of sense of belonging is interwoven in the lenses of academic and financial capital, student validation and development, campus climate, and critical race theory in education. These lenses are part of a complex web of factors that impact student persistence and baccalaureate degree attainment, connected by the notion of belonging that underpins many of the models using these frameworks. When the unique, yet often intersectional, student identities are viewed as assets and attention is paid to fostering inclusive environments, students experience a greater sense of belonging. These foundational models have inspired a new way of approaching student success with a specific focus on transfer students.

Sense of Belonging

Sense of belonging is a key component of the transfer student experience, which has an impact on persistence to completion of a baccalaureate degree. One definition of belonging in college referred to “students’ perceived social support on campus, a feeling or sensation of connectedness, and the experience of mattering or feeling cared about,
accepted, respected, valued by, and important to the campus community or others on campus such as faculty, staff, and peers” (Strayhorn, 2018, p. 4). Strayhorn (2018) highlighted the criticalness of sense of belonging in human lives, and the ways in which belonging impacted college students specifically. This definition of belonging was meant to encompass the two foundational aspects of belonging: it is a basic human need and is motivational in directing and shaping behavior (Strayhorn, 2018).

Belonging is a basic human need that is foundational to motivation which drives beliefs and actions (Maslow, 1954). Maslow’s hierarchy of needs situated love and belonging above physiological and safety needs, and before esteem and self-actualization (Maslow, 1943). Belonging was therefore an important aspect in the learning process as it is essential for motivation to continue to persist through challenges that arise for all students. Belonging in this way was related to academic performance (Bahr et al., 2013) and was reciprocal in nature in that belonging was essential for learning, and academic performance was found to be a key factor developing a sense of belonging for first-generation students (Vaccaro & Newman, 2016).

Sense of belonging was a significant and important factor in academic adjustment and persistence for all students, and more importantly for first-generation students (Gillen-O’Neel, 2021; Strayhorn, 2018). First-generation students may not have had the same familial support systems as continuing-generation students that reinforce their belonging in college (Jain et al., 2020). The messages that first-generation students received both directly and indirectly from an institution that demonstrated commitment to their welfare impacted their sense of belonging and motivation to persist to degree
completion (Braxton et al., 2013; Jain et al., 2020). Higher education institutions have the opportunity to impact sense of belonging for first-generation students by fostering environments that support successful academic performance. Vaccaro and Newman (2022) described their research findings on sense of belonging specifically through the lens of first-generation women of color. They found that first-generation students in particular encountered deficit assumptions about their academic ability, and that when they resisted this by keeping an academic focus and subsequently earned good grades by being a serious student, they experienced a sense of belonging. Sense of belonging for these students relied on “academic success and mastery of the student role” (Vaccaro & Newman, 2022, p. 9). This exemplified the reciprocal role of belonging and motivation in learning.

Vaccaro and Newman’s (2016) grounded theory study resulted in a model of belonging that described the dichotomy of sense of belonging for students who are from privileged and minoritized identity groups. Minoritized identity groups in this study were identified as, “students who self-identified as a minority and who discussed being marginalized as a result of membership in at least one historically underrepresented social identity group” (Vaccaro & Newman, 2016, p. 926). The study invited students to define belonging, and common themes of fitting in and being comfortable emerged across both groups of students. Their research study found that environment, involvement, and relationships were important elements for all students in their process of developing a sense of belonging. Each of these elements however, were experienced and described differently by privileged students and minoritized students. Among minoritized students
there were two additional themes of safety and respect. The nuance within the elements is an important distinction in this model and is helpful in clarifying how salient elements of belonging can be experienced quite differently. The nuance is critical in determining how institutions can foster environments that are supportive of sense of belonging for minoritized students (Vaccaro & Newman, 2016).

Walton and Cohen (2007) addressed the concept of “belonging uncertainty” which is a state of mind where “people are sensitive to information diagnostic of the quality of their social connections” (2007, p. 82) in their research. They found that stigmatization could lead to belonging uncertainty which undermined motivation and academic achievement, most significantly for the Black students in their study. When an intervention was introduced that de-racialized the hardships in college, they saw an increase in sense of belonging and achievement of Black students (Walton & Cohen, 2007). Explained another way, belonging uncertainty is when one doubts that they belong and their motivation is thus impacted. Understanding the opposite of belonging has been studied to better understand what interventions might have a greater impact on minoritized populations (Walton & Cohen, 2007; Yeager et al., 2014; Yeager & Walton, 2011). Social-psychological interventions in education have shown to have greater benefits on racially minoritized students where sense of belonging may not be assumed. Walton and Cohen (2007) hypothesized that the interventions were not as impactful for white students because their sense of belonging in college may have been assumed.

Sense of belonging may also be influenced by a growth mindset (Cook et al., 2017). Motivation and mindset of students are critical concepts from psychology that are
related to student success (Dweck, 2008). Students were more likely to have a growth-mindset, defined as the belief that abilities and talents can be developed over time, when they were in a supportive environment (Dweck, 2008). A growth-mindset is an important attribute for first-generation transfer students in order to overcome challenges and adversity, specifically academic challenges. Given that academic success and “mastery of the student role” was an important aspect of first-generation students’ sense of belonging (Vaccaro & Newman, 2022), growth-mindset was an important component that can be cultivated to support sense of belonging.

Sense of belonging was an important aspect of student experience which contributed to higher persistence to degree completion (Bentrim & Henning, 2022; Talaifar et al., 2021; Yeager & Walton, 2011). Belonging is multifaceted and experienced differently depending on the intersectional identities of students, specifically students of color and first-generation students. It is not sufficient to view sense of belonging across all college students similarly, as there is a difference in the ways in which privileged students and minoritized students experience belonging. First-generation students experienced a greater sense of belonging when they were academically successful (Vaccaro & Newman, 2016). Growth-mindset was found to be an asset-based mindset that is needed, and can be cultivated, for overcoming adversity and challenges in academic settings which thus supports sense of belonging (Cook et al., 2017; Dweck, 2008). A cultivated sense of belonging supports students to gain access to capital, or knowledge and resources, to successfully navigate higher education (Bahr et al., 2013).
Capital

Bourdieu’s (1986) concepts of social and cultural capital, and Becker’s (1993) concept of human capital were foundational components of capital in education. Cultural capital was defined as the knowledge of the behaviors and values of the most wealthy and powerful class (Bourdieu, 1986). Social capital was defined by Bourdieu (1986) as one’s network of acquaintances. This network of connections helped a person to gain other forms of capital over time. Bahr (2013) explained that Bourdieu’s (1986) social and cultural capital were important concepts and frameworks for understanding the experiences a student brings to their education from pre-transfer through the process of transferring and then while they are at the four-year institution. The concepts of academic and social integration post-transfer were reliant on the notions of social capital which was often relied on by students who did not have the cultural capital of privileged or majority students for whom the higher education system was constructed (Bahr et al., 2013; Jain et al., 2020). Becker’s (1993) concept of human capital was defined as the benefits received through education, such as improved health outcomes and civic engagement. This was important as it related to the goal of many students in pursuing a bachelor’s degree for the benefits of social mobility which is inclusive of economic and financial benefits (Jenkins & Fink, 2015).

Yosso (2005) redefined cultural capital to center the experiences of students of color and the assets that they bring from their experiences in life and in education. The integration of Yosso’s (2005) community cultural wealth acknowledged the intersectional lives of first-generation and historically minoritized students (Jain et al., 2020). The
acknowledgement goes further to see these identities as assets in that “transfer students of color are successful not in spite of being transfer students, but rather because they are transfer students” (Jain et al., 2020, p. 22).

Academic capital was a theoretical framework developed by St. John et al. (2011) that integrated the various theories of cultural capital, social capital, and human capital under an umbrella of academic capital. This theoretical framework is important because it recognized the various ways in which students acquired knowledge and skills to access and navigate post-secondary education. Of particular note was the focus of this theoretical framework on college affordability. Affordability has been central to policy development aimed at supporting transfer students.

Issues of affordability transcend access to financial capital, to access to broader academic capital supports. For example, according to the United States Government Accountability Office (2017), students in the 2004 cohort who were transferring from a two-year to a four-year institution lost an estimated 26% of their credits upon transferring. Credit loss as an issue has been mainly guided by the financial burden that it creates for students, specifically in needing to take additional credits and the added time to their degree which in some cases considers income that is foregone by students while they are in higher education (Toutkoushian & Paulsen, 2016). Clotfelter’s (2018) study looked at the evolution of campus based financial aid programs for low-income students from grant-heavy financial aid to programs that included non-financial supports such as mentoring, career advising, and social events. The study focused on the North Carolina Covenant program, but has implications for other state-wide financial aid policy
programs in the U.S. Findings showed that during the years where the program supplemented grant-heavy aid with nonfinancial supports, students experienced greater degree progress, performance, and completion than their counterparts. The inclusion of nonfinancial supports and supports that foster development of academic capital, in addition to grant-heavy aid, have been successful in supporting underrepresented students.

Yazdani et al. (2021) provided an overview of the literature on risk and protective factors that influenced transfer of economically disadvantaged students. Economically disadvantaged students were more likely to enter postsecondary education through two-year colleges (Yazdani et al., 2021) and so when a state had a goal to improve degree attainment for low-income students, they needed to address transfer from a community college to a four-year institution. Both community colleges and four-year institutions have important roles in transfer and the ways in which policies and practices impact or address access to capital, academic under preparedness, credit loss at transfer, associate degree attainment, timing of transfer, academic and social integration, and intervention programs.

Xu et al. (2018) compared the performance of successful vertical transfer students who are similar to students who began their education at the four-year institution in both degree attainment outcomes as well as labor-market outcomes. The research found comparable probability of degree attainment outcomes for transfer students and their native peers at the same four-year institution. On the other hand, the researchers found that transfer students experienced a significant “penalty” in monetary earnings eight years
after initial college enrollment. The authors analyzed the possible mechanisms that lead to differing earning outcomes among students, and identified delayed entry into the labor-market of transfer students who lose credits at the point of transfer as one of the main factors. The implications were that there is a need for transfer policy reform to ensure that credit loss is minimized and that students were supported to enter into an efficient path to degree attainment once they transferred.

In a study by Xu, Ran, et al. (2018), the authors developed an analytical framework for identifying effective transfer partnerships between 2-year and 4-year institutions. In the absence of data collection from the federal government or from most states on performance of transfer pathways between community colleges and four-year institutions, this framework moved from minimally tracking transfer rates to better understanding of success in transfer. Using a two-step regression, the authors identified effective community colleges and then effective transfer partnerships. Through this analysis, they were able to see that socioeconomic and racial backgrounds were predictors of effective community colleges and that selectivity and percentage of Pell Grant recipients in four-year institutions were predictors of effective transfer partnerships. The model statistically revealed equity gaps in current transfer partnerships, and served as a benchmark for improvements in transfer outcomes (Xu, Ran, et al., 2018). Access to academic capital for socioeconomically disadvantaged and minoritized students was necessary to improve effectiveness of transfer partnerships where these students were not being served as well as majority students.
Laanan et al. (2010) introduced the concept of “transfer student capital” as way in which to counter the notion of “transfer shock.” Transfer shock is the phenomena of a drop in grade point average experienced by many transfer students within their first term of transferring to a four-year institution (Hills, 1965). Transfer student capital was defined by Laanan et al. (2010) as how transfer students accumulated knowledge about the transfer process and how that knowledge influenced their success in transfer. What they found in this study was that there was a positive association of learning and study skills at the community college on a student’s academic adjustment to a four-year institution. They also found that when students perceived that faculty or the campus environment stigmatized them as a transfer student, it negatively impacted their adjustment as well (Laanan et al., 2010).

Across studies, there have been recommendations for policy changes as well as institutional processes and supports for transfer students. Among these recommendations, there is a focus on needing strong community college and four-year institutional partnerships. The Aspen Institute and the Community College Research Center published a Transfer Playbook that outlined the three broad strategies that they have observed in effective transfer partnerships between community colleges and four-year institutions (Wyner et al., 2016). The strategies were prioritizing transfer student success, creation of clear programmatic pathways that include high-quality instruction, and specific transfer student advising (Wyner et al., 2016). All three of these strategies are premised on ensuring transfer students are able to leverage academic capital in the form of transfer
student capital to experience a sense of belonging through the supports and pathways that are created to ensure they are successful.

**Student Validation and Development**

Student persistence and retention theoretical models have evolved over time to recognize the impact of the institutional environment on the experience of the diversity of students in higher education. Student development theories have also evolved to center the experiences of historically minoritized students (Bonner et al., 2021) and to better understand how institutions can create environments that foster belonging and access to academic capital to support baccalaureate degree completion.

As stated previously, there is a significant gap that exists for first-generation and historically minoritized students in who persists and transfers from a community college to a four-year institution within the transfer population (Crisp & Nuñez, 2014; Jain et al., 2020). The ways in which these students experienced college was influenced by their intersectional identities and the ways in which the policies and practices of an institution are reflective of those identities (Jain et al., 2020). Sociological identity theories framed identity development as an interactive and ongoing process (Winkle-Wagner & Locks, 2019). This is a useful framework when focusing on transfer students specifically because of the varied experiences they may have had at the various higher education institutions they have attended.

Renn’s (2000) study exploring situational identity among multiracial college students is an important contribution to the literature on underrepresented student development. Renn’s (2000) focus on biracial and multiracial student development and
experience helped in understanding the situational contexts in which multiracial students found a sense of belonging. The study revealed several themes that contributed to sense of belonging “the notion of space and the impact of peer culture” (Renn, 2000, p. 405). Space that was either a physical public space or a social space was important in creating a safe atmosphere to express multidimensional identities. Peer culture was critical in creating spaces where there was a sense of belonging (Renn, 2000). Renn’s (2000) study is important when thinking about intersectionality of student identity formation and the ways in which institutions can provide environments for peer culture to influence the creation of “spaces” that foster a sense of belonging.

The process of transitioning to college is a critical time in the life of a student, where practitioners can work to influence and facilitate student success. Many theories of transition to college have focused on white dominant culture, and did not account for the ways that underrepresented students may experience this transition differently (Bonner et al., 2021; Winkle-Wagner & Locks, 2019). Rendón’s (1994) theory of validation was created through research and work with nontraditional, first-generation, low-income students, and students of color. This critical approach is a shift from the assumption that students need to adapt to a campus college and recognizes the importance of validating the identities and cultural pasts of students at this critical time in order to support their success.

Rendón (1994) conducted research to determine how student learning was affected by involvement inside and outside of the classroom. Through this research, she uncovered the critical importance of validating experiences, especially for nontraditional
students. Validating experiences are those that confirm a students’ ability to be successful. This is a foundational component of sense of belonging as was observed in the work of Vaccaro and Newman (2022) on the impact of academic success and mastery of the student role on belonging for first-generation students in particular.

One of the most salient findings from Rendón (1994) was that validation is experienced through the active participation of the institution. The institution being the faculty, staff, and environment. Students experienced validation inside the classroom when faculty fostered warm classroom environments through their active engagement with students as individuals. Outside of the classroom they experienced validation through relationships with their peers as was seen in Renn’s (2000) study on situational identity of multiracial students. This type of involvement validated the intersectional identities of students and that they could be successful academically because they belonged in college.

**Campus Climate**

Winkle-Wagner and Locks (2019) referred to campus climate as the ways in which a campus environment is experienced as welcoming, or not, of a diversity of students. Campus climate continued to be experienced differently by privileged populations of students as shown through Rendón’s (1994) research on the impact of student experience of classroom climate on validation. There was a specific divide in experience by race even as colleges have become much more diverse and historically minoritized students become the majority of students (Antonio, 2003; Cress, 2008; Koo, 2021). There were many factors that contributed to campus climate and understanding
their impact is helpful in thinking about how to improve the experience of a negative campus climate to create more equitable and inclusive campuses.

Student psychological well-being is connected to their perception of campus climate (Koo, 2021). Using the components of emotional wellness, or psychological well-being, and social wellness, or perceived campus climate, from a holistic wellness model, Koo (2021) observed a difference in the experience of Black, Indigenous, and people of color (BIPOC) students and women, from those of white males. Koo (2021) also observed a difference in the experiences of first-year students from the experiences of those same students in their senior-year. Koo (2021) pointed out that students of color, have had more exposure to microaggressions and racial discrimination at their institution over time and thus results in a differing experience of the campus climate for these students. The intersectionality of identities likely further exacerbates the experience of a negative campus climate (Cress, 2008).

Opportunities for students to interact and develop relationships with faculty members is an important component of academic success for students, and can mitigate the effects of a negative campus climate, specifically for students of color (Cress, 2008). Antonio (2003) highlighted that diverse students also contributed to campus climate. The diversity of the student body was a driving force for illuminating campus climate challenges, and improved campus climate for faculty who are currently underrepresented in American higher education (Antonio, 2003).

The perspectives of Koo (2021), Cress (2008), and Antonio (2003) are intertwined in that the experiences of all of the individuals at a campus impact the
campus climate, and that there is an inferred reciprocal relationship between students of
color and faculty of color specifically where they might experience an improvement in
the campus climate. Cress (2008) highlighted that white students and faculty need to take
more responsibility in creating inclusive and equitable working and learning
environments. The positive impact of a diverse student body that supported progress for
diverse faculty, then provided a positive environment for students is an interesting web of
connections that exemplified the importance of student identity on student experience.

Campus environments are often referenced when talking about campus climate.
Campus environments are an important component of sense of belonging for students
(Bahr et al., 2013; Strayhorn, 2018). Museus et al.’s (2017) research expanded the
literature on how campus environments shaped sense of belonging in students. The study
utilized the existing model of culturally engaging campus environments (Museus, 2014).
The model measured nine indicators of campus environments that are optimally inclusive
and equitable. The nine indicators were: cultural familiarity, culturally relevant
knowledge, cultural community service, meaningful cross-cultural engagement, cultural
validation, collectivist cultural orientations, humanized education environments,
proactive philosophies, and holistic support (Museus, 2014).

Museus et al. (2017) determined that culturally engaging campus environments
shaped the experiences and outcomes of diverse student populations (Museus et al.,
2017). Culturally engaging campus environments provided holistic supports for students
that take into consideration their intersectional identities, and were underpinned by
institutional policies that supported the success of historically underrepresented students.
Culturally engaging campus environments created a warm climate where historically minoritized students perceived their identities as an asset and functioned to support motivation and belonging.

Campus climate can foster a sense of belonging as well as attainment of academic capital for historically minoritized and first-generation transfer students. Campus climate is multifaceted and is impacted by faculty, peers, and the physical environment. It has had a more substantial impact on historically minoritized students and their sense of belonging (Antonio, 2003; Cress, 2008; Koo, 2021; Rendón, 1994; Winkle-Wagner & Locks, 2019), making it a factor in transfer student persistence and baccalaureate degree completion.

**Critical Race Theory in Education**

Degree completion has been important to students for many reasons, including the social mobility impact of earning a baccalaureate degree (Jenkins & Fink, 2015). While there has been a positive impact of earning a college degree on annual net income, it is critical to acknowledge that there has not been wealth parity for all students, specifically for African-Americans (Weller & Hanks, 2018). In deconstructing economic and social mobility as one of the goals of transfer students in seeking their degree, it is important to consider that higher education as founded and designed to support privileged white students (Wilder, 2013). The policies and processes in place throughout higher education continue to perpetuate privilege, as they were predicated on models of student development theory that do not center the experience of historically minoritized students (Bonner et al., 2021). This was evident in the equity gap in outcomes for historically
minoritized students when evaluating the factors that contribute to the difference in their experience within higher education and resulting transfer and degree completion rates (Crisp & Nuñez, 2014; Jain et al., 2020). The gap in transfer student success for first-generation and historically minoritized students is connected to larger political and systemic oppression in America (Jain et al., 2020). If we are to better understand and address the difference in successful transfer and degree completion between historically majority students and first-generation and students of color, application of critical theory is necessary to deconstruct the systemic barriers that have fostered this outcome.

Critical race theory is a “theoretical framework that interrogates the role of race, racism, and White supremacy in shaping American institutions” (Jain et al., 2020, p. 25). It is an essential critical theoretical framework to various fields, especially in education. Solórzano (1998) established the five main themes or tenets of critical race theory in education as: “the centrality and intersectionality of race and racism; the challenge to dominant ideology; the commitment to social justice; the centrality of experiential knowledge; and the interdisciplinary perspective” (1998, pp. 122–123). Centralizing race and the role of racism in connection to other intersectional identities of students in higher education challenges the dominant frameworks that have been in place for hundreds of years. Critical race theory is a call to action to not only examine the difference of experience of students of color, but to dismantle systems of oppression by changing the operations and systems of higher education (Jain et al., 2020; Solórzano, 1998).

There are key ways in which critical race theory is enacted within higher education. Critical race pedagogy helps in understanding how critical theory, specifically
critical race theory, is applied in learning. Critical pedagogy is foundational to critical race pedagogy and was introduced in Paulo Freire’s (1970) foundational text *Pedagogy of the Oppressed*. In this text Freire (1970) introduced problem-posing as an approach to education which stands in opposition to the banking method of education in service of liberation. Problem-posing in education is an opportunity for educators and leaners to work together in knowledge creation. Critical race pedagogy is defined by Lynn (1999) as:

An analysis of racial, ethnic, and gender subordination in education that relies mostly on the perceptions, experiences, and counterhegemonic practices of educators of color. This approach necessarily leads to an articulation and broad interpretation of emancipatory pedagogical strategies and techniques that are proven to be successful with racially and culturally subordinated students. (1999, p. 615)

Jain et al. (2017) found that “by employing critical race pedagogy where the students, faculty, and staff were learning from each other, students gained confidence to assert their agency in their educational journey, resulting in a positive transfer identity and often successful transfer to 4-year universities” (p. 183). Students asserted their agency when they felt that their backgrounds and experiences and stories were represented in the academic environment.

Matias (2012) spoke to the importance of critical race theory’s counterstorytelling as a researcher, but also in understanding that the “pedagogical processes must be in place for Whites to truly hear and learn from the counterstories of people of color” (p. 131). Counterstorytelling was defined by Solórzano and Yosso (2002) as a method of telling stories of people who have been historically marginalized and as a tool for challenging the stories of the dominant culture. Counterstories are an application of
Critical race theory in education’s five tenets that has been effective in support the success of students in their learning, which is an essential step in degree completion.

Critical race theory has influenced ways of approaching student persistence and retention and belonging in new ways. As previously mentioned, Yosso (2005) redefined cultural capital using an asset lens that appreciates and celebrates the backgrounds of students of color. Yosso (2005) explicitly stated that critical race theory provides a lens that moves away from a deficit view of Communities of Color, and “instead focuses on and learns from the array of cultural knowledge, skills, abilities, and contacts possessed by socially marginalized groups that often go unrecognized and unacknowledged” (2005, p. 69) Application of Yosso’s (2005) concept of community cultural wealth was applied to transfer students specifically by Jain et al. (2020) to challenge the dominant ideology that transfer students come to four-year institutions with deficits that need to be supported. Jain et al. (2011, 2020) asserted that transfer students are successful at four-year institutions because they are transfer students.

**Transfer Receptive Culture**

Student success theoretical frameworks have evolved over time to include the intersectional identities of undergraduate students in higher education. However, there are unique attributes of transfer students that need to be considered. Bahr et al. (2013) highlighted a gap in the literature on transfer student success specifically and introduced the importance of the transfer student experiences in the four-year institution, and the roles that four-year institutions have in supporting transfer student persistence and degree attainment. Transfer receptivity is introduced by Bahr et al.
as a key element in understanding transfer student experience, centering the role of the four-year institution in the transfer equation.

Jain et al. (2011, 2020) spoke to the need for four-year institutions to develop a transfer receptive culture in an effort to close the racial transfer gap that the current vertical transfer process produces. Handel (2011) introduced the concept of transfer affirming culture where an explicit commitment is made by two and four-year institutions to provide the resources and support necessary for students to transfer and earn a baccalaureate degree. Jain et al. (2020) expanded on the aspect of transfer receptive culture at four-year institutions, which is mentioned as part of transfer affirming culture. A transfer receptive culture is built through four-year institutions’ commitment to provide the support needed for students to transfer successfully and in a timely manner, and centers the experience of the intersectional identities of minoritized students (Jain et al., 2020). Rendón’s (1994) theory of validation underpins transfer receptive culture (Jain et al., 2020) in its focus on the assets of transfer students and putting the responsibility for building transfer receptive policies on four-year institutions.

Development of a transfer receptive culture by a four-year institution is an opportunity to foster a greater sense of belonging for minoritized students and thus committing to their student welfare and success. In this way, a transfer-receptive culture is consistent with Braxton et al.’s (2013) notion of institutional integrity where students feel that institutions are centering their welfare. The main goal for establishing a transfer receptive culture is that “transfer becomes a campus-wide effort where every employee and student sees it as a normalized component of campus life” (Jain et al., 2020, p. 97).
The climate that a transfer receptive culture aims to foster would make the commitment to transfer student welfare evident throughout the elements of students’ experiences with the institution.

Jain et al. (2011) outline the five elements of a transfer receptive culture as:

1. Establish the transfer of students, especially nontraditional, first-generation, low-income, and underrepresented students, as a high institutional priority that ensures stable accessibility, retention, and graduation.

2. Provide outreach and resources that focus on the specific needs of transfer students while complementing the community college mission of transfer.

3. Offer financial and academic support through distinct opportunities for nontraditional/reentry transfer students where they are stimulated to achieve at high academic levels.

4. Acknowledge the lived experiences that students bring and the intersectionality between community and family.

5. Create an appropriate and organic framework from which to assess, evaluate, and enhance transfer receptive programs and initiatives that can lead to further scholarship on transfer students. (p. 258)

The elements of a transfer receptive culture were initially seen as temporal (Jain et al., 2011), but the authors revised their model realizing that each of the elements is not static due the complexities of transfer. While transfer receptive culture is focused on vertical transfer, students involved in vertical transfer may attend more than two institutions, or they may co-enroll at a community college and a four-year institution at
the same time, thus making the experience of transfer more complicated as they navigate several systems at one time (Jain et al., 2020). This would include navigation of the various facets impacting student experience and belonging as mentioned previously—accessing academic and transfer student capital, experiences of validation, and campus climates of each of these institutions. Given the complex nature of transfer, four-year institutions must continuously examine their role in each element that transfer students’ experience (Jain et al., 2020). The active role of the institution has the potential to impact student validation (Rendón, 1994) and sense of belonging.

What makes transfer receptive culture unique within the literature on transfer student success is that critical race theory is foundational. The elements of Jain et al.’s (2020) “transfer receptive culture” were established to be put into practice utilizing a critical race theory in education perspective. Transfer receptive culture centers transfer students of color because of the equity gap in transfer student graduation outcomes by race. Jain et al. (2020) also specified a need to focus on first-generation transfer students as they have been historically minoritized students who stand to benefit from a critical approach. The inequities that exist demanded a critical race theory lens in order to overcome the systems of oppression that created the gap (Jain et al., 2020). Jain et al. (2020) utilized critical race theory along with Yosso’s (2005) community cultural wealth lens to provide context for the barriers that minoritized students face in the transfer process.
Design Thinking

The issues surrounding first generation transfer student persistence to degree completion are complex. Systemic oppression of minoritized students over time plays a major role in the ways in which student sense of belonging has been impacted (Jain, 2009). The barriers to sense of belonging that first-generation transfer students face in transferring and in persisting to degree completion include various learning, financial, and social factors that can be linked to issues with higher education institutional systems as well as state and federal systems. The diversity of first-generation transfer students and their intersectional identities is what makes public higher education so enriching, and it adds to the complexity of applying interventions and changes to ensure they are able to succeed in transferring and completing their degree.

Design thinking is a mindset and set of strategies used across disciplines and professions to approach and solve complex problems (Buchanan, 1992; Gilbert et al., 2018). Definitions of design thinking are presented as well as the ways in which it is used in practice and approached theoretically. A critique of design thinking will be offered along with an alternative model to address the complex problem of equity in transfer and degree completion of first-generation students.

Design Thinking Theory and Practice

In a broad sense design thinking is a human-centered set of strategies and processes used by designers that centers creativity and innovation to pose problems and develop solutions (Liedtka et al., 2019; Razzouk & Shute, 2012). Schallmo et al. (2018) reviewed current approaches to design thinking, and found that throughout the various
definitions of design thinking each contained aspects of developing solutions to problems, a focus on users/people, a process that was both structured and iterative, and was conducted by interdisciplinary teams. Design thinking exists as both an active process in use by designers, and as a theoretical approach as seen in fields beyond art and design, such as business, engineering, and education (Carlgren et al., 2016; Razzouk & Shute, 2012). Both contexts are useful to explore to understand how design thinking has come to be used in higher education.

Design thinking is a strategy coined by designers that applies the principles of design to process. The principles of the design process can be traced back to Simon’s (1969) *The Sciences of the Artificial*. Simon (1988) described the ways in which design is applied across professions:

> Everyone designs who devises courses of action aimed at changing existing situations into preferred ones. The intellectual activity that produces material artifacts is no different fundamentally from the one that prescribes remedies for a sick patient or the one that devises a new sales plan for a company or social welfare policy for a state. Design, so construed, is the core of all professions from the sciences. Schools of engineering, as well as schools of architecture, business, education, law, and medicine, are all centrally concerned with the process of design. (1988, p. 67)

Thinking like a designer, or “designerly thinking” (Johansson-Sköldberg et al., 2013), is a lens used to better understand the practices of designers across various disciplines. Johansson-Sköldberg et al. (2013) categorized practices identified throughout the discourse literature on design into five sub-discourses: creation of artifacts, reflexive practice, problem-solving activity, reasoning/making sense of things, and creation of meaning. They are representative of the different disciplines and epistemologies represented in these ways of approaching design- rationalism, pragmatism,
postmodernism, practice perspective and hermeneutics (Johansson-Skölberg et al., 2013). The varied approaches of using design-thinking are related to the epistemology of the field of the designer and their way of thinking.

Carlgren at al. (2016) argued that the skills utilized in design-thinking, critical thinking and reasoning to solve complex problems, are consistent with the theoretical traditions of situated cognition and constructivism as they relate the way that reality is constructed through meaning making. Carlgren et al.’s (2016) study set out to understand how design thinking was being defined and used throughout the field. Themes that emerged from analysis of mindsets, practices, and techniques from different types of organizations who indicated use of design thinking in their work were: user focus, problem framing, visualization, experimentation, and diversity (Carlgren et al., 2016). There was variety in how the design process is approached in the field, yet the mindsets of designers were similar.

Design thinking strategies are used across fields to identify a problem, generate solutions, test those solutions, and iterate on the design of the solution. The d.school at the Hasso Plattner School of Design at Stanford University (2018) broke down the process of design thinking into five phases: empathize, define, ideate, prototype, and test. The first phase used by interdisciplinary teams engaging in design-thinking was empathize where activities focused on understanding the experience of the people for whom you are designing, referred to by the d.school as “users,” and their values (Doorley et al., 2018). The next phase was define which utilized the findings from empathizing with users to identify a specific actionable problem statement. This led to the phase of
ideation where teams “generate radical design alternatives” and to generate a wide range of diverse ideas. A process of refining ideas is then engaged and teams begin to prototype solutions. Prototypes can be any sort of physical representation of ideas as a way to get ideas “into the world.” Prototypes are then tested by users. In the test phase of the process, teams gather feedback and refine solutions while continuing to learn from users. The testing phase is not the final phase, as learnings are then applied to iterate on solutions that best meet the needs of the users (Doorley et al., 2018).

Design in Higher Education

Application of design thinking in higher education contexts is seen both inside and outside of the classroom (Carlgren et al., 2016; Peck & DeSawal, 2021). The design process can be utilized in solving problems posed within the community at large, or within an institution of higher education (Costa, 2017; Gilbert et al., 2018; Guaman-Quintanilla et al., 2022; Peck & DeSawal, 2021). Problems within education are complex and are often described as wicked problems (Peck & DeSawal, 2021). Wicked problems are complex problems that are multifaceted and the solution and impact is unclear across groups (Buchanan, 1992; Peck & DeSawal, 2021).

Systemic issues in education are viewed as wicked problems, especially issues of diversity, equity, and inclusion (Johnson & Pierre, 2021). Johnson and Pierre (2021) provided an example of utilization of design-thinking in measurement of diversity, equity, and inclusion (DEI) within experiential learning. They concluded that DEI efforts require interdisciplinary teams across an institution and the focus on empathy provides a specific lens in which to overcome bias (Johnson & Pierre, 2021). Interdisciplinary teams
are necessary for providing multiple perspectives and lenses to ensure that solutions are designed to center the “user.” One of the hallmarks of design-thinking is the use of empathy for users, or the people who are impacted by the problem, as well as their inclusion in testing prototypes of solutions. The process invites the community of students who are impacted by a certain environment or system or circumstances, to be central in problem posing and solution generation.

Jhaj (2019) outlined how Portland State University approached the complex problem of meeting the needs of increased racially diverse and first-generation students in a changing environment of decreased state funding and increased competition of education providers through an innovation challenge that utilized design thinking strategies. The introduction of design thinking to the university through the innovation challenge was a catalyst for how the institution approached student success projects moving forward. Projects used the five stages of design thinking—empathy, problem definition, ideation, prototyping, and testing, and students, faculty, and staff were involved in problem definition, ideation, and prototyping. By focusing on empathy and student involvement in projects, they were able to identify problems that were meaningful to the campus community, and thus enact change quickly (Jhaj, 2019).

**Critique of Design Frameworks**

The process of design thinking is a human-centered process and identifies problems and generates solutions that will benefit the people for whom the solution was designed (Doorley et al., 2018). Through application of a critical lens, Constanza-Chock (2020) critiqued design thinking as it is applied in digital design spaces, but also in
education and other sectors. Costanza-Chock (2020) posited that user-centered design strategies disproportionately benefit specific groups of people, and these benefits are not often made explicit. It is important for design teams to be representative of the groups for which they are designing and to ensure that they share power in the process and the ultimate design (Costanza-Chock, 2020).

The application of design strategies to student success interventions is one way to ensure that practitioners are engaging the communities, specifically the students, that they are serving. Utilization of a design justice framework (Costanza-Chock, 2020) not only demands that the community of students be involved, but also that power is shared. A design justice lens is congruent with the framework of transfer receptive culture and thus is an appropriate approach to more deeply understand the experiences of first-generation transfer students.

Costanza-Chock (2020) proposed a new framework of design justice that emerged from a community of practice called the Design Justice Network. The community of practice is composed of an interdisciplinary group who challenge design processes to move towards solutions that ensure inequities are not reproduced intentionally or unintentionally. To do so, the Design Justice Network developed a set of principles for design:

1. We use design to sustain, heal, and empower our communities, as well as to seek liberation from exploitative and oppressive systems.

2. We center the voices of those who are directly impacted by the outcomes of the design process.
3. We prioritize design’s impact on the community over the intentions of the designer.

4. We view change as emergent from an accountable, accessible, and collaborative process, rather than as a point at the end of a process.

5. We see the role of the designer as a facilitator rather than an expert.

6. We believe that everyone is an expert based on their own lived experience, and that we all have unique and brilliant contributions to bring to a design process.

7. We share design knowledge and tools with our communities.

8. We work towards sustainable, community-led and controlled outcomes.

9. We work towards non-exploitative solutions that reconnect us to the earth and to each other.

10. Before seeking new design solutions, we look for what is already working at the community level. We honor and uplift traditional, indigenous, and local knowledge, and practices. (Costanza-Chock, 2020, pp. 6–7)

Two of the five elements of transfer receptive culture are relevant as examples of how the tenets of design justice correlate. The first element of a transfer receptive culture is to “establish the transfer of students, especially nontraditional, first-generation, low-income, and underrepresented students, as a high institutional priority that ensures table accessibility, retention, and graduation” (Jain et al., 2011, p. 258). The principles of design justice that correlated with this element of transfer receptive culture were: centering the voices of people impacted by designs, and to seek liberation from
oppressive systems; centering the voices of those who are directly impacted by the outcomes of the design process; prioritizing design’s impact on the community over the intentions of the designer; and believing that everyone is an expert based on their own lived experience (Costanza-Chock, 2020).

The fourth element of transfer receptive culture is to “acknowledge the lived experiences that students bring and the intersectionality between community and family” (Jain et al., 2011, p. 258). The principles of design justice that correlated with this element were: prioritizing design’s impact on the community over the intentions of the designer; seeing the role of the designer as a facilitator; sharing design knowledge and tools with the community; working towards community-led and controlled outcomes; and first seeking out what is already working in communities (Costanza-Chock, 2020). This fourth element of transfer receptive culture recognized the intersectional identities of transfer students, and the principles of design justice that specifically called attention to the impact on community align with engaging first-generation transfer students.

Mapping the principles of design justice to elements of transfer receptive culture revealed the ways in which the application of a design justice centered design-thinking process can be used to co-design with first-generation transfer students. The frameworks align with one another in their theoretical underpinnings of critical race theory, which in research moves beyond social constructivist meaning-making to justice-oriented action (Creswell & Poth, 2018). The critiques of design-thinking in technology, business, and higher education have helped to refine the practice to align with modern student success theoretical frameworks. Design justice demands that students are centered in design
processes and that institutions share knowledge and power in the process. This is consistent with Jain et al.’s (2020) transfer receptive culture and has the potential to impact the experience of first-generation transfer students in their pursuit of a baccalaureate degree.

**Conclusion: Transfer Services Co-Design**

Education as a public good is a value that is foundational to the structures and practices of public higher education in the United States (St. John et al., 2011). For many people, there is great promise of social and economic mobility upon completion of a baccalaureate degree (Mayhew et al., 2016). Access to higher education has increased and so has the diversity of students attending both community colleges and public four-year institutions. As a public good, it is the responsibility of state entities and higher education institutions to provide the environment and supports for students to be successful. Public two-year and four-year institutions are thus important institutions in which to center investigation on issues of transfer.

Increasing transfer students’ sense of belonging through development of a transfer receptive culture has potential to increase likelihood of baccalaureate degree attainment (Jain et al., 2020). It is the responsibility of four-year institutions to provide learning environments that are supported by organizations, leadership, and policy that reflect students’ cultural backgrounds and assets. Application of critical race theory through transfer receptive culture to learning environments provides the opportunity to support a campus climate that is welcoming to first-generation and historically minoritized students.
Transfer student identity and development theories, including academic and financial capital, provide a foundation for understanding the challenges and opportunities in supporting transfer student degree attainment. The significant gap in baccalaureate degree attainment for first-generation and historically minoritized student populations is a complex problem. It requires thoughtful analysis through multiple lenses in order to address the complexity of factors that influence persistence to degree completion for these populations of students. By centering the experiences of first-generation and historically minoritized students, there is an opportunity to create a transfer receptive culture that will support equity in degree outcomes for these students.

Consistent with critical theory and transfer receptive culture, design thinking strategies with a design justice lens, can be used to invite first-generation transfer students to co-design services aimed to support a transfer receptive culture. The inclusion of impacted communities in problem-posing and solution generation aims to both share power and enhance the efficacy of the design. Co-design through a critical and justice-focused lens in this way recognizes and validates students as experts in their own experience. Practitioners engaged in co-designing of services with students and communities have the potential to impact the student experience of a transfer receptive culture through this process.
CHAPTER THREE

Four-year institutions have the potential to impact sense of belonging for first-generation transfer students through fostering a transfer receptive culture within a four-year institution. Institutions like Portland State University, have utilized design thinking strategies to engage students in developing transfer student services to support a transfer receptive culture. While design thinking strategies have been used to develop services and programs to support student success, the question about how the process impacts the students involved, and how those students make meaning of their experiences of the process, has not been explicitly asked or researched. The purpose of this study was to understand the experiences of first-generation transfer students who participated in co-design of programs and services aimed at fostering a transfer receptive culture at a four-year public university. The purpose was not to understand the design process, but rather how students experienced the design process of transfer services.

The focus of the case study was the Transfer & Returning Student Resource Center’s co-design process and related specifically to the fifth tenet of transfer receptive culture which is to “create an appropriate and organic framework from which to assess, evaluate, and enhance transfer receptive programs and initiatives that can lead to further scholarship on transfer students” (Jain et al., 2011, p. 258). Using a design justice framework for co-design of transfer processes that are meant to contribute to a transfer receptive culture, provided an opportunity to center the voices of first-generation transfer students as experts of their experiences. A design justice centered process of design-thinking was appropriate to apply to assessment of transfer receptive culture because of
the critical and justice-oriented nature of both frameworks. Understanding the experiences of first-generation transfer students who have successfully transferred to a four-year institution contributed to the body of knowledge around persistence and degree completion for this population of transfer students.

The research question for this study was: what are the experiences of first-generation transfer students who participate in co-design of programs and services aimed at fostering a transfer receptive culture at a four-year public university?

**Methodology**

A qualitative approach to investigating the research question was appropriate because the research question was focused on how an experience is interpreted and the meaning that is constructed as part of that process (Creswell & Poth, 2018; Merriam & Tisdell, 2016). This approach was optimal because there was a desire of the researcher to “empower individuals,” and “an understanding of the contexts in which participants in a study address a problem is warranted” (Creswell & Poth, 2018, p. 46). The theoretical frameworks that guided the study, transfer receptive culture and sense of belonging, are rooted in critical theory and as such a study to better understand how a specific case might impact sense of belonging and empowerment is appropriate. Studying the experience of first-generation transfer students in co-design activities generated recommendations to help practitioners understand how to foster a transfer receptive culture that will empower students to reach their goals. Consistent with qualitative methods, the research question was grounded in the experiences of first-generation
transfer students which is why an “understanding of the contexts in which participants in a study address a problem is warranted” (Creswell & Poth, 2018, p. 46).

An exploratory single-case study approach was used to explore in-depth, the experiences of participants in a bounded system (Creswell & Poth, 2018; Marshall et al., 2022; Merriam & Tisdell, 2016; Yin & Campbell, 2018). The bounded system was a specific co-design process for first-generation transfer students at the Transfer & Returning Student Resource Center at Portland State University. Participants engaged in the co-design of programs and services aimed at fostering a transfer receptive culture at Portland State University. The co-design process that was the focus of the case study was informed by the tenets of design justice and was designed to share power with the students as co-designers. Students were engaged in the process in order to solve a problem which was also consistent with action research methodologies (Marshall et al., 2022; Merriam & Tisdell, 2016). As such, action research methods informed some of the methods within the case study.

The site for the case study was selected because co-design processes have been utilized in student success focused work at Portland State University (Haley et al., 2021; Jhaj, 2019). Design thinking was also used in the development of the transfer center at Portland State University. Transfer receptive culture was a foundational framework used in the development of the center and the researcher was familiar with the ways in which the transfer center has integrated transfer receptive culture. In this way, the phenomenon’s variables were linked to the context, which is aligned with case study design (Yin & Campbell, 2018).
A constructivist approach was used to explore meaning making of students in regards to their sense of belonging as first generation transfer students. A constructivist interpretive framework was appropriate because of the nature of the phenomena and the research question, which was to explore how participants constructed meaning from their experiences (Creswell & Poth, 2018). The research design included inductive methods of emergent ideas that were obtained through the data collection of visual artifacts, observations, and interviews (Creswell & Poth, 2018). The constructivist approach was also used because of the positionality and epistemological beliefs of the researcher that meaning and reality are co-constructed between the researcher and the research participants, and are shaped by individual experience (Creswell & Poth, 2018).

**Positionality of the Researcher**

The positionality of the researcher impacted the research question and the chosen methods of inquiry (Creswell & Creswell, 2018; Creswell & Poth, 2018; Merriam & Tisdell, 2016). The researcher’s own background and worldview also shaped the interpretation data and analyses of findings (Creswell & Creswell, 2018). As such, it is important to recognize that the researcher holds a constructivist worldview and approached the researcher with this worldview. This is evidenced by the emphasis on understanding how participants perceived their experiences and how they made meaning from these perceptions in order to understand the world in which they live (Creswell & Creswell, 2018). The process of co-development was in alignment with the epistemological belief of the researcher that reality is co-constructed between the researcher and the researched (Creswell & Poth, 2018).
The researcher is a white, cis-gender woman, who was also a first-generation college student. The experiences of the researcher as a first-generation college student influenced their interest in the phenomena of first-generation transfer student experience, but it is important to note that they did not have experience as a transfer student. Self-reflection and reflective practice were necessary processes that were employed in the research to ensure that there was control for bias or misunderstanding of what it meant to be a first-generation transfer student (Holmes, 2020). The researcher is an administrator for the Transfer & Returning Student Resource Center, which is the site of case study. As an administrator in the Transfer & Returning Student Resource Center, they do not have influence over academic assessment or degree progress of students who may be participating in the research study. However, they do hold a position of power in the university generally and therefore needed to be aware of that power differential with the participants. The researcher guided the co-design process and included a conversation about positionality with the research participants in the process. The researcher used respondent validation methods during data analysis to ensure that the experiences of the participants were accurately captured and interpreted (Merriam & Tisdell, 2016), and to share power in the analysis process as was consistent with design justice (Costanza-Chock, 2020) and transfer receptive culture (Jain et al., 2020). This was important given that transfer receptive culture and design justice are underpinned by critical race theory. As a white cis-gender woman there were aspects of the participant experience that may have been missed given there was no direct experience. These frameworks were chosen
not to co-opt them for the benefit of the research, but to ensure that the researcher accounted for perspectives in which they do not have direct experience.

The researcher was trained in design-thinking in higher education, and has been using design-thinking strategies in her work, and thus had an interest in gaining an understanding of the impact of co-design processes on students. This influenced the research topic and provided an opportunity for the researcher to be immersed in the action research of the co-design process with the participants (Marshall et al., 2022; Merriam & Tisdell, 2016). The methodologies chosen were aligned with the researcher’s positionality and training and reflexivity and triangulation of data were used to mitigate bias in interpretation and resulting findings.

Population and Participant Selection

Participants in the study were selected through convenience sampling as the research was conducted at the institution and program where the researcher is employed. A purposeful sample that can best inform the research (Creswell & Poth, 2018) was achieved through criterion-based selection of first-generation transfer students who completed an interest form for participation. Participants were randomly selected from those who responded to an interest form to mitigate conflicts of utilization of convenience sampling.

Procedures

Participants were recruited to participate in the research study through existing Transfer & Returning Student Resource Center newsletters and electronic mailings to transfer students (see Appendix A) that included a link to an opt-in survey using Qualtrics
software to ensure data security and encryption (see Appendix B). The researcher received 81 responses to the interest form for participation. After removing null responses, the researcher found 48 participants who met all four criteria. The criteria for participation were that they were a transfer student at Portland State University, identified as a first-generation student, willing to participate in a two-hour design session with the Transfer & Returning Student Resource Center, and willing to participate in a one-hour interview following the design-session. The researcher used a random number generator to select ten participants, and kept a record of the order in which respondents were randomly assigned so they could select additional participants if necessary.

The researcher invited the first 10 randomly generated respondents to participate in the research study (co-design session and interview). The researcher did not receive a response from all students who were initially invited to participate, and sent out four rounds of emails to interested participants who met all four criteria, including reminder emails to the originally selected ten participants. In the end, the researcher invited all 48 potential participants, resulting in the confirmation of 13 students across two co-design sessions. The selected participants had diverse gender, racial, and ethnic identities, as well as ages. Participants were not asked to present demographic information as part of the selection process, but disclosed identities during the co-design sessions.

The researcher sent an email confirmation to the participants and included written informed consent information for review prior to the research. The researcher provided a verbal review of informed consent to participants prior to the start of the co-design session, and secured written informed consent at that time (see Appendix C). The
Transfer & Returning Student Resource Center has an existing practice of compensating students for their participation in co-design activities through $25 gift cards per hour of participation. Since the co-design session was a part of the normal activities of the Transfer & Returning Student Resource Center, the program compensated students for their participation in the co-design session. In addition, the researcher offered students $25 gift cards for participation in the follow up interview after the co-design session.

Participants then engaged in a two-hour co-design session that utilized the framework of design justice (see Appendix D). The initial research plan was to host one co-design session with 10 participants. Due to the schedule constraints of the selected participants, the researcher scheduled two co-design sessions to accommodate the schedules of the confirmed participants. Hosting two co-design sessions provided the opportunity for the researcher to spend more time in the design process with the participants, and provided insight into the similarities and differences of experiences across the two co-design sessions.

In the co-design sessions, the participants were introduced to the process of design thinking, and engaged in activities to co-design programming and services for first-generation transfer students. This was a practice that has been used at Portland State historically, and utilization of design-thinking strategies with students as co-designers was how the Transfer & Returning Student Resource Center itself was designed and created. Participants worked independently and as a group to create visual artifacts that exemplified their experience as a first-generation transfer student at Portland State University. The sessions opened with a warm-up activity that included a game called
“Thing From the Future” (Candy & Watson, 2014) that focused on use of imagination to create artifacts from possible futures. Following that activity, they engaged in a journey-mapping activity to problem-posing, and then engaged in a rapid-prototyping exercise to design solutions. They then iterated on those solutions in groups using feedback from their peers in the co-design session. The co-design session concluded with an activity where they were asked to reflect on the experience and share with the group of participants and the researcher what they liked and what they would change about the process. Participants were then invited to a follow-up interview after the design session where they were asked a series of questions regarding their experience of the co-design process. At the end of the interview, the researcher asked permission to follow up with participants if questions emerged from data analysis that required clarification.

**Data Collection and Analysis**

This exploratory qualitative case study involved multiple sources of data (Creswell & Poth, 2018; Merriam & Tisdell, 2016) including visual artifacts from the co-design process, observations during the co-design session, and interviews with co-design process participants. Multiple sources of data were used to develop an in-depth understanding of the case as well as to triangulate data for validity (Creswell & Poth, 2018; Merriam & Tisdell, 2016). The researcher collected data during the co-design session in the form of field notes from observations (See Appendix E), as well as the visual artifacts that were created as part of the design process. Following the co-design session, the researcher conducted one-on-one semi-structured interviews with each of the participants. All data was stored in a password protected drive that only the researcher
had access to, and only pseudonyms were used on text and audio files to limit identifying information of the participants.

The first phase of the research project was the co-design process with research participants. Data was created during the co-design process in the form of visual artifacts that were created in the design session. Visual methods are human-centered and are generated by the participants to reveal their own voice (Cisek & Krakowska, 2019). The co-design session was constructed to elicit data for the phases of problem definition, ideation, and prototyping in the design-thinking process (Doorley et al., 2018; Kernbach & Svetina Nabergoj, 2018). The activities were intentionally designed for each of the phases of design-thinking so that the data generated was congruent with that phase of the design process (Kernbach & Svetina Nabergoj, 2018). Each of the activities generated visual data that was analyzed by the researcher to understand how the research participants construct meaning from the experience. The researcher recorded observations during the co-design process in the form of handwritten notes which were used in creating analytical memos. Analytical memos incorporated reflective practice of the researcher and served as a place to record connections of observations to theory (Saldaña & Omasta, 2022).

The second phase of data collection was semi-structured interviews with each participant after the co-design session. An interview protocol (see Appendix F) was used by the researcher as a guide through the interview process, and included an opening script, the list of semi-structured interview questions, and a closing script (Saldaña & Omasta, 2022). The interview questions asked about the experience of the co-design
session, what parts of the process resonated with them, and invited them to describe the process. The researcher also shared the visual artifacts and initial analysis of the content of the artifacts with participants in the second phase of data collection for respondent validation (Merriam & Tisdell, 2016). Respondent validation, or participant reviews, was used to ensure internal validity of the study through feedback of the participants on the researcher’s preliminary findings (Marshall et al., 2022; Merriam & Tisdell, 2016) of the artifacts from the design process.

The interviews were recorded using an audio recorder, and the researcher transcribed the recordings, and referred to the participant using a pseudonym that the participant chose. Audio recordings were kept on a password protected drive, and were deleted after transcriptions were complete. The researcher combined interview notes taken during the interview with the transcribed interviews so that the information could be viewed together during data analysis. Personally identifiable information never appeared on audio or text files. The researcher only used pseudonyms.

All interview and observation notes throughout the data collection phases were compiled to compose analytic memos. The researcher used reflexive practice to situate themselves in the research and to check for biases in interpreting the data collected while composing the memos (Marshall et al., 2022). The analytic memos contained data from observations and field notes during the co-design process as well interview notes from the second phase of data collection, and as such were used in the data analysis process.

The researcher did a first-cycle of in-vivo and descriptive coding of the analytic memos, visual artifacts, and interview transcriptions. In-vivo coding centers the
participants’ voices by utilizing their own words in the analysis process (Saldaña, 2021). Descriptive coding provided an opportunity for topics to emerge across data sources. Values coding was used to analyze interview transcriptions and visual artifacts so that the researcher could uncover emerging themes about what participants’ thought and felt was important (Saldaña, 2021). Values coding is appropriate for studies that explore both intrapersonal and interpersonal experiences and actions in case studies (Saldaña, 2021) and as such was useful in analyzing the experiences of co-design that the participants described during the interview.

The researcher then used code mapping to determine categories from first-cycle coding. Code mapping was used to enhance the credibility and trustworthiness of the data analysis by documenting how the first-cycle codes were categorized and conceptualized (Saldaña, 2021). Code mapping also prepared the researcher for the second-cycle of cumulative coding. Pattern coding was used to group categories or summary codes and helped to identify salient themes (Saldaña, 2021). After second-cycle coding, the researcher used analytical and theoretical memos to process and organize the analysis. The researcher consulted with peers and their advisor as a reflexive practice throughout analysis to examine their bias in the analysis (Saldaña, 2021).

Potential Limitations of the Study

There were several potential limitations of the study. The sample of students within this case study was from a public four-year university. While internal validity was accounted for through respondent validation (Merriam & Tisdell, 2016), external validity cannot be assumed as there are many students who choose other pathways and may have
different experiences. Participants in the study were first-generation transfer students who successfully transferred to a four-year institution during that time, and did not include voices of students who did not successfully transfer. Future research that includes a multi-site case study may be warranted. Using an exploratory single case-study approach does provide rich data and as such, was an important first step in uncovering what may need to be explored in future studies.

The setting and timing of the study is also important to consider. The participants in the study attended higher education through the transition of a pandemic into the endemic phase of COVID-19. The impact of the COVID-19 pandemic, especially on students attending community colleges, has not been fully researched and understood. This exploratory qualitative case-study resulted in findings that inform future research on this unique and critical time in higher education, specifically for first-generation transfer students.
CHAPTER FOUR

The exploratory case study of co-designing services with first-generation transfer students documented the experiences of nine participants in co-design sessions in the PSU Transfer & Returning Student Resource Center. The research was to answer the question: what are the experiences of first-generation transfer students who participate in co-design of programs and services aimed at fostering a transfer receptive culture at a four-year public university? The diversity of the nine participants in the exploratory case study resulted in the expression of a range of experiences with co-designing services. Each participant had unique and important perspectives that contributed to an understanding of the ways in which participation in co-design sessions affected them personally and collectively. These perspectives were informed by their identities as first-generation transfer students, and the life experiences that influenced the ways in which they navigate their education.

The experiences that the participants had in the transfer process were connected to the ways in which they experienced the co-design sessions. Through review of visual artifacts created during the co-design process, observations of the researcher during the co-design sessions, and interviews with the participants, the themes of strategies to access and navigate education, life experiences and values influence on co-design experience, and co-design environment and experience of campus climate emerged. The themes emerged through the data-analysis process and upon reflection of the various data sources collectively. The themes are discussed with evidence from the various data sources congruent with the constructivist approach of the researcher.
Strategies to Access and Navigate Education

Throughout the co-design session activities, the participants reflected on the strategies they learned to access and navigate education. They utilized these strategies to gain access to academic capital necessary to be successful. The importance of acquiring academic capital was evident in the visual artifacts created as part of the co-design process. The transfer student journey mapping activity resulted in visual artifacts that outlined the academic capital that students acquired, or not, throughout the transfer process. The participants started the activity by collectively defining the timeframe of the transfer journey. They then worked individually to reflect on their experience of each phase of the transfer process in the categories of what they would classify as feeling dissatisfied, satisfied, delighted, and what they wish would have happened as illustrated in Figure 1.
Figure 1 Example of Visual Artifact from Journey Mapping Activity

Note. Overview of the format of the Journey Mapping Activity. A transcription of the journey mapping activity visual artifact is found in Appendix G.

The capital that they gained was apparent in what the participants chose to share in the categories of what experiences they were satisfied or delighted with. Examples included learning about support services such as the writing center and academic advising, financial aid programs and scholarships, and the positive experiences with instructors and challenging courses. The academic capital they did not feel that they experienced was highlighted in what the participants shared in the dissatisfied and “I wish” categories. Examples included challenges with navigating the physical college
campus, the financial aid program not being what they expected, and information and technology systems that were not clear and consistent.

Additionally, the researcher observed the conversation between the participants in the session as they discussed their transfer experiences and the types of academic capital that were most significant to them. The prototypes that the students designed as part of the design sprint further emphasized the significance. The design sprint activity was a culmination of what the participants learned through each of the prior activities, and together how they would design a solution that would address the challenges the collective group discussed as illustrated in Figure 2.

**Figure 2 Visual Artifacts of Prototypes**

![Visual Artifacts of Prototypes](image)

*Note.* Display of the prototypes created by the participants during the design sprint activity. Transcription of prototypes can be found in Appendix H.

The most prominent theme across both co-design sessions was financial capital and how it was impacted by both academic and financial support to navigate the path to completing their degree in a way that was affordable.
Affordability and Financial Support

The participants expressed varying levels of challenges with affordability of higher education, speaking mostly to the ways in which they navigated finding support or accurate information on how they would finance their education. During the interview, Gloria expressed:

I found it like interesting that a lot of people struggled with kind of like cost and that kind of thing at PSU and at their community college, and like not understanding financial aid. And like all that kind of stuff because I didn't really have any of those problems. And I was actually like impressed at how cheap PSU is, you know, compared to even a lot of other like public colleges. Like PSU is very low cost . . . that's not to say that, you know $30,000 a year is not expensive, but you know I, at least for my bachelors. I don't have to take out like loans on top of like the Federal aid. So, anyway, so it was interesting to kind of see how I differ from people in that regard.

A different perspective was shared by Selena:

I didn't understand about like financial aid or scholarships or anything so I didn't know what to do or what to look for so I ended up creating kind of like a financial tough spot for myself. I was trying to work full time and be in full time classes and I still couldn't pay for it. I was pulling out loans because I didn't know anything about like grants or scholarships or like how to apply to any of those. But it was strange that like I had to teach myself about the financial aid side of it. There wasn't really anybody who really explained anything and like I didn't know where to go on campus other than the financial aid office and they just kind of like throw a bunch of information at me and I was like, I don't really know how to navigate any of this. And they're like, go to the website, it'll walk you through it. And like it just, I didn't understand, so I just didn't touch it.

The varying experiences of the participants’ in accessing financial capital as a transfer student, was reflected in the ways in which they experienced the discussions during the co-design activities. They encountered different perspectives, which they described in their interviews.
For Sofia, talking to an advisor made her aware of the Dreamer scholarship at her community college, which funded her education and opened doors to other scholarship and leadership programs that provided funding for her associate’s degree. Sofia shared in her interview that she is incredibly willing to work, but because of her citizenship status it is a challenge. Leadership grants and scholarships at her community college allowed her to take on meaningful work while she completed her degree. Advisors at the community college provided access to the information to gain financial capital. When talking about why she enjoyed her time at community college, Luna spoke to how she could search for courses that had low-cost textbooks and that textbook cost was a factor in which courses she would register for. As illustrated by this example, each decision she was making, she was focused on the ways in which affordability and finances related to that decision.

Several of the participants acknowledged the hardships they themselves had experienced when it came to finances, but that it was a necessary part of the process. Phil explained that he is “willing to go into debt because yeah, I'm 33 and I realized no matter what I do I'm gonna be going into debt, so I might as well be going into debt doing something that will get me farther.” The decision to return to school for Phil was influenced by his life experience and resulting view on financial debt. When Rolando spoke about his decision to leave his initial college, he explained that he discovered in his second year that some of his financial aid was no longer available to him. He spoke to the severity of the choice to stop attending college due to finances as a decision between “education and surviving.” He referenced the process of student loans as “predatory” and how given his identity as a first-generation student, he nor his parents really understood
what the commitment was to the loans, and that since he did not have financial support from his family, he decided to leave school so that he could work to “survive.”

Lack of support around financial capital, both in terms of funding and in knowledge of how to navigate financial processes and systems for college, was a significant barrier for several of the participants. They cited finances as the reason they stopped out for a significant period of time. When it was the right time to go back to school, scholarships and financial aid programs tied to support services gave students the confidence to return to complete a degree. This was included in the visual artifacts from the transfer journey mapping activity, most commonly referenced as access to scholarships and financial aid programs. A common example was the marketing of PSU’s “Transfers Finish Free Program.” Students who were recipients of funding from the program indicated that they were either satisfied or delighted by the program. Those who did not qualify indicated in the “I wish” area of the journey map that they had qualified.

The discussion that took place after the participants added their experiences to the journey map, highlighted the varying experiences of access to financial capital. This provided an opportunity for the participants to understand the experiences that were similar to their own, even if they were described differently. They spoke to one another about how they experienced financial aid differently, and laughed when talking about some of the information that they collectively found to be misleading. An example is the “Transfers Finish Free” program that students highlighted in the journey map. The researcher observed several students in the session describe how the financial aid program did not end up being entirely “free” but that they had already invested so much
in the process of transferring that it did not impede their motivation to transfer. While not described as a positive experience, it was a common experience that students could relate to collectively.

Understanding financial concern as a collective experience is what influenced the participants to include this theme in the prototypes developed during the design sprint. The design sprint activity was an opportunity for the participants to create a visual artifact that proposed a solution to one of the problems that surfaced from previous activities. Several of the visual artifacts highlighted transparency and clear information regarding fees and cost of classes, as well as fewer requirements for financial aid, and the conversation around financial aid programs was referenced by the participants when they presented their designs. The designed solutions included educational stipends, clear information, standardized systems of information, hierarchy of needs, resources through partnerships with community organizations, and academic and financial advising. Figure 3 shows an example of one of the groups’ designs.
Figure 3 Example of a Prototype Designed by Participants

*Note.* Prototype example includes the elements of free public school, hierarchy of needs, less debt and poverty, education stipend, clear information through a federally standardized system of information, and an image of a smiling face.

Each component was related to supports that would improve their experience. The participants worked in groups to design the prototypes. In the subsequent discussion where each group gave an overview of their design, it was evident to the researcher that they included the range of experiences with financial capital that each participant brought to the activity.
Academic and Social Support

In both the co-design sessions and the interviews, participants provided examples of the how academic capital should be provided through services and tools that provide information to students in a consistent and standardized format. They gave positive examples of when academic and social support made a significant difference in their own transfer experience, and negative examples of where they felt they would have benefited from better or different support. The experiences that were shared often related to social capital and how they navigated the transfer process through various people who provided academic support.

The conversations during the activities of the design sessions revealed that participants became aware of opportunities and challenges that they had not previously considered. Gloria described her experience of the design session as “fun meeting some other people, and seeing where things were, where we had crossover, especially in the sticky note thing where there was kind of crossover, and what we experienced and what we liked and what we didn't like.” By sharing their experiences, they were exposed to new academic supports and services. During her interview, Luna shared how participating in the co-design session impacted her experience of PSU:

I feel like it has impacted my experience, I guess in terms of I've been thinking more about using more on campus resources and figuring those things out. I know that you have help and that there are like things out there, and maybe also connecting with other transfer students.

Sharing their experiences during the design session also reminded participants of their assets and accomplishments, and what support they attributed to their success. Sofia spoke to her experience of the transfer journey mapping activity and what that was like.
for her. She said “I love it because I remember how people helped me and I hear opinions about other students how they feel and what they need.” She spoke often in her interview about support programs and advisors who had encouraged her throughout her time at community college. Remembering the people who supported her was a positive aspect of the design session for her.

The participants experienced the design session as a way to increase their academic capital by accessing social capital within the design session, gaining awareness of resources and services and ways in which to overcome challenges. During the journey mapping activity, the researcher observed in the discussion the ways in which the participants referenced what they saw listed in the areas of where people had experiences where they were satisfied or delighted, and where others were dissatisfied with that same process. Even if their experience varied from other participants’ experiences, it highlighted ways in which one could navigate the system. During Selena’s interview she spoke about her experience of that discussion:

Somebody else managed to figure out a way to make what didn't work for me work for them, and it was kind of nice to see the different lines that transfer could take. But also see that like it was a little flawed and it wasn't just me not knowing what I was doing.

The discussion amongst the group in the session served as a way to share social capital while validating their personal experience of the challenge.

Participants shared in the design sessions as well as in their interviews the various ways in which they became aware of academic support, which served as a conduit for gaining academic capital. Gloria shared that she was not aware of the support resources at her community college, but that the resources at PSU were accessible. Pepe shared a
similar experience about availability of resources when he said “it’s like you guys throw it [resources] in our face all the time in a good way--you know all the places are there.”

Cecelia shared her experience of outreach from the TRIO program the summer before she transferred to PSU:

> I got an email from the TRIO program that summer being like you should apply because you kind of fit our demographic. And I never heard about the program. So, I did apply and I got in and they do a transfer bridge program over the summer and I did that, and that really helped me ease into university life because as I was able to go to campus during the summer and do little fake classes with them, and have all those tours, and it was more like individual help because it was much smaller. It wasn't just like all these people where like I had to go seek it out. They were giving me all the information I needed.

Proactive outreach from the institution made participants aware of the resources available to them, thus gaining academic capital that was helpful in navigating the transfer process.

Advising was talked about throughout the design sessions and interviews, both negatively and positively. Advisors were identified as a support person whether it was a professional staff or another student. Advisors were key to the transfer experience and related to how challenges were identified and resolved. In her interview, Penny shared that she relied on friends who were in the industry in which she is seeking a career who had previously transferred and received a degree from PSU. She trusted their experience and followed a similar path because she saw that they had been successful in reaching a similar goal. Sofia decided to attend PSU because an advisor at her community college said that they had the best Business program.

The participants also expressed experiences of dissatisfaction with accessing academic capital through advisors. Luna spoke to how she had trouble learning about the college campus and resources available because “there are a lot of different advisors, I
guess, or kind of advising type people and figuring out like who to go to for what information has been kind of hard.” Selena initially shared that her experience of transferring was positive overall. She spoke about her academic advisor as a person who made the experience easier when she started hitting roadblocks. However, she also shared that she had experienced times when she did not receive a response to her questions, and that when she did not hear back, she would give up. She spoke about a specific example of when she was trying to understand how her credits would transfer into a specific major, and she did not feel like she was getting the information she needed and that she “just kinda went with it.” She explained that she did not feel heard or understood by her advisor when trying to understand the difference between degree programs:

I was like, that's confusing, I don't get the difference like I don't understand what the difference is, which one is better for what I'm trying to do? And he was like, it doesn't really matter just choose. And that was kind of frustrating because I was like you're here to guide me and help me and you're not really, you're not really guiding me and helping me so I just kind of chose one. And I went with a bachelors in science instead of art.

The experiences of accessing social capital to identify appropriate academic support was prevalent in the conversations that the researcher observed during the design sessions as well as in the visual artifacts.

The journey map and the prototypes from the design sprint both included aspects of types of capital and the support needed to access the capital. In outlining their transfer journey, participants included financial capital in the form of financial aid and scholarships accessed through advising and financial counseling; social capital in form of relationships with peers and advisors; academic capital in the form of academic planning
through available tools and advisors, academic support from tutoring and coaching, and navigating challenges with advisors or instructors.

The prototypes that they subsequently created during the design sprint focused on these aspects of their experience. Through the interview process, the researcher confirmed with participants that the designs focused both on financial support and systemic change, as well as academic support through access to degree planning tools that would include information on cost. The researcher observed in both the design session discussions and in the interviews, that the students discussed the ways in which they developed social capital through academic support to navigate challenges they faced in their transfer experience, and that they learned from one another’s experiences within the design session.

**Approach to Overcoming Challenges**

When talking about their transfer experience in the co-design sessions and in their interviews, participants often described the challenges they encountered during the transfer process. Some of the challenges they encountered, they described as being anticipated and as a necessary part of the process. The stress was seen as something that was a part of the learning process or process of earning a degree. Pepe mentioned in his interview that “juggling life was, I don't think was something that we talked about as an obstacle because we realized that was part of what we were going to be doing while going to school.” Similarly, Rolando shared that “even though school was a little stressful, like I said, but it's a good. I see it as a good stress. It's a learning stress. It's
The discussions during the co-design sessions reflected a recognition of the skills and knowledge they acquired to be able to navigate these necessary challenges.

To the researcher, the participants appeared to be focused and made choices in their educational path based on what was going to be needed to reach their goal. Selena expressed in her interview that the transfer process was “pretty easy for the most part” because she had been focused on transferring and had been planning slowly over two years. Ronaldo expressed that he “always had this weird like ‘I don't want to die without a degree’ for some reason.” He stated that this was something that has continued to stick with him and that he knew “I'm gonna go back and finish like somehow, someday but I don't I didn't know how. And now, it's happening.”

In the co-design sessions, a number of the participants expressed a goal of attending graduate school after completing their bachelor’s degree. Several of them changed their major based on what would make their path to graduate school more efficient, usually after talking to an advisor or support person. The researcher observed the participants’ validation of one another’s plans to complete their degree efficiently so that they could pursue advanced degrees to meet their career goals. This was observed through nodding of heads and spoken confirmation that they were pursuing a similar degree path, or had been given similar advice.

**Influence of Life Experiences and Values on Co-Design Experience**

They way students expressed their transfer student experience was connected to the ways in which they engaged with the co-design session. They were positioned as experts in their experience and they were learning from each other while they were
contributing to the session. When speaking to her experience of the co-design session, Penny said “I feel like it was true to the experience that I've already been having. I think a lot of the people that have been very friendly and busy. And that was like kind of the energy of the session.” The design sessions were perceived by the participants as an opportunity to explore their experience as a first-generation transfer student through their identified lenses, and to share their experience as experts in the design process.

One of the activities in the co-design session resulted in a visual artifact that listed the perspectives and lenses that each of the participants felt they brought to the session. Figure 4 is an example of the perspectives identified by students in one of the co-design sessions.
Figure 4 Visual Artifact from the Perspectives Activity

Note. The visual artifact is an example of the Perspectives Activity. A full transcription of responses from this activity in the co-design sessions can be found in Appendix I. The experience of this activity was described by several of the participants in their interviews. During the activity, Gloria shared that due to having a personality disorder
she intentionally does not grasp on to specific identities, and that she struggled with the activity. Cecelia shared her perspective of the activity and a different way in which the activity was challenging.

I thought is very interesting how like everyone else kind of thought of themselves and I also was like, well, I didn't actually put everything that I could, possibly could because identity is such a like extensive concept that like even though you gave us a lot of time, I still was like blanking, and even then, I was like there is more!

She went on to explain how her approach to the activity was different from others. She spoke to how another participant chose to share what she felt were “more like accomplishments, you know, than like I guess then things that are like ingrained in you in a way.”

In a similar way, Phil explained his experience of this activity and that he noticed that he had a different approach to sharing his lenses. He stated that he perceived lenses such as “poor, I am from this community, or I am dealing with this problem” as more generalized and that he chose to share more personal experiences that impacted his perspectives. He further explained “And it was, it's interesting to see that they obviously think those are really big parts of themselves and where they come from . . . and it's kind of interesting that I forgot about that in myself.” He also noted that it was interesting to notice the spoken and physical reactions of other participants when we were sharing about our lenses in the session. He said, “Yeah, it was interesting and to see some of the reactions to other people reading those things because there were a few people [who] were seeing things they didn't think about and that attributed to them.”
Other participants shared in their interviews that the activity was helpful in seeing that other participants shared lenses or identities that they held. Pepe and Ronaldo both shared during their interviews that this activity showed them that even though their experiences were not exactly the same, it highlighted that the other participants had significant life experience that felt relatable. The life experiences and the perspectives participants identified for themselves impacted the way in which they experienced the design session.

**Age and Life Experiences**

Life experiences outside of their college experiences were talked about both in the design sessions and in the interviews. Most of the participants highlighted that they were non-traditional students and that their experience was significantly impacted by their age or life experiences. The knowledge they gained outside of college impacted their choices and ways in which they navigated challenges.

The impact of the participants’ age was referenced in their experience as a first-generation transfer student, as well as a participant in the design session. Penny shared about her initial college experience.

I think I was too young to be in the program and I don't think I got as much out of it as I would have, if I had gone now. I'm 30 now and when I was in that program, I was 18. And so, I didn't really have a good sense of direction but it was wonderful for what it was.

Cecelia shared that she “started college when I was about 28 and so it was very like strange experience to like, transfer into academia after such a long time of not ever being like haven't been in school for about 10 years.” Even though most of the participants across both co-design sessions identified as older students, they spoke to their experience
as not being the average experience. Phil shared, “And I mean, I'm 33 years old so I'm coming at this a little bit later than most people.” Pepe shared his reflection of the session and how he related to the other participants regarding his age.

Not that everyone, anyone in there was my age, near my age, but it was still like I left there feeling like, they had stuff going on in their lives . . . just everyone's had an experience, and it kind of just let me know that again, and shine light on it and I got to see these people who have a hard time going to school too, you know? Going back to school is sometimes harder than it should be and we all we're all experiencing it.

The design sessions provided an opportunity for these students to see that they had a shared “non-traditional” experience of going to college. Deciding to return to school later in life was often a financial decision as was described in relation to financial capital and support. In the interview, Rolando spoke to his choice to return to school when he was older because he was able to finance his education without having to work full-time and was confident in his choice. He stated “I couldn't work full-time and go to school because that's not how I function. I just knew I couldn't because it's either or, you know, I need to like [decide] what's more important for me.”

Pepe described in his interview that after transferring, he began to notice that there are more older students in his classes and this has impacted his experience.

I have a couple friends that are around my age that I met last year that are in the same program that I am. And you know, [in] my business class there's a lot of older people in it and so it was just like one of those like ‘eureka’ like yeah, it took the ignorant shadow off . . . it just made PSU kind of like more of my school, you know?

The experience of being with other “older” students in class helped to confirm Pepe’s commitment to the institution. Additionally, seeing similar life experiences was a proxy for age when it came to how the participants related to one another’s perspectives in the
design session. While they did not necessarily want to see one another struggle, seeing that they faced similar challenges was validating.

**Exploration of First-Generation Transfer Student Identity and Experience**

Unnecessary challenges or issues showed up in visual artifacts in journey mapping as well as in the prototypes created as part of the design sprint. Participants also spoke to this during the interview process when talking about being a first-generation transfer student and whether or not that identity resonated with their experience or how they make meaning of their experiences. There were quite a few examples of how they did not have family knowledge or support for navigating processes. They spoke to their own strengths and skills that came into play to either advocate for support or in how they chose to approach finding a solution.

This is related to many of the expressed experiences of being a first-generation transfer student, in that they have had to learn at least two different institutional systems and the inconsistency between the two systems is what makes the adjustment to a new environment challenging. They had to seek out information and learned from the experience of others who were outside of their immediate family or support network. Luna shared in her interview that she does not have anyone in her family who is college educated and thus relies on campus resources or figuring things out by herself.

**Generational Impact**

Several of the participants spoke to the generational impact of being a first-generation transfer student. This was illustrated in the way participants, who are also parents, spoke to how their children experience education differently than they did. Sofia
shared that her mother learned to read when she was over the age of 40, and that she did not have the help of her parents when completing school work. This is now experienced differently by her children who are aware of her being in school.

Yeah, because they know. My little boy, he started middle school, and he is very interested in the grades and how this works. ‘Oh, I have A’s. Oh, I will be like you because you have A’s. I have A’s now.’ Yeah, so they get inspired by the role model that they have.

Pepe shared the experience of participating in the design session and how it made him realize the difficult challenges he had overcome. Realizing these challenges, he expressed that he was “so glad I made it a lot easier for my daughter, and I’ve never said it to my daughter and everything, but they do [have it easier].”

The participants who are parents experienced the co-design session from their own personal lens as a first-generation student, and how they see education being different for their children who are second-generation students. During their interviews and in the co-design sessions they shared how their experiences are making it “easier” for their children. This dual lens was interpreted by the researcher as influential in how they experienced the co-design sessions.

Value of Impact on Systemic Change

The participants, parents or not, were focused on systemic changes and paying it forward for other students. During the co-design sessions, the researcher observed through the discussion that the participants found value in participating in co-design to create a system to help others overcome challenges. Selena stated that “it was really cool to meet other students who had similar experiences, but also brainstorm to help bridge those gaps that we struggled with for other students so that they didn't struggle with it.”
After participating in the co-design session, Selena spoke about a new found interest in working with other students to pose problems and design solutions because she wanted to make a difference for future students.

And so, it gave me a new found interest, I guess. Just because I would hate for somebody to have to go through the transfer situation and go through any of the stuff that I went through or any of the stuff that anyone else in our group went through because I feel like college should be enjoyable and fun and the transfer situation can like deter students from you know achieving their dreams and things. So, it was really interesting to learn about how to go about planning things or creating things or ideas to fix issues that maybe aren't so big to other people, but are really big issues for transfer students.

The design session emphasized the lived experiences of transfer students, by validating what they saw as challenges. It also provided tools for problem solving with the intention of helping future students. Luna spoke to the parts of the co-design session that felt valuable to her, and stated that she enjoyed the “ability to share my perspective of being a transfer student and hear other people's and help try and think and problem solve what would help us and help future transfer students.”

The visual artifacts showed a networked and systemic view of challenges. The design sprint activity resulted in prototypes of solutions that were not just about providing education stipends or improving the degree audit, but about affordability of college on a national or systemic level. The researcher validated this finding with all of the participants in their interviews. While reviewing the visual artifacts together with the researcher, Pepe reiterated the systemic lens his group took when prototyping solutions.

Yeah, it was very policy based. Like you said it was very [connected to] how we need to change policy, not the school, [it’s] not the school’s fault. It wasn’t finger pointing . . . it felt like as a country as our people, we should educate our people. That's what it felt like.
Rolando expressed a similar sentiment when reviewing the visual artifacts with the researcher. He recalled the design session and how the conversation felt intense when everyone was talking about the feeling that the financial and process challenges for which they were designing solutions were tied to larger systemic issues. He emphasized what he took away from the conversation was that the system of higher education was designed to benefit privileged people, and that the group in the co-design session felt angry about this and wanted the system to be redesigned to benefit society as a whole.

The co-design sessions were viewed by the participants as an opportunity see their experiences personally validated. They then made connections across their collective experiences to explore the ways that the challenges they outlined are caused by larger systems. Through speaking about their motivation for participating in the co-design sessions, the value of “paying it forward” for future students in a systemic way emerged. Selena expressed her perception of how the other participants experienced the co-design session.

I think they experienced it pretty well. We seem to really bounce ideas off of each other and seem to be very interested in actually coming up with plans and ideas. I've been a part of other studies where participants were there just for whatever the payment was or like the end goal. They weren't really interested in the meat part of the science, which was kind of interesting. It also seems like [the participants] really cared to make a difference, which is really important in studies like these.

The values of the participants influenced their participation in the co-design session, as well as affected the way they experienced the environment of the sessions.
Co-Design Environment and Experience of Campus Climate

The participants described their experiences of feeling connected within the co-design sessions as well as in their community colleges and PSU. The environments were described less in a physical sense and more in the way that students felt seen or heard. Validation and recognition of their identities was important, particularly that of being a first-generation transfer student. There was a reciprocal relationship between the perceived climate of the institution and their sense of belonging. When they felt seen or heard, they felt like the climate of the institution was warmer. When they felt isolated, the climate of the institution felt cooler. Their experiences of the climate of the institution also influenced the way in which they experienced the co-design sessions.

Awareness of First-Generation Transfer Student Identity

The participants expressed pride in being first-generation college students and reflected on how that identity was intersectional. When asked during the interview if the term ‘first-generation’ resonated with her, Cecelia shared that it is an identity that resonates deeply with her.

I'm also first generation like just born in the U.S., so for me there's a lot with first generation because it's not just with my education it's even with my citizenship and heritage and everything so for me, it’s like first generation has always just been an identity of mine ever since I was born practically. I'm very big on speaking about first generation experience because my dad didn't even go to middle school, he dropped out in seventh grade or something, and my mom, I don't think she finished high school even, but when she came to the U.S., she did her GED. I didn’t realize she like didn’t go to high school at that point, so it's very important for me to have that identity.

Several of the participants became aware of their identity as a first-generation student much later. Selena said during her interview that she “actually didn't know what that was
until like a year ago.” She was aware that her parents had not gone to college and that while she had to “adventure through” the process of going to college, she still viewed her mother as being very supportive and helping in the ways that she was able.

The design session provided an opportunity for many of the participants to meet other first-generation students and to realize that they were not alone in this experience. When talking about her experience of the co-design session, Penny shared that her transfer experience was challenging, but the realization that there were other first-generation students who shared experiences with her was validating.

Um, I think it was challenging in the way that everything post-pandemic is kind of challenging, just like connecting with a stranger for the first time in a long time. But it was rewarding and fun and I felt like everyone in the room was pretty open to the experience and was friendly, so it didn't feel very awkward and it was also, I think validating in a way to hear from people that have had a similar experience as me, just knowing that I'm not the only first-generation student was nice.

The researcher observed the significance for the participants of being in a room of all students who were first-generation transfer students. This was reflected in their interviews as well as in the observed behavior during the discussions in the co-design sessions when participants discussed how being a first-generation student impacted their various experiences.

When talking about their experience of the transfer process, several students spoke to the positive community college experience that resulted in building confidence even after time away from school. The time away from school and life experience gained during that time was an asset, and the academic support they received, or not, impacted their experience of the climate of the institution. This experience was compared to their
experiences of transferring to PSU. Both positive and negative experiences were illustrated in the journey mapping activity as well as in the interview process. The activities and visual artifacts were interesting primers for the questions in the interview process and allowed for students to reflect in a different way in regards to their experiences. During her interview, Sofia discussed the ways in which the programs at her community college supported her to embrace her identities.

It was amazing because this gave me the opportunity to remember that like I still have dreams to accomplish and it's never is late to start again and change our lives. [Community College Program Name] also was important because this [taught] me about who I am and where I am. You know? Because it's, it's about social justice, social justice is who are you where you from and stuff like that, that I didn't have idea that this was important to many people. And depending how people look at you and how you're a parent is how people treat you sometimes. I mean not every time but sometimes it is important. Your language, your skin color, and everything.

She experienced a very welcoming climate at the community college because of the support programs that encouraged her to embrace her identities as an asset. She expressed that this was lost when she transferred and she no longer had programs that provided this level of engagement and support.

Participation in the co-design process highlighted instances where participants experienced education differently. In some cases, it led to “feeling seen” and created a sense of belonging. In other cases, participants expressed seeing these differences as isolating. There is a tension that exists between the validation of identities as fostering belonging or isolation. Sofia provided an example of when she felt isolated in the design session when she could not relate to the financial assistance available at PSU because of her citizenship status, which was not seen as a barrier at her community college. Despite
the feeling of not being able to relate to the other participants when it came to their experiences of financial assistance, she expressed in the interview that the co-design session helped her to process the information and her experience. It helped her to understand the system better, and know that she is not the only student facing challenges.

Rolando referred to sharing his experience and hearing other participants’ experiences as feeling “collegiate” and that it was what he felt like education should feel like. He stated that “it feels good to speak in a forum, you know, be heard. Yeah, just the connection. I think that's the main thing, and to be heard.” Pepe described that he gained an understanding of what other students are going through and that it was similar to his experience and that he “just felt more of a closeness with, you know, the group that I was with. So, it was great.” Penny shared that getting to know one another through the activities in the beginning of the session was important to the end result, which was the prototypes from the design sprint. She explained that “knowing now that the end result was us working one-on-one, I'm happy that we got to know each other a little bit in the beginning.”

The co-design sessions were experienced by the participants as an opportunity to explore their identity as a first-generation transfer student by working with other first-generation transfer students. This co-design process was the first opportunity for many of the participants to see that there were other first-generation transfer students. They felt seen by one another and the institution because of this opportunity.
Co-Design Environment and Process as Building Belonging

The activities that were a part of the co-design process were experienced as ways to build belonging. The journey mapping activity allowed for the participants to personally reflect on their experience and then see and hear from the other participants experiences that affirmed their experience or provided insight into experiences that was very different from their own. During the interview process, Selena shared that the journey mapping activity validated her experience while also helping her to see other perspectives:

I really liked the timeline that we created just to kind of see what things worked, what things didn't work, because it made it really easy to come up with ideas and things from that and it was nice to kind of see for myself personally, what like my timeline was and how it matched up with other transfer students as well.

Sofia expressed a similar sentiment during her interview when speaking what she found valuable about the co-design process, “Yeah, and hear other students’ experience. Yeah, and see how your experience was different than them. And maybe understand why your experience is different than the others.”

During the co-design sessions, the researcher observed a change in the environment of the sessions after completing the “Thing from the Future” activity. The activity consisted of randomly drawing cards that provided context for creating an artifact from the future. Figure 5 shows examples of the visual artifacts created during this activity.
Figure 5  Example of Artifacts from "Thing from the Future" Activity

Note. The first image of an illustrated crown has an explanation that reads “Crown that when placed on head it immediately downloads into brain all forms of empathy, basic knowledge and rules/ways of life in a dignified way.” The second image of an illustrated microchip has an explanation that reads “A crystal-based microchip that implants into the brain and offers forgiveness, understanding, and rehabilitation to those who have committed crimes.”
The participants worked independently to draw an artifact from the future and then the researcher facilitated a conversation where they shared what they designed. The way in which the participants engaged with one another in conversation seemed to shift while they were sharing their drawings as part of the activity. The researcher validated this observation with the participants in the interview sessions. Penny indicated that she felt as though other participants seem “unhappy like, and not super open, and then, by the end, they were smiling.” She remembered seeing that change and feeling like it was “nice for everyone.” Rolando described the benefits of doing the activity individually, and then discussing as a group resulting in feeling vulnerable, which built connection amongst the group.

I think that was that was really good thing to do because it really helps open the floor. And really set the tone for being very creative and open and doing things, and being vulnerable is also a big thing because when you're being creative, you're being vulnerable. And a lot of people don't like doing that.

Phil also referenced feeling vulnerable during the activity in his observation of how other participants experienced the co-design session.

Oh yeah, it's very vulnerable. And so, it’s interesting that [the other participants] were very reserved in the beginning and then we did the game that was a more fun lighthearted thing, and they saw everybody else giving, being a little bit more vulnerable and creative and then they also see like, oh, I could do that. Oh, I could have done that and it kind of starts things moving in that direction. Gets people in the brain like that mental state of like, oh we can do other things than what we were originally thinking. Kind of opens the doors a little bit.

Gloria also discussed her experience of the activity and how the structure helped her to feel more comfortable.

Because I have borderline personality disorder and small talk makes me uncomfortable, it's like a lot of the surface conversations that I feel people just kind of like go to just in general, like person-to-person interaction, like buying
coffee or something is makes me uncomfortable . . . So, the artifact game was, I think valuable in that it allowed everyone to interact on a less like superficial level.

The activity was experienced by the participants in a way that allowed for them to have meaningful discussions more quickly within the co-design sessions.

The activities in the co-design session were experienced by the participants as both community building and valuable. During their interviews after the co-design sessions, participants spoke about the value of working together and how it created a warmer climate through connection. Selena expressed her thoughts on how it enhanced her sense of community through validation of her experiences.

It gave me a little more sense of a community than before because of I haven't really spent a lot of time with other PSU students unless it's for class purposes. It was also kind of nice to meet people who were in the same kind of area that I was and to see that the struggles that I was dealing with were real struggles that needed to be talked about in to possibly be fixed. So that was nice.

Rolando also spoke about his experience of discussing hardships during the co-design session and that he felt that the conversation was focused on negative aspects of their collective experience. He also stated that “I'm guessing these hardships can also help on the way on how to facilitate and how to have more support in a collegiate setting.”

Pepe discussed the experience of the action and “physicalness” of the activities and how that felt valuable to him because of the interaction with the other participants.

No, the valuable part was the action of all of us getting up and drawing pictures, and I’m pointing to the one I drew, but any of them, just drawing pictures or even the, the way that we did the sheets and how we felt with the different colors of books [referencing one of the designs], I really enjoyed that the interaction of doing that with, I forget my partner’s name, I apologize, but you know, we both thought you know, I put a little part on there and then I handed it to her and she was drawing the same thing that I was, you know? So, I think it was the interaction of the physicalness of like yes, you know, instead of just talking about
something that we got up and we're like now, even talking to you, I look back at him I was like ‘oh yeah’ you know?

Penny expressed a similar experience in that she felt that working together helped her to think differently about solutions because the other participants approached problems in a “more linear way” and that it would have taken her much longer to design a solution if she was not working with others.

**Modality and Engagement**

Several of the participants highlighted the experience of the transition to in-person classes as related to experience of being primarily remote in community college. For some students being remote worked really well for them and being in-person presented challenges or stress. Cecelia spoke to the positive experience she had at her community college because attending online felt easier to attend class and to “be a good student because I was able to kind of not have to be sitting still all that time. And I was able to kind of like create a very safe environment for myself.” She explained that physically being present at school was a source of anxiety for her and that having the opportunity to start online was a helpful introduction to college, and made the transfer process easier for her.

The fully online nature of many of the participants community college experience during the height of the COVID-19 pandemic impacted their experience of transferring to PSU and engaging in-person. Pepe spoke to his experience socializing at school as an older student and that he experienced some challenges navigating when to engage. He compared this to his most recent community college experience stating “I didn't really
feel like that when I was online, you know, even though all that mattered was I was getting my credits for school.”

While their experience of modality impacted their student experience, it was also connected to their experience of the co-design session. Specifically, the in-person nature of the co-design sessions was actually why several participants decided to participate. The co-design sessions were viewed as a way to re-engage with other people in-person, and some of the participants indicated that they decided to participate in the co-design sessions because it was an opportunity to practice social skills and to engage with the institution in a way that was “low-commitment.” For Rolando, this experience was the first in-person engagement activity at the university he had participated in outside of class.

I wanted to do it, because I was well intrigued by it, and second of all I wanted to make sure that I make myself available and connected to, since I'm going to be online a lot online, or like, or before, I haven't done that, like, I'm just like and I feel that to succeed, you, you have to try to connect.

In his interview, Pepe also said that participating in the co-design session was a good way for him to practice his social skills “I always have to work on, you know, my social skills . . . so that helped out a lot, you know? It's nice to talk to other people when you know, we're in a busy kind of school.”

Pepe spoke frequently about the perception of his age impacted his experience as a student. He discussed that he did not feel like he was older than other students when he was at community college most recently because he attended online. He noted that most students in synchronous online courses did not turn their video on, and so the ages of the students were not apparent. When he started attending in-person at Portland State, the age
difference was experienced. On the other hand, the in-person experiences provided an opportunity for him to overcome the challenge of being an older student and he has been able to gain clarity around his relationship to types of instruction in relation to his age. The co-design session re-emphasized for him that even though he may perceive an age difference, the modality and way in which the group interacted felt supportive and productive.

Being able to engage in-person in the co-design session was seen as a way to connect with other participants. The activities provided multiple ways to express their identities and to validate one another’s experiences. Rolando spoke to how this was significant because of the impact of isolation from the pandemic.

I think of that connection you had that ‘oh you're going through that same thing too.’ That’s good, and not that that’s good, but it's like, okay, like it’s not just me and, and that's a big thing because especially I believe after the pandemic and how we're so not people to people anymore, it's a hardship. Yeah, just the connection that I found very valuable to know that everybody had a different story, but those different stories, all had similarities. You know? Like they all, those hardships are, I mean, I remember one guy he had teenage daughters, and he's trying to finish, and he wants to show them that he can finish and do that. And the other lady, she had, you know, her I remember she was in jail and stuff, and still wanted to finish. You forget that there's so many different stories. There's not just the collegiate type, you know, the one person that's good and we can go in and do that, you forget that people go through things and still want to. What I found valuable is you see that. I guess it's so weird to say, but there's humanity, still just in school.

This story from Rolando highlighted his experience of not only of feeling seen and connected, but he illustrated how he saw the other participants and the identities that they brought with them to the co-design session. The experiences that each participant shared in the co-design session impacted the way that each person then experienced the session.
Expectation of Action and Results from Co-design

Many of the participants expressed a desire to see results of the design process, which was related to the identities, life experiences, and values they possess. This was evident in the discussion of the visual artifacts in the co-design session as well as in the interviews. Students were candid in sharing their feedback that what they desired most was change. The change they sought was often to benefit other students or future generations.

Cecelia directly spoke to her experience of the co-design session, and how because of her identities she was skeptical that action would be taken to address the challenges the participants identified.

From my experiences of all my identities, it's nice and it's like a suggestion almost to me. But when and it comes to the reality, I don't know what that's actually gonna look like because you guys haven't done anything yet with it.

She further explained during her interview that due to her past experiences at the institution, she was not convinced that change would happen and that she would need to witness that change first-hand. For Cecelia she said that “the final result is more important to me than the process of it.” Phil expressed a similar viewpoint stating that the design session was great, but that if nothing results from the design session than it is not helpful. He also said that from his experience “PSU’s not having design studies regularly to help figure out issues and ways to solve them.” This impacted his experience of the co-design process. When asked if participating in the design process impacted his experience of PSU, he responded that it “Depends on if any of our ideas get any traction.”
Pepe spoke to his experience more broadly in regards to a lack of improvements to more systemic issues by stating “I just like want to do something about it and we always talk about the financial aspect about how this is too much, and that's too much, but there's no one really doing anything about it.” He related the experience of the co-design session to the way in which he experiences people taking actions to solve larger systemic problems, such as racism.

Us talking could evolve into you know, something else, this expanding [pointing to visual artifacts] initiative for housing for college, you know? So, it was a really cool thing you saw like the wheels rolling of something that I’m talking about, where I didn't want to just talk to my friend about his racist friend and not do anything about it, but it's not like I want to go beat up the racist friend . . . so the best thing is we just don't talk to that person anymore just because we're older and stuff. But that was our action for it, you know? And so, the action that I see is that there's something going on, you're doing something, An amount of good.

For Pepe, he had experienced the institution taking action to solve problems and expressed a higher level of confidence in seeing a result from the co-design session. He talked about accessing resources saying “like you guys throw it in our face all the time in a good way you know all the places on there and so it was really cool because you're like, oh, I've seen this in action.”

**Perception of Care and Commitment**

Perception of care and commitment from the institution to support students to degree completion was experienced by students when they could recall or see actions that demonstrated that commitment. Through discussions and visual artifacts created during the co-design sessions, participants highlighted the significance of their experiences of someone who supported or cared for them, and how that impacted their experience of institutional climate and sense of belonging. The co-design session was similarly
experienced by a number of the participants as an expression of institutional commitment and care.

This was demonstrated by Sofia who said that her experience of the co-design session made her “feel that the school is thinking of the students and care about the students. And I feel safe. Yeah, this made me feel, okay they really think of the students, and how a student achieves their goals.” Rolando’s experience of the co-design session was expressed as a feeling of community and that he felt heard.

It just felt like it was a community, like you would tell you, like you were really pulling info from us, but also like, it seemed genuine so I feel like that's why people were able to open up more . . . I mean, we all like to be heard, you know? And I think that was a big part of it feeling that your voice mattered. Even just for this like session, you know?

Luna described her experiences of the co-design session as “it felt like I kind of have a community.” She explained that she taking most of her classes online she did not have an opportunity to discover or engage with other first-generation transfer students. She said it was important “to see that and kind of have like the shared experiences felt like I guess that made me feel really seen.”

The details of the co-design session were noted by participants as ways in which they “felt seen.” This was observed by the researcher during the sessions in discussions when students were validating one another’s experiences or expressed identities. In the interview, Penny spoke about how she felt like the institution cared about her.

I feel like one thing that is nice is as a person who's experienced like food insecurity. It's really nice that you put snacks out and stuff and that was a nice reminder that I think PSU like really values making sure that everyone has enough food. I think that’s nice.
The way in which the co-design session was structured, down to the smaller details of having snacks available to participants, impacted the participants’ experience of not only the session, but it was seen as an extension of the institution’s commitment.

The experience of institutional commitment and care for students in the co-design session was experienced differently by the participants. There were several participants like Cecelia and Phil who talked about how they would need to see actions that were a direct result of the design session. There were other participants like Pepe and Rolando who expressed that they had seen actions that supported their view of institutional commitment and so it was thus reinforced in the co-design process. Luna felt that the co-design session has impacted her experience of PSU.

I feel like it has impacted my experience and like, I guess in terms of like, I've been thinking more about like using more like on campus resources and figuring those things out. I do you have help and that there are like things out there. And like maybe also connecting with other transfer students. So I would say it has.

The experiences and identities that the participants brought to the design session were important in understanding how the co-design sessions were experienced, and what impact the co-design process had on each of them as individuals and collectively.

**Summary**

The design activities and the interview questions revealed key themes across first-generation transfer student experience: strategies to access and navigate education, life experiences and values influence on co-design experience, and co-design environment and experience of campus climate. Their experiences of the institution, discussed and presented during the co-design session, were influential to the ways in which they experienced the process of co-designing services for first-generation transfer students.
Participation in the co-design session provided an opportunity for most participants to “feel seen” or “connected” to the institution, and it confirmed for them a sense of institutional commitment to their success. Additionally, the participants presented a justice lens when speaking about their experiences, specifically a desire to see actions taken as a result of the co-design sessions. The participants had an overarching desire to work on systemic or “wicked problems,” thinking more broadly to improve transfer processes and information as well as affordability in an effort to make a difference for other students.
CHAPTER FIVE

The purpose of this qualitative exploratory case study was to understand the experiences of first-generation transfer students who participated in co-design of programs and services aimed at fostering a transfer receptive culture at a four-year public university. Through the study of documents and visual artifacts from the co-design process, observation during the co-design process, and interviews with the co-design participants, the researcher explored how the participants made meaning of their experience as first-generation transfer student co-designers.

The main themes that emerged from the exploratory case study: strategies to access and navigate education, life experiences and values influence on co-design experience, and co-design environment and experience of campus climate, resulted in three key findings: (1) The co-design process engaged first-generation transfer students and enhanced their sense of belonging through validation of their identities and experiences; (2) Validation of participants’ identities and life experiences shaped their participation in the co-design process as experts; and (3) Co-design of programs and services with first-generation transfer students must include action as part of the process.

Key Findings

The key findings provide insight into how first-generation transfer students experience the co-design of services. The foundational frameworks that were utilized in constructing the co-design process, transfer receptive culture and design justice, are evident in the way in which students reflected on their experiences as both first-
generation transfer students as well as the design process. These findings point to ways in which institutions can enhance transfer receptive culture through co-designing services.

**Co-Design to Enhance Sense of Belonging**

The co-design process was experienced by the participants as enhancing their sense of belonging. Consistent with Ellison and Braxton’s (2022) revised theory of student persistence, sense of belonging was expressed by the participants through recognition of institutional commitment to student welfare. The participants spoke about their experience of the co-design sessions and how they perceived the institution as caring for them by engaging in co-design work to support first-generation transfer students.

The co-design session was an opportunity for the participants to experience being in community with other first-generation transfer students. For some, it was the first time they were introduced to the term “first-generation student” and were able to explore what that meant as part of their transfer student experience. Other participants were familiar with the term “first-generation student” and had already recognized that identity in relation to their transfer student experience. They shared how this identity influenced their various educational experiences in the co-design sessions as well as in their interviews. Their reflections were often in relationship to what they heard other participants share about their experiences, and thus the community aspect of co-design guided the way in which they made meaning around their own experiences and that of the co-design sessions.
The environment of the co-design session brought them together to deepen their understanding of this identity in their lives by discussing their experiences as a transfer student in the various activities. Many participants spoke to how participating in the co-design session made them “feel seen” and “in community” because they realized that they were “not alone” in experiencing challenges, or in having similar life-experiences. They were able to talk about how they approached challenges as first-generation transfer students, and this either validated their own experience or provided new insight into how to navigate education, gaining academic capital within the co-design process.

Rendón’s (1994) theory of validation recognized the importance of validating the identities and cultural pasts of students to support their success. The participants reflected on the ways in which they “felt seen” in the co-design process which was interpreted by the researcher as an expression of validation of their identities. Through validation of their perspectives and identities in relation to their experiences as first-generation transfer students, they felt a sense of belonging among the other participants. In this way, they experienced sense of belonging as being anchored in shared purpose (Ellison & Braxton, 2022). The shared purpose was defined as successfully navigating their education to reach their goal of degree completion.

The participants experienced validation of their identities and experiences within the context of empathizing with one another. The co-design sessions included the five phases of design-thinking: empathize, define, ideate, prototype, and test (Doorley et al., 2018). The design-thinking process intentionally created space for building empathy and the participants experienced validation of their own experiences in the process of
understanding the experiences of one another. When reflecting on their experience of the co-design sessions, the participants discussed the importance of hearing diverse experiences of other first-generation transfer students as a way of making meaning of their own experience. By making meaning of their own experience, they could empathize with others who had both similar and different experiences and identities from their own. They incorporated what they personally brought to the co-design session, as well as what they learned from others, in the prototypes they created in the design sprint.

The environment of the co-design session reinforced a sense of institutional commitment to supporting their success as first-generation transfer students. The act of asking the students to share their experiences and to participate as co-designers was referenced by the participants as evidence that the institution cared about their experience and was interested in taking action to improve their experience. The institutional commitment to student welfare was a factor in sense of belonging consistent with Ellison and Braxton’s (2022) revised theory of student persistence. One of the most salient facets of belonging described by the participants was validation (Rendón, 1994). The experience of “feeling seen” in the activities of the co-design sessions was validating and fostered a sense of belonging. The process was utilized to co-design solutions to problems posed collectively, yet the most important result was that the co-design process itself enhanced sense of belonging.

**Validation Shaped Experience of Co-Design**

Validation of participants’ identities and life experiences shaped their participation in the co-design process as experts. When reflecting on their experience of
the co-design sessions, they articulated how their identities and life experiences influenced how they interacted with the activities. They also demonstrated in the co-design sessions through the artifacts and in their interviews that the activities were an opportunity to learn from the other participants. This created a sense of belonging by validating their experiences, and it also determined the ways in which the participants made meaning from the co-design process.

The identities and life experiences of each individual participant influenced the way in which they engaged with co-design sessions. The process was constructed to center the participants as experts in their own experiences. This is an important aspect of both transfer receptive culture (Jain et al., 2011, 2020) and design justice (Costanza-Chock, 2020) which were foundational frameworks for the co-design process. As such, the activities were designed and facilitated to re-enforce the notion of co-design with one another to solve challenges they collectively chose as meaningful.

One of the activities provided an opportunity for the participants to share the perspectives or lenses they brought to the session. The participants noted this activity demonstrated both the similarities and differences in terms of what perspectives were represented, but also the ways in which the different perspectives were related to one another. Similarly, the participants spoke about their experience of the journey mapping activity and how seeing both the similarities and differences in one another’s experiences influenced the way they made meaning out of their own experiences during and after the co-design sessions.
In alignment with Yosso’s (2005) framework of community cultural wealth, where the intersectional lives and identities of first-generation and historically minoritized students are seen as assets, the participants articulated the ways in which they were able to navigate challenges as related to their own personal identities and experiences. This was exemplified by participants sharing how they navigated challenges as parents, being first-generation, or as a person of color. They also shared how similar or different perspectives were represented in how each participant approached challenges in the transfer experience. This phenomenon was observed by the researcher throughout the interviews when participants reflected on their experiences, illustrating that the identities and life experiences of each participant was reflective of their experience of the co-design session. Their identities were viewed as not only assets that helped them in their transfer student experience, but also in the ways they perceived and made meaning of their experience of the co-design process. They recognized the life experiences and identities shared by one another in the co-design process as a lens to understand the broader first-generation transfer student experience.

The journey-mapping activity promoted an understanding of identities and life experiences, and was also experienced as a tool for gaining academic capital. Academic capital is the integration of the various theories of cultural capital, social capital, and human capital (St. John et al., 2011). Without utilizing the term capital, the participants described all three forms of capital when they talked about their experience as a first-generation transfer student in the journey-mapping activity. They talked about the financial and academic support needed to be successful in transferring and ultimately to
complete their degree. The influence of gaining cultural capital to navigate education as a first-generation student was referenced by all of the participants. They also spoke to the social capital gained from advisors, peers, and other supporters in order to navigate systems and overcome challenges. By sharing which of the experiences they were satisfied or delighted with, the researcher observed the academic capital that they gained. Examples included learning about support services such as tutoring and academic advising, financial aid programs and scholarships, and the positive experiences with instructors and challenging courses. These forms of capital are consistent with the overarching umbrella of academic capital (St. John et al., 2011).

The integration of level of satisfaction with transfer experiences in the journey mapping activity, resulted in the participants sharing and gaining academic capital as part of the co-design process. In their interviews, the participants reflected on the ways in which they learned from one another in the co-design session, and would then be able to utilize the information and capital gained in their education. Laanan et al. (2010) defined transfer capital to more specifically address the ways that transfer students accumulated knowledge about the transfer process and that knowledge influenced their success in transfer. The co-design process was experienced by the participants as a way to share and gain transfer capital.

The process of co-design, based on a design justice framework (Costanza-Chock, 2020), reinforced that the participants were experts in their own experience. This was an asset-based approach that is related to community cultural wealth (Yosso, 2005) and a transfer receptive culture (Jain et al., 2011, 2020) by design. This was felt by the
participants who described the validation of their identities and life experiences through the activities and a subsequent sense of belonging. Sense of belonging was experienced in an environment where the participants were empowered as experts, and as a result, the other participants gained academic and transfer capital. Validation of participants as experts provided deeper gains of capital and enhanced their experience of the co-design process.

**Co-Design Must Include Action**

The participants engaged in the activities of the co-design sessions from both their own perspectives, but also from what they were learning from one another. They gained empathy and insights from hearing the experiences of one another and this was reflected in the prototypes that they created during the final design sprint activity. The designs they co-created included specific solutions, such as stipends or community partnerships or an enhanced degree planning tool. Most of the designs also included aspects of affordability and restructuring of the costs of higher education. The participants spoke about how they saw a connection between co-designing services for first-generation transfer students and the need for larger societal changes to improve education.

Several of the participants shared that they would need to see results from the co-design session before they could determine if participating in the process impacted their experience of the institution. This was shared explicitly by two participants who stated that they were most interested in the results of the process. Others shared that by participating in the process, they were making a difference for transfer students of the future. In both cases, the participants were focused on change in the education system to
better support the experiences of first-generation transfer students. The call to action is consistent with the theoretical framework of critical race theory that underpins both transfer receptive culture and design justice (Costanza-Chock, 2020; Jain et al., 2020; Solórzano, 1998).

The co-design process included design-thinking strategies with a design justice lens. As such, the participants were invited to problem-posing as a group through a series of activities and then to work together to create prototypes of solutions. The process of problem-posing (Freire, 1970) in the design-thinking process revealed the wicked problem of equity in higher education (Buchanan, 1992; Peck & DeSawal, 2021). In the process of examining their own educational experiences as well as listening to the experiences of the other participants, they identified a common thread across the experiences. The common thread was then used to interrogate the root cause of the challenge.

The participants spoke at length during the co-design sessions and during the interviews about affordability and financial support for higher education. They worked together and discussed the underlying systemic issues that impacted their own personal experiences as first-generation transfer students. These discussions influenced the prototypes they created during the design sprint that focused not only on specific solutions, but on the underlying issue of access to higher education fueled by affordability. They reflected on the experience of the co-design session in their interviews and spoke to the ways in which they felt this process uncovered a broader systemic problem that impacted their collective experience.
Despite the recognition of their varied experiences when it came to affordability of their education, each group focused on designing a solution that would benefit those most vulnerable. This approach was aligned with the lens of design justice in that the participants designed solutions with an underlying value of “liberation from exploitative and oppressive systems” (Costanza-Chock, 2020, p. 6). In turn, the participants expected that the resulting actions of the Transfer & Returning Student Resource Center would be in response to the larger systemic problem they posed.

Through intentional design of the co-design process, the identities and life experiences that the participants brought to the co-design sessions were centered, and thus resulted in the participants feeling validated. The design justice lens on the design thinking process, paired with the intention of co-designing services for first-generation transfer students aimed at fostering a transfer receptive culture, provided the environment where participants were empowered to express a call to action on complex, systemic issues in higher education. The desire for action from the participants is consistent with the foundational frameworks that were utilized to construct the process. The method of co-designing services with first-generation transfer students aligns with the literature on supporting the success of both transfer students and first-generation students through a transfer receptive culture.

Co-design of programs and services with first-generation transfer students is therefore an effective process for engaging students when there is action as part of the process. The co-design process is structured as a cycle, and participants needed to see that
action would result from their efforts. When utilizing frameworks that prioritize taking action, a plan for action must be demonstrated in the co-design process.

**Implications for Practice and Theory**

The key findings are intersectional, much like the tenets of transfer receptive culture and design justice. The co-design process was an opportunity to engage first-generation transfer students and enhance their sense of belonging through validation of their identities and experiences. The validation of their identities and life experiences influenced their participation in the co-design process and influenced how they interpreted their experience of the co-design process afterwards. They developed empathy for one another and this influenced the scale of action they wanted to see as a result of the co-design process, specifically how the process could have a larger systemic effect.

A design justice focused co-design process provided an opportunity for participants to explore the aspects of transfer receptive culture. Both frameworks are grounded in critical race theory. The layering of a design justice lens on design-thinking strategies was an appropriate process for uncovering how first-generation transfer students experienced aspects transfer receptive culture. The alignment of frameworks provided the environment for first-generation transfer students to design solutions for building a more robust transfer receptive culture. This research study was the first to align these frameworks to analyze the experience of first-generation transfer students.

This exploratory case study revealed the ways in which an institution can improve the first-generation transfer student experience through co-designing services with
students. The process itself was an intervention that enabled students to enhance their sense of belonging and to gain capital. It also yielded co-designed solutions to local and systemic challenges. The findings show that through co-designing services with a design justice lens, institutional commitment is expressed and a sense of belonging is fostered.

**Design-Thinking for a Transfer Receptive Culture**

Design-thinking strategies with a design justice lens can be used to build a transfer receptive culture. Co-designing services to build or enhance a transfer receptive culture is an opportunity for institutions to take an active role in validating the identities and life experiences of first-generation transfer students. Through validating student identities as assets for completing their degree, practitioners can foster a sense of belonging within the co-design session which then creates the environment for students to meaningfully engage in the design process. Meaningful engagement in the design process sets the foundation for exploration of the complex problems facing first-generation transfer students.

Transfer receptive culture as a framework recognizes the necessity of four-year institutions to prioritize and specialize in receiving transfer students (Jain et al., 2020). Jain et al. (2020) highlighted that centering historically underrepresented students, such as first-generation students, is the most important outcome of a transfer receptive culture. Design justice principles center the voices of people who are directly impacted by the design process (Costanza-Chock, 2020). When design thinking strategies with a design justice lens were utilized in the co-design of services with first-generation transfer students, it was evident to the participants that their experience was being prioritized by
the institution. When an institution seeks to develop a transfer receptive culture, demonstrating action towards this goal is necessary. This exploratory case-study revealed a way to expand upon the framework of transfer receptive culture by creating opportunities to validate student identities and experiences through an active engagement process. Design-thinking strategies are an active process that demonstrates commitment to prioritizing first-generation transfer students when utilizing a design justice lens.

The fifth element of a transfer receptive culture is to “create an appropriate and organic framework from which to assess, evaluate, and enhance transfer receptive programs and initiatives that can lead to further scholarship on transfer students” (Jain et al., 2011, p. 258). Co-designing services with students can be used as an appropriate framework to assess transfer receptive programs. In addition to collecting and analyzing demographic and transfer specific data as proposed by Jain et al. (2020), the co-design process can be used to center and integrate transfer student voices in the assessment process. The activities within the co-design process in this case study provided insights on how current first-generation transfer students are experiencing their current services and programs. Additionally, the activities produced artifacts and ideas for how to enhance a transfer receptive culture, including specific solutions.

**Design Justice for Belonging**

Design justice principles should be utilized when engaging in co-design of services with first-generation transfer students. The lens of design justice influenced the structure of the co-design sessions and the ways in which the participants engaged with
one another. This resulted in a process that is appropriate for working with students to create a warm environment that fosters belonging.

Design-thinking strategies are utilized to solve complex problems (Buchanan, 1992; Gilbert et al., 2018) and are appropriate for use with first-generation transfer students because the challenges they face are incredibly complex. Through the co-design process participants quickly uncovered the systemic issues that drive the individual challenges they faced in the transfer process. The co-design sessions were intentionally crafted with a design justice lens which fostered an environment where the participants were empowered to take on larger systemic issues.

The fourth principle of design justice states that “we view change as emergent from an accountable, accessible, and collaborative process, rather than as a point at the end of a process” (Costanza-Chock, 2020, p. 6). The systemic nature of the problem posed by the participants, highlighted the need in future practice to extend the timeline of the co-design process. One of the participants, Rolando, provided a recommendation during his interview to create a cohort of first-generation transfer student designers who could work throughout a term to co-design services and programs. He spoke to how the process helped him to feel like he was part of a community, and he was motivated to continue to work on the wicked problem of improving transfer student experience and outcomes.

The design-thinking process does not have a specific end-point, but is rather described as a cycle because you continue to learn from testing solutions that are designed in the process (Doorley et al., 2018). Development of strategic and on-going co-
design processes with students can provide an accountable and collaborative process that
demonstrates institutional commitment to student welfare and success. Demonstration of
institutional commitment then fosters belonging and has the potential to improve
outcomes for first-generation transfer students. Co-design of services to enhance a
transfer receptive culture is an opportunity to understand the intersection of first-
generation and transfer, and to improve the outcomes in transfer and degree completion.

Co-design of programs and services for the Transfer & Returning Student
Resource Center, and in higher education more broadly, should include an ongoing way
in which the participants can experience the cyclical nature of the design process. This
will provide an opportunity for action by the institution to prioritize first-generation
transfer students and their experiences. It will create a deeper sense of belonging for first-
generation transfer students who participate in co-design processes and has the potential
to affect increased transfer and degree completion.

Future Research

This qualitative exploratory case-study was conducted to understand: what are the
experiences of first-generation transfer students who participate in co-design of programs
and services aimed at fostering a transfer receptive culture at a four-year public
university? The research question was appropriate for an exploratory case-study because
the goal was to develop “pertinent hypotheses and propositions for future research” (Yin
& Campbell, 2018, p. 10). Future research that expands this single exploratory case study
to multiple sites is recommended to see if the findings are similar across multiple sites of
similar institutions. For this reason, a multiple-case replication design is recommended to test for similar results (Yin & Campbell, 2018).

One of the key findings from this research study was that participants wanted to see action as a result of the co-design process. Given the time it takes to fully implement solutions and demonstrate action, further research is needed on the longer-term impact of participating in the co-design process on their experience of the institution. The participants may also have new experiences that could inform the key findings around validation, belonging, and institutional commitment on transfer receptive culture. This is a recommendation for future research, as well as for ongoing practice within the Transfer & Returning Student Resource Center when using co-design processes within their program.

In alignment with the fifth element of transfer receptive culture (Jain et al., 2011, 2020), co-designing with students can serve as a tool for assessing transfer receptive programs. The activities in the co-design process can provide an assessment of how practices and policies are experienced by students, evaluating the intended effects of the program. The co-designers should be recognized as experts in their experience and positioned to evaluate challenges and potential solutions. As this exploratory case study demonstrated, the results from the process include identification of challenges, levels of satisfaction with programs and services, as well as proposed solutions to challenges. Additionally, the process itself enhanced sense of belonging.

Co-designing with students can also enhance transfer student scholarship through future research with first-generation transfer student co-designers. Their participation as
co-designers provided the opportunity to more deeply understand how design-thinking through a design justice lens can inform the future of developing transfer receptive cultures. This study highlighted the importance of demonstrating action as a result of the co-design process, and how co-designing services is one way in which to demonstrate action and prioritization of transfer students at an institution. Participatory action research would be an appropriate methodology to utilize with the co-designers as the process involves an explicit commitment to action and would involve full collaboration between researcher and participants (Marshall et al., 2022; Merriam & Tisdell, 2016). The methodology would further validate participant expertise to collaborate on the research design, and would be an appropriate extension of this exploratory case study.

**Conclusion**

There is limited research on degree completion of first-generation transfer students, and the factors that support their success specifically. What is known, is that 38% of students enrolled in public two-year institutions in 2011-2012 were first-generation students (U.S. Department of Education, Institute of Education Sciences, 2020), and that 80% of community college students indicated that they intended to transfer to a four-year institution, yet only one third of those students transferred, and only 13% completed a baccalaureate degree within six-years (Jenkins & Fink, 2015; Shapiro et al., 2017; Skomsvold & Horn, 2011). Community college students who transfer and complete their bachelor’s degree at a four-year institution have a significantly higher annual net income over their lifetime than for those who do not complete their degree (Jenkins & Fink, 2015). Understanding how institutions can
support students with the intersectional identities of first-generation transfer students through co-designing services fills a gap in the existing literature.

Through this qualitative exploratory case-study, key findings are that first-generation transfer students experienced co-designing services as validating of their identities and experiences and this enhanced their sense of belonging. The validation of their identities shaped their participation in the co-design process as experts, and ultimately resulted in an understanding more deeply that co-design of programs and services must include action as part of the process. The actions must work to solve specific challenges through recognition of larger systemic problems that are at the root of the issues. This case-study not only contributes to the literature on first-generation transfer students, but also on understanding how co-design processes are experienced by student participants. As the demographics shift in higher education to include an even more diverse student body, co-design with students is a strategy that can enable a sense of belonging for historically minoritized students and surface innovative solutions to the challenges of the future.
REFERENCES


https://ssir.org/articles/entry/design_thinking_for_higher_education


Haley, K., Harris, R., & Spencer, L. (2021). Prototyping and student engagement: A case study in design thinking. In A. Peck & D. DeSawal (Eds.), *Applying design thinking to the measurement of experiential learning* (pp. 234–243).


https://doi.org/10.1177/0091552117716771


https://doi.org/10.14321/j.ctvs09qkh


https://doi.org/10.7916/D8ZG6R55


https://doi.org/10.18848/2325-1328/CGP/v13i01/21-33


https://doi.org/10.1109/iV.2018.00068


National Center for Education Statistics. (2021). *Student enrollment: How many degree-seeking undergraduate students are enrolled in postsecondary institutions as transfer-in students in the fall?* Trend Generator. https://nces.ed.gov/ipeds/TrendGenerator/app/answer/2/4


https://doi.org/10.4324/9781315297293


https://doi.org/10.3102/00346543045001089


APPENDIX A: EMAIL INVITATION TO PARTICIPANTS

Email Invitation to Participants
Invitation to Participate in Research Study on Transfer Students!

Randi Harris, a doctoral student at Portland State University in the College of Education, is seeking participants for a research study of first-generation transfer students.

As a participant in the research study, you will have the opportunity to learn about design-thinking and be a co-designer of programming and services for first-generation transfer students at the PSU Transfer & Returning Student Resource Center! The researcher will randomly select 10 participants from those who complete the following interest form by DATE TBD. 

LINK TO SURVEY

Selected participants will receive a gift card for their participation. Participation includes a 2-hour design session, and a 1-hour interview about your experience in the design session. If you have any questions regarding the research study, you may contact Randi Harris at rap@pdx.edu.
APPENDIX B: RESEARCH PARTICIPATION SURVEY

Research Participation Survey

Introduction
Thank you for taking the time to complete this interest form to participate in a research study about first-generation transfer students at Portland State University. The researcher will randomly select 10 participants from those who complete the following interest form by DATE TBD.

As a participant in the research study, you will have the opportunity to learn about design-thinking and be a co-designer of programming and services for first-generation transfer students at the PSU Transfer & Returning Student Resource Center! Selected participants will receive a gift card for their participation. Participation includes a 2-hour design session, and a 1-hour interview about your experience in the design session. If you have any questions regarding the research study, you may contact Randi Harris at rap@pdx.edu.

Survey Questions

1. Are you interested in participating in this research study?
   a. Yes
   b. No
2. Are you a transfer student at Portland State University?
   a. Yes
   b. No
3. Are you a first-generation student? A first-generation student is defined as a student whose parents did not complete a 4-year college or university degree.
   a. Yes
   b. No
4. Are you willing to participate in a 2-hour design session with the Transfer & Returning Student Resource Center?
   a. Yes
   b. No
5. Are you willing to participate in a 1-hour interview following the design session about your experiences of the design session?
   a. Yes
   b. No
6. Please provide your name and email address so that I may contact you if you are selected to participate in the study
   a. TEXT BOX
APPENDIX C: CONSENT TO PARTICIPATE IN RESEARCH

Consent to Participate in Research

Project Title: Dissertation Research – Co-designing with first-generation transfer students

Population: First-generation transfer students at Portland State University

Researcher: Karen Haley, College of Education
Randi Harris, College of Education, doctoral student
Portland State University

Researcher Contact: khaley@pdx.edu, rap@pdx.edu / 503-725-8270

You are being asked to take part in a research study. The box below highlights the main information about this research for you to consider when making a decision whether or not to join in the study. Please carefully look over the information given to you on this form. Please ask questions about any of the information you do not understand before you decide to agree to take part.

<table>
<thead>
<tr>
<th>Key Information for You to Consider</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Voluntary Consent.</strong> You are being asked to volunteer for a research study. It is up to you whether you choose to take part or not. There is no penalty if you choose not to join in or decide to stop your involvement.</td>
</tr>
<tr>
<td><strong>Why is the study being done?</strong> The reason for this research is to explore the experiences of first-generation transfer students who participate in co-design of programs and services at the Transfer &amp; Returning Student Resource Center at Portland State University. This research is part of a dissertation research study conducted by Randi Harris.</td>
</tr>
<tr>
<td><strong>How long will it take?</strong> Your participation should last 3-4 hours, and will include participation in a 2-hour co-design session/activity and a 1-hour interview, and potential follow up questions via email or phone with permission from the research participants.</td>
</tr>
<tr>
<td><strong>What will I be expected to do?</strong> You will be asked to participate in a 2-hour co-design session/activity and a 1-hour interview, and potential follow up questions via email or phone with permission from the research participants.</td>
</tr>
<tr>
<td><strong>Risks.</strong> Some of the possible risks or discomforts of taking part in this study include discussion of student experiences that may be uncomfortable.</td>
</tr>
</tbody>
</table>
Benefits. No direct benefits to subject, but the researchers hope to learn about the experiences of first-generation transfer students in order to improve programs and services that may benefit them in the future.

Options. Participation is voluntary and the only alternative is to not participate.

Why is this research being done?
The purpose of the research is to explore the experiences of first-generation transfer students who participate in co-design of programs and services aimed at fostering a transfer receptive culture at a four-year public university. You are being asked to participate because you have indicated that you are a first-generation transfer student at Portland State University. About 10 people will take part in this research.

How long will I be in this research?
We expect that your part in the study will last 3-4 hours total, and will likely take place at 2 periods of time: the 2-hour co-design session, and a follow up 1-hour interview on a different day. With participant permission, the researcher may also contact the participant if there are follow up questions after the interview.

What happens to the information collected?
Information collected for this research will be used in the dissertation research of Randi Harris and will be published as part of her dissertation at Portland State University.

How will my privacy and data be protected?
We will take measures to protect your privacy including storing data on a password protected drive, and by never including your name on any text or audio files. A pseudonym will be used as part of the research. Despite taking steps to protect your privacy, we can never fully guarantee that your privacy will be protected.

To protect all of your personal information, we will never include your name on any text or audio files, and will only use a pseudonym. Despite these precautions, we can never fully guarantee that all your study information will not be revealed.

Individuals and organizations that conduct or monitor this research may be permitted access to inspect research records. This may include private information. These individuals and organizations include the Institutional Review Board that reviewed this research.
What if I want to stop my part in this research?
Your part in this study is voluntary. You do not have to take part in this study, but if you do, you may stop at any time. You have the right to choose not to take part in any study activity or completely stop at any point without penalty or loss of benefits to which you are otherwise entitled. Your decision whether or not to join in will not affect your relationship with the researchers or Portland State University.

Will I be paid for being in this research?
Participants will be compensated with a $50 gift card for their participation in the co-design session by the Transfer & Returning Student Resource Center (TRSRC) at PSU as this activity is part of the regular practice of the TRSRC. Participants will also be compensated by the researcher with a $25 gift card for participation in the 1-hour interview as this activity is part of their dissertation research project.

Who can answer my questions about this research?
If you have questions, concerns, or have experienced a research related injury, contact the researchers at:

Karen Haley
503-725-8270
khaley@pdx.edu

Randi Petrauskas Harris
503-432-0493
rap@pdx.edu

Who can I speak to about my rights as a part of research?
The Portland State University Institutional Review Board (“IRB”) is overseeing this research. The IRB is a group of people who independently review research studies to ensure the rights and welfare of participants are protected. The Office of Research Integrity is the office at Portland State University that supports the IRB. If you have questions about your rights, or wish to speak with someone other than the research team, you may contact:

Office of Research Integrity
PO Box 751
Portland, OR 97207-0751
Phone: (503) 725-5484
Toll Free: 1 (877) 480-4400
Consent Statement

I have had the opportunity to read and consider the information in this form. I have asked any questions necessary to make a decision about my taking part in the study. I understand that I can ask more questions at any time.

By signing below, I understand that I am volunteering to take part in this research. I understand that I am not waiving any legal rights. I have been provided with a copy of this consent form. I understand that if my ability to consent for myself changes, either I or my legal representative may be asked to provide consent before I continue in the study.

I consent to join in this study.

Name of Adult Participant __________________________ Signature of Adult Participant __________________________
Date __________________________

Researcher Signature (to be completed at time of informed consent)

I have explained the research to the participant and answered all of his/her questions. I believe that he/she understands the information described in this consent form and freely consents to participate.

Name of Research Team Member __________________________ Signature of Research Team Member __________________________
Date __________________________
APPENDIX D: CO-DESIGN SESSION OVERVIEW

First-Generation Transfer Student Co-Design Session Overview with the Transfer & Returning Student Resource Center at Portland State University

Project Overview: The Transfer & Returning Student Resource Center is working to create and/or enhance programming and services to better serve first-generation transfer students. The goal of this session is to co-design services with first-generation transfer students.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
<th>Time</th>
<th>Design-Thinking Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>Introduction and review of research being conducted of the co-design process. Remind students they can choose to end their participation at any time</td>
<td>10 min</td>
<td>N/A</td>
</tr>
<tr>
<td>Intro to Design Thinking and Warm Up – Thing from the Future Game</td>
<td>Introduction to design thinking and design justice, and help participants to get to know one another</td>
<td>15 min</td>
<td>Warm Up</td>
</tr>
<tr>
<td>Student Perspectives Brainstorm – what perspectives can they represent today?</td>
<td>Uncovering intersectional identities of transfer students and learning to empathize as part of the design process</td>
<td>15 min</td>
<td>Empathize</td>
</tr>
<tr>
<td>Transfer Student Journey – Dissatisfied, Satisfied, Delighted, I wish . . .</td>
<td>Journey mapping activity to identify challenges and opportunities for transfer services and programming</td>
<td>20 min</td>
<td>Define</td>
</tr>
<tr>
<td>Design Sprint - Prototyping</td>
<td>Creating visual representations of what ideal transfer student services and programming</td>
<td>30 min</td>
<td>Ideate &amp; Prototyping</td>
</tr>
<tr>
<td>Activity</td>
<td>Description</td>
<td>Duration</td>
<td>Stage</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------</td>
<td>----------------</td>
</tr>
<tr>
<td>Plus &amp; Question</td>
<td>Participants see the different designs and have an opportunity to</td>
<td>10 min</td>
<td>Iteration</td>
</tr>
<tr>
<td>Gallery Walk</td>
<td>anonymously ask questions and indicate what they like about the designs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group Discussion</td>
<td>Group discussion and reflection</td>
<td>20 min</td>
<td>Reflection for Iteration</td>
</tr>
<tr>
<td>Next Steps</td>
<td>Next steps for the co-design process with the TRSRC and for the research</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>about the co-design process</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## APPENDIX E: FIELD NOTES FORM

### Field Notes/Observation Form

Co-Design Session  
Date and Time *TBD*

<table>
<thead>
<tr>
<th>Co-Design Activity</th>
<th>Descriptive Notes</th>
<th>Reflective Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warm Up</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Perspectives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfer Student Journey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design Sprint</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gallery Walk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group Discussion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Next Steps</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX F: INTERVIEW PROTOCOL

Co-Design with First-Generation Transfer Students Interview Protocol

Research Question: what are the experiences of first-generation transfer students who participate in co-design of programs and services aimed at fostering a transfer receptive culture at a four-year public university?

Introduction
Thank you so much for participating in this interview. Before we get started, I want to review the Informed Consent information with to see if you have any questions. [Researcher to walk through Informed Consent as review]. Thank you.

The interview should take approximately 1 hour. I will ask you a series of questions regarding your experience of the co-design session you participated in. I am going to record the interview so that I can transcribe our conversation as part of the research. Your name will not be attached to any of the audio or text files, and I will use a pseudonym in my research notes and reports.

Would you like to choose the pseudonym that will be used? [YES / NO, record their chosen pseudonym]

Do I have your permission to record the interview? [YES / NO].

You may choose to stop the interview at any point. If you choose to stop the interview, I will delete the audio file and will not transcribe the interview, and your information will not be included in the study. Do you have any questions about the process?

Are you ready to proceed with the interview questions? [YES / NO]

I will begin recording now.

Interview questions
- Please tell me a little about yourself.
  - Possible prompts to continue conversation- What are you studying? Do you live in Portland?
- What institution did you transfer from? Tell me about your experience there.
- How long have you been a student at Portland State University? Tell me about your experience transferring to PSU.
- First-generation students are defined as students whose parents did not complete a 4-year college or university degree. Are you a first-generation transfer student?
- Tell me about your experience of the co-design session?
- Can you walk me through the process?
• What part of the process did you find valuable?
  o Possible follow ups- What did that feel like? Can you give me a more detailed description of . . .?
• What part of the process did not feel valuable?
  o Possible follow up- What did that feel like? Can you give me a more detailed description of . . .?
• How do you believe the other participants experienced the process?
• During the co-design session we produced the following visual artifacts. When I reviewed them, I saw ______. Does this feel accurate to you?
• Do you feel like participating in the co-design session impacted your experience of PSU? Can you tell me more about why you think that?
• Is there anything else that you would like to share at this time?

Closing
Thank you so much for participating in the interview. If I have any additional questions, may I follow up with you? [YES / NO] How would you prefer that I contact you? [Record preferred contact]

This concludes the interview process, thank you so much for your time.
APPENDIX G: JOURNEY MAPPING TRANSCRIPTION

Design Session 1: Transfer Student Journey Mapping Transcription

Initial Education Experience

I wish . . .

- Counselors had looked at parent who was present initial

Delighted

- Initial – awesome 10th grade science teacher
- Good school!
- Flexibility – online classes and remote options for classes and resources

Dissatisfied

- Lack of actual counseling
- Initial- lack of adequate support
- No help with college exams, SAT! PSAT! ACT!
- Structure of classes

Community College / Post High School

Delighted

- Scholarship opportunities
- Leadership opportunities

Satisfied

- Learning/education class campus support programs ex. Writing center

Process of Transferring

Delighted

- Advisor available

Satisfied

- Advising help
- Flexibility

Dissatisfied

- Ease of academic navigation
- Struggle to finalize major
- How spread-out PSU campus is/ lack of effective security
- Lack of financial aid
- One on one support and initial transfer information
- Financial aid
• Degree auditing system format

**First Term at PSU**  
*I wish . . .*  
• Appeal for Tuition Free Degree when Pell runs out

**Delighted**  
• Awesome programs  
• Cost  
• Available resources i.e. (Writing Center, Learning Center)  
• Transfer Class Free  
• Advising

**Satisfied**  
• Cost/Financial Aid  
• Learning environment/classrooms (desks could be better)

**Dissatisfied**  
• Lack of opportunities  
• Hardship tuition  
• Difference in/lack of financial aid coverage

**After Graduation**  
*I wish . . .*  
• Open my shop!

**Design Session 2: Transfer Student Journey Mapping Transcription**

**Pre-Transfer**  
*I wish . . .*  
• I wish “transfers finish free” applied to me  
• I had figured out what I wanted to study earlier  
• Transfer informational fair  
• Help with forms  
• For help + guidance

**Delighted**  
• Delighted by scholarship I got  
• Lots of info available online regarding tuition and fees  
• Chemeketa was incredibly helpful getting me here
• Finding out after several years of no schooling I’m actually more successful in academics now

Satisfied
• Fast email response time regarding admissions
• Finding a new idea of the future

Dissatisfied
• Loneliness all the way
• Everything is confusing
• No information regarding post-grad hire rate for design program
• Several health issues forced reimagining of what my future looked like
• Covid

Transfer Process
I wish . . .
• More charity regarding evening classes for working students
• PSU would consolidate and modernize their information and requirements

Delighted
• Transfer 4 free
• PSU accepted all of my transfer credits 😊
• Doing the trio summer bridge
• How helpful and understanding the orientation / transfer staff are

Satisfied
• Enjoyed creating a plan with my advisor
• Transfer process is mostly painless

Dissatisfied
• Changed advisors in the middle of transfer w/o notice
• Virtual campus tours
• Finding out the “tuition free” program was actually a tuition supplement program
• Unnecessarily long orientation

First Term
I wish . . .
• Some event for new students to meet people

Delighted
• Trio program
• Block party during 1st week
• Advisor helping me build school/goal path
- Classes are challenging
- So far I have wonderful teachers and good classes

_Satisfied_
  - Class choices
  - Decent class selection and availability

_Dissatisfied_
  - Lab techs for printing have unreliable hours
  - Finding out TFF just was my grants covering
  - DARS while helpful is a bit of a mess
  - How unintuitive finding and registering for classes online is

_Ongoing_
_ I wish . . ._
  - Parking could be more affordable

_Delighted_
  - Working for trip program

_Satisfied_
  - Emails going out about what’s happening on campus
  - The amount of money I get from Financial Aid
  - Teachers are responsive and hold office hours

_Dissatisfied_
  - Library is difficult to navigate
  - Advising on grad school out of USA
  - No real sense of community
  - Design students deserve access to free design software
  - High quality printing is expensive
APPENDIX H: PROTOTYPE TRANSCRIPTION

Transcription of Prototypes created during the Design Spring Activity

Registration + Degree Webpage
Degree Program: Psychology
Degree Requirements
- GPA 3.5/4.0
- Required GPA 2.5
- Credits Achieved 900
- Credits Needed 9,001
- Science Req 30/45
- English Req 25/25
- Health Req 15/9,001
- Additional Requirements (residency, etc.)
Buttons for
- Term
- [Requirements] Already Taken
- Class Recommendations
Finances
- Scholarships $10,000
- Fees WAIVED
- Total $0

Restructuring Cost of Education
- Free public school
- Hierarchy of needs
- Less debt and poverty
- Education stipend
- Clear information through a federally standardized system of information
  - Image of a smiling face

Redesigned System
- Less requirements for financial aid
- Leadership grants for out of state students
- Reduced cost
- More [partnership] organizations

Enhanced Support
- Events
  - Day of Service
  - Inviting students/teachers to talk about transportation
- *Image of holding hands with the words:* Honors Program & Transfer Student Services; TRIO program & Transfer Student Services

- **Advising**
  - Team of advisors/students (past and current students)
  - Events step by step of signing up for classes
  - More availability
  - Events done with financial office
  - Grad school specific advising
  - More outreach
  - Professionals to do career day
  - Department tours/meet up

- **Tuition**
  - Transparency of fees, cost of classes
  - Resources to help find alternative ways to pay for school
### APPENDIX I: PERSPECTIVES TRANSCRIPTION

**Transcription of “What Perspectives Do We Bring?” Activity**

<table>
<thead>
<tr>
<th>Design Session 1</th>
<th>Design Session 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What perspectives do we bring today?</strong></td>
<td><strong>What perspectives do we bring today?</strong></td>
</tr>
<tr>
<td>1st gen student (example from facilitator)</td>
<td>1st generation student (example from facilitator)</td>
</tr>
<tr>
<td>TRSRC employee (example from facilitator)</td>
<td>Female identified (example from facilitator)</td>
</tr>
<tr>
<td>Graduate student (example from facilitator)</td>
<td>Parent (example from facilitator)</td>
</tr>
<tr>
<td>Punished for asking questions</td>
<td>Not from this area</td>
</tr>
<tr>
<td>1st generation +1</td>
<td>Want to make a difference</td>
</tr>
<tr>
<td>Flexible</td>
<td>1st gen +3</td>
</tr>
<tr>
<td>Single father</td>
<td>Mixed race</td>
</tr>
<tr>
<td>Non-religious</td>
<td>Out of state</td>
</tr>
<tr>
<td>Middle/high school in juvenile hall/group home/ independent study</td>
<td>Neurodivergent +1</td>
</tr>
<tr>
<td>Husband’s support is the only way I have been able to be at PSU</td>
<td>Latina</td>
</tr>
<tr>
<td>Middle age</td>
<td>Only girl in family</td>
</tr>
<tr>
<td>Transfer student +1</td>
<td>Queer</td>
</tr>
<tr>
<td>Crochet designer</td>
<td>Central American</td>
</tr>
<tr>
<td>Female +2</td>
<td>Dual citizen</td>
</tr>
<tr>
<td>Mother</td>
<td>Middle Child</td>
</tr>
<tr>
<td>Canva lover</td>
<td>Low income</td>
</tr>
<tr>
<td>Business student</td>
<td>Child of immigrants</td>
</tr>
<tr>
<td>Dreamer</td>
<td>Friends from many different countries</td>
</tr>
<tr>
<td>Immigrant</td>
<td>Varied work experience differing fields and levels of responsibility</td>
</tr>
<tr>
<td>Guatemalan</td>
<td>11+ year martial arts</td>
</tr>
<tr>
<td>Spanish speaker</td>
<td>20+ years dungeon master experiences</td>
</tr>
<tr>
<td>Queer</td>
<td>33-year-old man</td>
</tr>
<tr>
<td>I’m the child of a single parent.</td>
<td></td>
</tr>
<tr>
<td>I’m the child of nonworking parents</td>
<td></td>
</tr>
<tr>
<td>I identify as LGBTQIA+</td>
<td></td>
</tr>
<tr>
<td>Learning disability</td>
<td></td>
</tr>
<tr>
<td>Online student</td>
<td></td>
</tr>
<tr>
<td>Trans parent</td>
<td></td>
</tr>
<tr>
<td>Mexican American</td>
<td></td>
</tr>
<tr>
<td>Nontraditional students</td>
<td></td>
</tr>
<tr>
<td>Trade school grad (LMT)</td>
<td></td>
</tr>
</tbody>
</table>