Higher Education Professionals Shaping Student Decision Making

by

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ABSTRACT

This mixed-methods action research study delves into the decision-making

processes of students, with a specific focus on Arizona State University Housing as a

case study. It also explores the potential role that Arizona State University Housing

professionals can play in facilitating the flow of essential information to aid in these

decision-making processes. Furthermore, it investigates how decisions are formulated in

the realm of higher education settings as an integral part of this complex process. In this

research study, a new web-based interactive game was created to furnish students with

information pertaining to their college housing options. The study then gathered data

from student interactions with this game to gain deeper insights into their decision-

making behaviors. The findings of this study revealed that although students possessed a

fundamental understanding of the implications associated with their university housing

choices, various external factors and influences played a significant role in how they

applied this knowledge to their individual housing decisions. Surprisingly, students

exhibited unforeseen behaviors during surveys and interviews, shedding light on the

intricacies of their decision-making processes. As an action research project, this study

also provided the opportunity to explore how professionals make decisions in the design

of the innovation. By documenting the design process, this research provides valuable

insights into the tendency of university staff to adopt isomorphic patterns and their

reliance on both student decision-making and research on student development as

essential components of their decision-making framework. Based on the findings,

recommendations for universities are as follows: (a) prioritize personalized and in-person

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communication with students to better understand their unique needs and preferences; (b)

take into consideration the impact of external factors, such as the COVID-19 global

pandemic, on students' college-going behavior, and housing decisions; (c) intentionally

integrate theoretical perspectives to inform and guide staff decisions, ensuring a more

holistic and informed approach; and (d) counteract the tendency toward isomorphic

decision making by fostering an environment that encourages competitive

nonconformity, enabling innovative solutions to emerge.

DEDICATION

I dedicate this dissertation with great pride to the memory of Betty Blue, my mother-in-law. Her profound influence was the catalyst for my pursuit of an EdD. Betty's unwavering dedication to education, her lifelong commitment as an educator for students with disabilities, and her unrelenting desire to aid others continue to inspire me in many ways. Although she left us shortly after the commencement of my EdD journey, her influence has continued to guide me throughout this doctoral program.

To my son Matteo, who stands as both the inspiration for this study and the anchor of my life, your parallel college experiences while I wrote this dissertation helped inspire me all along the way. You've watched, experienced, and dealt with my ceaseless educational pursuits your entire life, even during the most challenging moments. I aspire to be a source of inspiration for you, demonstrating what can be achieved through unwavering determination, irrespective of life's adversities and hurdles. Regardless of where your life's journey may lead you, I have every confidence that your extraordinary intellectual and emotional strengths, which I witness daily, will empower you to triumph over every obstacle. I am continually proud of you.

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I owe a profound debt of gratitude to my supervisor, Dr. James Rund, whose visionary leadership and guidance have not only nurtured my growth as a student services professional but have also allowed me to leverage my background in business to contribute meaningfully to the field of student services. His enduring commitment to education, student success, and the development of staff members supporting those goals has been an enduring source of inspiration, shaping my professional path and offering opportunities for impactful solutions.

My deepest appreciation extends to my work family, encompassing the dedicated members of the business and technology teams. Your remarkable patience listening to and working with me for the three-years about this project (along with countless others) along with our spirited intellectual exchanges on this and related subjects, have been instrumental in fostering professional and personal growth. I am profoundly grateful to

each of you individually and to our collective team for providing me with the opportunity to collaborate with such exceptional colleagues, and for your support along the way.

Lastly, I am immensely grateful for the unwavering support of a remarkable group of fellow students who have been my pillars of strength throughout this program: Safali Patel, Lee Preston, Sachiko Oates, Cat Mathesen, and Lola Plucer-Rosario. Their steadfast determination for collective success and their commitment to supporting one another have been invaluable. Without their unwavering support, this endeavor would not have been possible.

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PREFACE

This dissertation exemplifies action research, in the ways in which it illustrates multiple, real-time challenges and changes from start to finish of the study. This dissertation research was originally intended to focus on upper division students on the Arizona State University (ASU) Tempe campus, and compare the costs of living on versus off campus. However, as I continued to narrow my research problem of practice, I chose to focus on ASU's West campus in Glendale, Arizona. I chose this campus because it would benefit the most from attracting more students to live on campus. This pivot to focus on West campus unintentionally changed the course of the dissertation because West campus residential halls are largely intended for first-year students and not upper-division students. Additionally, ASU expects all first-year students to live on campus, and proximal off-campus student housing options are very limited on this campus. Therefore, a comparative tool of student housing options would be less useful and potentially actually send students the wrong perception by encouraging them to live off campus.

Pivoting away from a comparison tool, I decided to create a picture game as my innovation. Because the ability to develop a web-based picture game was not a skillset I have, I needed to rely on others to develop it. I spent quite a bit of time consulting others in the student services and technology fields. During these discussions, it became clear that although not originally highlighted as a foundational part of this dissertation, student development theory was integral to the design of the game. Therefore, after researching this theory further, I added it to the conceptual frameworks informing this dissertation.

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While providing guidelines and parameters for the development of the game, the addition of this theory added many more hours of meetings, research, and work to the project.

In addition to these changes and in continued discussions with others, I pivoted yet again, moving away from focusing on current first-year students (who would be sophomores the following year and therefore not the target population to live on campus) to incoming first-year students (i.e., current high school seniors admitted to ASU's West campus). As I learned later, due to ASU requirements, I needed to rely on the ASU admissions team to contact this group of students versus contacting them myself. My goal was to share the innovation mid- to late February, before students' spring break and before finals and graduation, both of which could prevent students from participating in this study. However, due to a need to follow the ASU admissions team communication schedule and many internal team delays, the innovation was not released until the end of April. Even so, the ASU admissions office and I expected a strong response based on former student behavior. Unfortunately, this participation did not materialize. Instead, after two separate, disappointing attempts (both with two follow up messages), I received very few responses and was unable to get any students to attend a focus group.

As the summer approached and my data collection was slim, I was notified of an event my department was hosting at West campus for first-year students. Given the poor response rate and that I was running out of time for this study, I was eager to capitalize on this opportunity. My understanding was the event was to last for 1–2 hours and ASU departments would have tables set up with student information. I was instructed to arrive 15 minutes before the event. I arrived 30 minutes before the event was to start.

Unfortunately, I did not realize the event consisted a series of speakers, preventing students from walking around the tables once the event began. I only had one student interact with me and the housing game before the event. Luckily, three others participated after the event. Though only four students in total participated at the tabling session, their feedback was extremely useful and my interaction with them was unexpectedly inspiring.

Throughout this dissertation, I kept a journal to document the staff process of creating the innovation, and to understand how the team incorporated the concepts and theories of this study into the final product. My initial coding of this journal was time consuming, but did not produce the results intended. It did, however, reveal the concepts of institutional isomorphism were clearly evident throughout. Given this, I researched this theory further, and decided to use the concepts of this theory to guide a second round of coding. Again, adding yet another new theory to this project late into the study required additional time and research; however, the results provided great depth and insight into staff decision-making and behavior.

The theoretical and directional changes of this project, combined with the multiple data collection attempts due to low response rates and delays were not easy to manage and sometimes discouraging. Each change, pivot, and new data collection method created additional work that needed to be done and additional people that needed to be consulted, and continued to push on quickly approaching deadlines. The low response rates and resultant need to constantly think of other ways to collect data for this study was at times demoralizing but pushed me to be creative and dedicated to obtain results. While often pushing me out of my comfort zone, these changes eventually

resulted in what I believe is rich content in the findings that may be useful to researchers

and practitioners in their own settings, which I describe in this dissertation.

CHAPTER 1

CONTEXT AND RESEARCH QUESTIONS

Introduction

Postsecondary education can provide many benefits to individuals, their families, and their communities. For some, it can be a chance for new opportunities and additional benefits for the future (Baum et al., 2013). Students enroll in universities with the hope of realizing these opportunities and benefits, and of achieving a variety of personal and professional goals (Barrow et al., 2013). Universities have the ability to help students succeed and reach these goals, and often use institutional student metrics such as retention and overall graduation rates to help guide their efforts. Many factors impact these overarching metrics and, therefore, contribute to a student's individual success, one of which is where the student will live while attending the university. As students decide at which university they will attend classes, they also determine where they will live and call home during their educational experience—on or off campus. Both options have costs and positive or negative consequences (Iloh, 2018). However, the information available to make this decision and its implications are not always clear.

Navigating the complexities of deciding where to live, especially in an increasingly tight financial economy, can be complex and anxiety-ridden, yet very critical. The ability to find, access, filter, and easily understand information is necessary to help make these decisions (Isenor et al., 2020). As students go through their housing decision process, they seek and rely on a variety of information resources (Rieh & Hilligoss, 2008). Often during this time, students are making this housing decision while also simultaneously making many other new and stressful choices. This process can

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therefore feel overwhelming, scary, and daunting to students. Information is often subjective and not transparent, which further complicates the process (Barrow et al., 2013). Students who are already concerned about cost of attendance may choose not to attend or live on campus based on the information they have, regardless of how accurate the information is (Perna et al., 2019. Although the benefits of education and living on campus have been researched relatively extensively in the past, less has been done to understand how students make these decisions or how universities can help in this process.

In this action research study, I focused on how universities can help ease this decision process for students to help them make housing decisions they understand, feel comfortable with, and that can help them meet their long-term goals. Students' financial literacy (i.e., having the knowledge, skills, and behavior needed to make sound financial decisions) is often low (Mandmaa, 2019). Students also often overestimate what they know (National Association for College Admissions Counseling, 2018). Understanding how students go through the decision-making process and what drives and motivates their choices can help educators provide clear and digestible information to help accomplish this goal.

This chapter starts by explaining the current benefits of college completion. Then, I describe the metrics universities use to track student success around college completion (i.e., retention and graduation rates) and how Arizona State University (ASU) University Housing can impact these metrics. Finally, I discuss a perceived need at the current institution in which I work to provide students with the information needed to understand

the implications and factors involved in their housing choice. I also describe a potential solution to address this need.

National Context: Benefits of College Completion

Completing higher education provides many benefits, including social mobility, better employment opportunities, higher rates of pay, and better access to healthcare benefits (Chan, 2016). According to the U.S. Bureau of Labor Statistics (2022), having a bachelor's degree provides people almost $28,000 (65%) more salary per year than those with a high school diploma and 4.8% lower unemployment rates. Research from prior years has shown a more significant impact throughout one's lifetime, finding those with a bachelor's degree experienced half the unemployment and over 3 times a lower poverty rate (Barrow et al., 2013).

In 2011, research showed only 2% of individuals with a bachelor's degree or higher needed to rely on a supplemental food program, compared to 12% of high school graduates (Baum et al., 2013). In that same year, 73% of individuals with advanced degrees were provided health insurance by their employers, compared to 55% of those with a high school education (Baum et al., 2013). These data showed having at least a bachelor's degree dramatically helped individuals and their communities in many ways. Overall, the U.S. Bureau of Labor Statistics (2022) projected jobs requiring more education were expected to grow faster than the national average between 2020 and 2030. By assisting students in graduating with postsecondary degrees, universities can help students realize these benefits.

Completing a college education benefits individual students and future generations of their families and society (Baum et al., 2013). In addition, those with college degrees, resulting in increased opportunities and benefits, tend to have healthier lifestyles, volunteer more frequently for the community, have higher voting rates, and increased participation in political processes (Chan, 2016; Ma et al., 2019). Those with master's level degrees earned twice as much in 2011 as those with high school degrees, therefore contributing more to the community through taxes. According to Baum et al. (2013):

> Limited participation in postsecondary education seriously constrains individual opportunities and living standards. Society as a whole suffers from lower levels of civic engagement and from unnecessary barriers to the success of the next generation, in addition to a loss of productivity and output, when individuals miss out on educational opportunities. (p. 33)

Education can help students realize their goals, provide additional benefits and gains they would otherwise not achieve, and strengthen themselves and the communities in which they live. Studies have shown having an education has significant long-term effects by positively impacting the chances of a person's children getting an education, as "education begets education" (Pascarella & Terenzini, 2005, p. 440). Despite these significant benefits, many students do not successfully complete their education (National Center for Education Statistics, 2022). However, successful degree completion should not be viewed as just a student's responsibility, but also an institutional one (Scott-Clayton,

2011). Universities should, and often do, use metrics to identify ways to better support students toward successful achievement of these positive outcomes.

National Context: Retention and Graduation Rates for College Student Success

Retention of students from enrollment to their graduation is a critical and important outcome for both students and universities (Friswold-Atwood, 2018). Universities track student and institutional success and outcomes through (a) retention rates and (b) graduation rates. Universities are also frequently ranked by external agencies (e.g., U.S. News and World Report) according to these metrics (Friswold-Atwood, 2018). Retention rate (sometimes called freshman-to-sophomore retention rate) is defined as the number of students reenrolling for a 2nd year at the same institution they attended their 1st year. Graduation rate (sometimes called cohort graduation rate) refers to the percent of an entering cohort class that completes a degree in a certain amount of time. Higher retention rates are directly related to graduation rates (Voigt & Hundrieser, 2008). Due to the extraordinary impact of the COVID-19 global pandemic on college attendance, this section focuses on data starting from the year before the pandemic—Fall 2020—for comparison reasons. I describe the current rates for both of these metrics as well as their importance to this study.

Retention Rates

In the fall of 2018, approximately 1.3 million first-time degree-seeking undergraduate students started in a public 4-year institution in the United States. Of those, 81.5% (approximately 1 million) reenrolled (i.e., retained) for a 2nd year at the same university where they were enrolled initially for their 1st year, leaving almost 20%

of students who either did not enroll at all or enrolled at another institution (National

Center for Education Statistics, 2023a). These rates have increased at a slow pace over

the past 9 years, with a .9% increase throughout United States and 2% at ASU (ASU

University Office of Institutional Analysis, 2023). Figure 1 shows the retention rates over

time.

Figure 1

Public 4-Year Retention Rates, 2013–2021
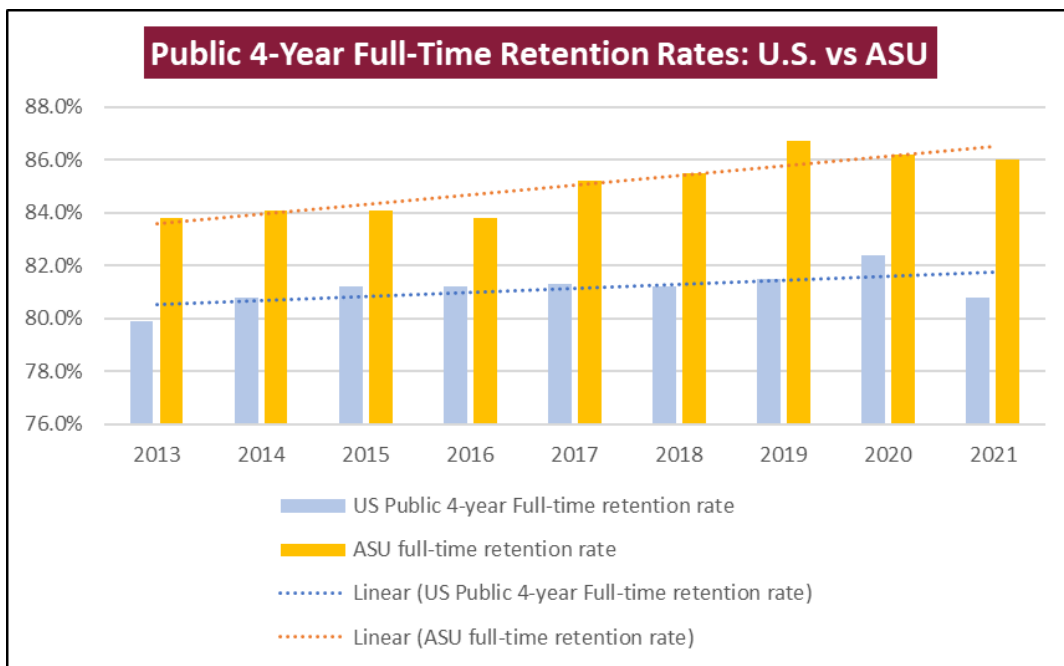
Note. For 4-year institutions, retention rate is the percentage of full-time, first-time

bachelor's (or equivalent) degree-seeking undergraduates from the previous fall who are

again enrolled in the current fall. For all other institutions retention rate is the percentage

of full-time, first-time, degree/certificate-seeking undergraduates from the previous fall

who are again enrolled in the current fall. Results limited by: Sector of institution (Public,

4-year or above), Degree-granting status (Degree-granting). Data sourced from *Fall*

enrollment component final data (2006–2020) and provisional data (2021), by U.S.

Department of Education, National Center for Education Statistics, Integrated

Postsecondary Education Data System (IPEDS;

https://nces.ed.gov/ipeds/TrendGenerator/app/answer/7/32) and *ASU Office of*

Institutional Analysis, by Arizona State University

(https://www.asu.edu/facts/#/facts/retention/freshman).

Graduation Rates

Graduation (or completion) rates are tracked at multiple levels for public 4-year

institutions, showing if the students graduated at the original institution, graduated at

another institution, or are still enrolled either at the original or new institution. Nationally,

for the academic year 2020–2021, 36.4% of full-time bachelor's or equivalent degree-

seeking students who started classes at public 4-year institutions in Fall 2015 did not

graduate in 6 years (National Center for Education Statistics, 2023b). Comparatively,

ASU graduated slightly more students, with 32.4% not graduating during the same time

frame (ASU University Office of Institutional Analysis, 2023). Though the ASU has been

trending better than the national average, a large number of students have still not

graduated. Figure 2 compares these rates.

Figure 2

Six-Year Graduation Rates: United States Versus ASU

Note. For 4-year institutions, 150% of normal time is equivalent to taking 6 years to complete the bachelor's degree or equivalent. This table presents data collected from Title IV institutions in the United States. Prior to cohort year 2004, the data include only Title IV primarily postsecondary institutions. Data sourced from *Graduation rates component final data (2002–2020) and Provisional Data (2021)*, by U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS; https://nces.ed.gov/ipeds/TrendGenerator/app/answer/7/20?f=1%3D1); *ASU Office of Institutional Analysis*, by Arizona State University, (https://www.asu.edu/facts/#/facts/retention/freshman)

Role of University Housing in Retention and Graduation Rates

Institutions play a prominent role in determining the success of students (Scott-Clayton, 2011). Many factors, including student residential housing, contribute to student outcomes and can impact retention and graduation rates. Prior research has shown students living on campus (i.e., university-managed residential halls) have higher retention and graduation rates (Fosnacht et al., 2021). Details about the benefits are described in the next section. In their 1991 study, Pascarella and Terenzini (2005) found, "Living on campus (versus living off campus or commuting) was the single most consistent in-college determinate of the impact of college" (p. 611).

With such significant impacts, deciding where to live while attending a university is important in many ways. As institutions strive to increase these rates, they should consider the impact that university housing has on these metrics and student outcomes. At ASU, all first-year students are expected to live in on-campus housing, and nearly 32% of those students choose not to (ASU University Office of Institutional Analysis [UOIA], 2021). Unfortunately, like national retention, persistence, and graduation rates, ASU first-year student yield rates have been relatively consistent over the years (Research College Board, 2018).

Role of the First-Year Student Experience in Overall Retention

In addition to retention and graduation rates, the number of first-year students enrolling at a university is closely watched by institutions because the number reflects continued higher enrollment opportunities and impacts a variety of services, including university housing. The 1st year of college is typically a year of transition, adjustment,

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change, and stress for many students as they move from high school to college (Chemers et al., 2001). Transitioning from high school to college is a large and sometimes overwhelming milestone for college students. This transition is often viewed as the first step toward moving from adolescence to independence and adulthood (Iloh, 2018). It is the most critical time for students, with 20% dropping out after their 1st year (Jones, 2013). Research has shown this period—from freshman to sophomore year—is when the most significant number of students leave the university (Upcraft et al., 2005). Interventions directed to first-year students have been found to have a significant effect on their transition to college and long-term success (Fristwold-Atwood, 2018). Accordingly, universities have dedicated much time and effort to help ease this transition (Brooks, 2010; Upcraft et al., 2005).

For these reasons, ASU also heavily monitors 1st-year enrollment numbers, which greatly impact university housing, among other things. The U.S. rates have shown under or around 2% growth most years; except for 2016, ASU has experienced much greater growth (at 12% and 13% at times) during the same period. Figure 3 shows these rates.

Figure 3

Degree Seeking First-Year Undergraduate Student Enrollment

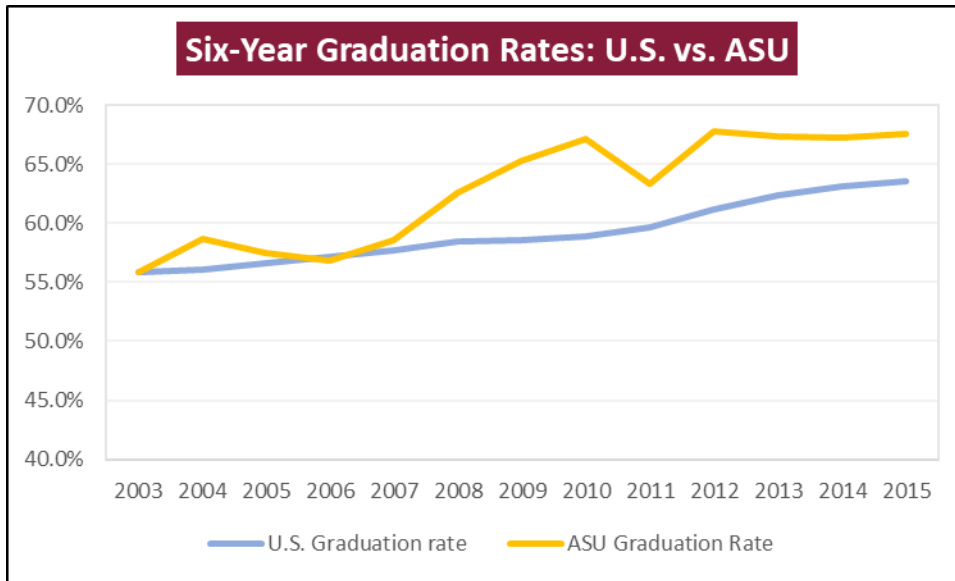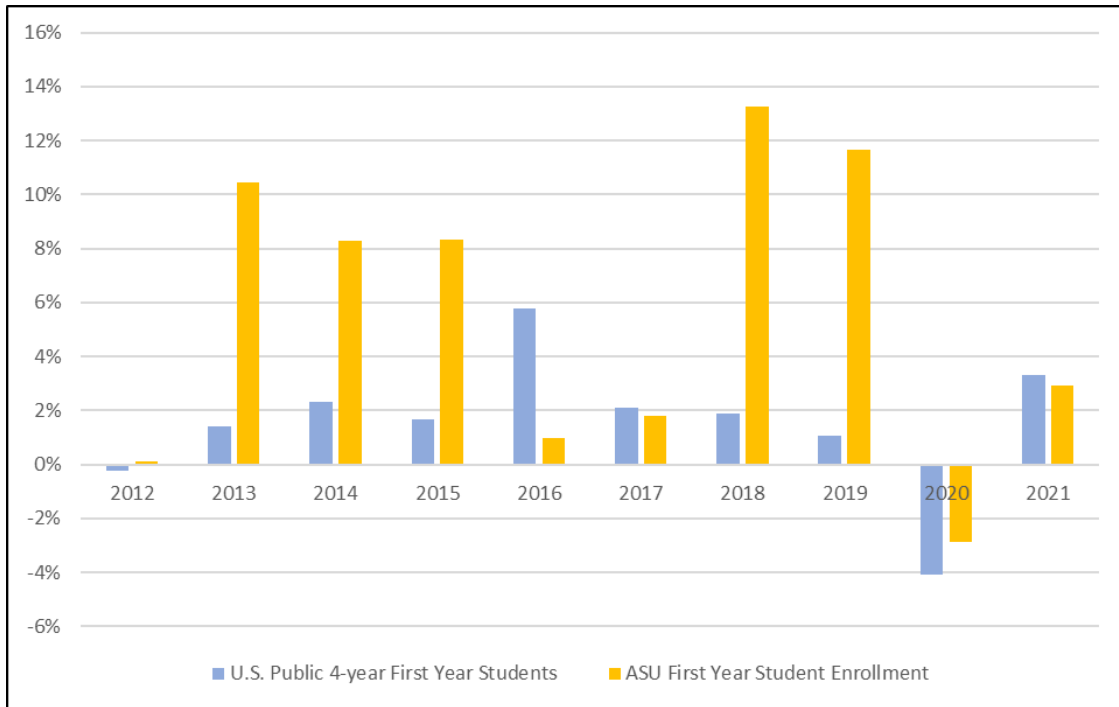*Note*. Data sourced from *Fall Enrollment Component Final Data (2006–2019) and Provisional Data (2020)*, by U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS; https://nces.ed.gov/ipeds/TrendGenerator/app/answer/7/32?f=1%3D1%3B2%3D1); *A Ten-Year Review of Students, Faculty, and Staff*, by Office of Institutional Analysis, Arizona State University, 2020 (https://uoia.asu.edu/sites/default/files/ten-year_review_2009-2019.pdf).

Many institutions now require first-year students to live on campus for 1 or 2 semesters. Studies have shown living on campus positively impacts retention, graduation,

and perceptions of success (Upcraft et al., 2005). Often, such as in a residential college model, these students are clustered together versus housed with upper-division students and sometimes grouped with students with similar interests. For example, freshman residential halls at ASU are grouped in this way.

ASU also has a 1st-year live-on expectation and guarantees housing for first-year students. Most current residential halls are geared toward first-year students; therefore, when looking at student housing rates, ASU has focused and reported on the capture rate/percentage of first-year students housed. At the time of this study, ASU had facilities currently available for some upper-division students and plans for growth in the future. However, for the purposes of this action research study, given the impact of the first-year student experience, I focused on first-year students only.

Situated Context

The context for this dissertation study was ASU, a large urban university comprising over 17 colleges spread across six physical and digital locations (ASU UOIA, n.d.-a). In the academic year 2022–2023, 142,616 students enrolled at ASU, of which 56% (80,065) students attended the university in person between the four metro-Phoenix campuses (i.e., Tempe, Mesa, Glendale, and Phoenix). First-time freshmen students accounted for 15,151 of the in-person students attending. ASU housed approximately 68% of those first-time freshmen students in the residential halls and filled the remaining 8,000 available beds with upper-division students (ASU UOIA, 2022).

This research study focused on immersion students at ASU with an ASU West campus location designation, defined by ASU as non-ASU Online students who can take

courses remotely or in person. Even though ASU's housing inventory was currently just enough to meet demand, that intention was expected to change over the next few years. At the time of this study, plans were underway to build additional facilities to provide more bed spaces for first-year and upper-division students.

In the past 10 years, ASU has seen continued growth in student enrollment. However, this increased enrollment growth has not resulted in higher housing yield rates. ASU is a university with a strong first-year student live-on expectation and most of the available housing is for first-year students. However, first-year students can request exceptions to live off campus (defined as private facilities designed for students or in traditional competitive apartment-style housing; National Multifamily Housing Council, 2018). As a result, the rate of first-year students staying on campus at ASU has remained stagnant, hovering just under 70% of the total freshman population each year (ASU UOIA, 2022).

Existing literature has described the benefits of living on campus and its relationship to increased student graduation and retention, particularly for first-year students (Astin, 1999; Bozick, 2007). A recent study found even when controlling for differences and matching students based on observable characteristics, living on campus positively affects student outcomes (Schudde, 2011). However, further little research has been done to understand and address how students make decisions to live on or off campus, thus impacting their long-term success. Previous studies have focused on the steps students take as part of their college choice process (Iloh, 2018). However, less research is available on students' choices about college housing, particularly how and

why they make them. Nevertheless, their choices affect their ability to retain and persist throughout their remaining years at the university. Moreover, parents and students do not clearly understand the costs of attending college or available resources, such as financial aid (Perna, 2006).

Although many factors affect students' decisions about whether to live on campus, the quality of the ASU housing website may be one crucial factor. The internet and its organizational websites make information more readily available to consumers, but it is often difficult to weed through the volume of information and identify and then focus on the most useful and critical factors (Isenor et al., 2020).

At the time of this study, the current ASU Housing website provided basic information about on-campus housing options and information on registering for ASU Housing. However, there was no direct link to the ASU off-campus resource site to explore alternative options. The current site also did not offer a way to quickly compare the pros and cons of living on or off campus, factors that students should consider as part of their decision, or any information about off campus options. Factors to consider may include financial factors such as (a) room and meal costs, (b) financial aid options, (c) cost of transportation, or (d) unexpected expenses not covered by room or rent payments. Other factors may include nonfinancial components such as quick and easy access to tutors, campus events, and faculty, or proximity to peers for social and academic support. Additionally, other nonfinancial factors include developmental aspects involved with transitioning to adulthood, such as having support nearby while learning to live on their own, learning how to manage emotions, and establishing an independent identity.

Students coming to ASU have many decisions to make and many things to consider as they prepare to start their college adventure. Providing them with clear and easily accessible information could help them better understand their decision to live on or off campus and the longer-term impact on their academic career.

In my role as deputy vice president for Educational Outreach and Student Services (EOSS), part of my responsibilities at ASU include financial oversight of the ASU housing department. In addition, my role includes working with the EOSS teams and leadership to meet students' housing needs and to help them succeed. My practice is grounded in the desire to enhance the university experience for all students and to help provide them with the knowledge and tools needed to be successful throughout their educational careers. My 21+ years of ASU experience as a staff and first-generation student at ASU have given me insight into the operations and opportunities from administrative and student perspectives.

Recently, I was also able to experience ASU as a parent due to my son attending classes at the university. These experiences have allowed me to identify areas where the university can continue improving and create enhanced student success opportunities. As such, this research explored students' understanding of the implications of their chosen living arrangements and how to help students select options that best meet their needs. Additionally, this study investigated the process of designing an innovative means of informing student decisions about housing as well as how students respond to this innovation. My approach was to develop an innovative solution based on factual data, informed by theory, and based on an understanding of the thought processes behind a

student's individual decision. A solid pragmatic approach informed by in-depth knowledge of decision-making concepts formed the basis of this study and data collection.

Innovation

The focus of this study was the development of an interactive game based on an understanding of student decision making. The goal of the game was both to help students with their housing decision and to help university professionals better understand what students were looking for when they made their decision (Iloh, 2021). The game was built as part of ASU Housing's website.

Websites are a cost-effective way to reach students and families with information to help them make informed decisions (Perna et al., 2019). The final innovation consisted of a picture game for the students to play, following a similar format to other ASU picture tools for students. The game provided a series of images and choices to allow students to consider their living experience while attending ASU. The first phase of the game provided a series of two pictures displayed at a time, one representing an on-campus lifestyle and one representing an off-campus lifestyle. The next phase of the game showed another set of pictures to choose from, each focusing on developmental activities, such as community, socialization, transitioning to independent living, and establishing identity. The innovation ended with a final page that differed slightly depending on what students selected in the first phase. If the students' selections indicated they were leaning more toward off-campus lifestyles, the final page provides information about the advantages of living at home. Other information was presented to

all students, regardless of their selections in the game including information about the West campus, benefits of living on campus, a testimonial video from other students, and resources for students to help them be successful while attending ASU. Future iterations will include information about off campus property options for upper-division students, comparative information, and a link to the ASU off campus housing website. The full innovation can be found in Appendix A.

Problem of Practice Synopsis and Research Questions

This action research study explored how students make decisions, using ASU Housing as a case study. It also investigated the role ASU Housing professionals can play to help facilitate that understanding, and how decisions are made in higher education settings as part of that process. This research focused on how the development of a new ASU Housing website impacts students' understanding of the benefits and consequences of living on or off campus. The goal of the innovation was to help students understand the impact of their decisions including factors that they may not have otherwise considered. This study sought to understand how students consider these factors as they make decisions about college housing and understand what influences their decision-making process. Additionally, this study explored the process that university professionals go through to make decisions, and how they incorporate the student experience in those decisions.

My research questions were:

- Research Question 1: How do students respond to the innovation as a decision-making tool?

- Research Question 2: How are decisions about innovations made by professionals in a higher education setting?

  - Research Question 2a: How do university professionals navigate a collaborative decision-making process?

  - Research Question 2b: What beliefs about student learning and student experience are reflected in this decision-making process?

CHAPTER 2

SUPPORTING RESEARCH, CONCEPTS, AND PRIOR RESEARCH CYCLES

This chapter focuses on the research, concepts, and models that have guided this action research. The first section focuses on existing literature about the benefits of living on campus and its connection to student success. The second section focuses on research related to student decision making, which guided the design and ultimate delivery of the innovation. The two related concepts and models discussed in this section are behavior economics and Iloh's (2018) model of college-going decision-making. The third section describes Chickering's student development theory (Chickering & Reisser, 1993). While not originally part of this study, this theory became an integral part of the content design of the innovation. Next, institutional isomorphism is discussed. This theory was also not originally part of this study, but arose during the coding of the researcher journal exercise to help explain staff behavior and decision-making during the development of the innovation.. Finally, this chapter summarizes action research, and how these previous research cycles, theories, and concepts helped inform the innovation created to address my problem of practice and this research study.

Research Supporting the Benefits of Living on Campus

Many students leave home to live on or near campus when they attend a university. This transition can significantly affect students' satisfaction with their academic experience and long-term educational outcomes (Friswold-Atwood, 2018). For many students, this time marks a turning point, as they experience the first time they have lived outside the home (Bozick, 2007). For some, this time might be an opportunity for

personal growth and learning accountability, independent living skills, and time management. It can also be an opportunity to expose them to other people from diverse backgrounds (Bozick, 2007; Graham et al., 2018). Living on campus can help ease their transition of living away from home and adapting to the university environment by providing students with a stable living arrangement and support (Simpson & Burnett, 2019).

Living on campus also offers many other positive benefits to students, given their location directly on the campus. Being on campus every day provides students with easily accessible social and educational resources, opportunities for close peer relationships, ease of working on campus, and an increased sense of belonging, all of which have been found to contribute to student satisfaction (Astin, 1999; Jones, 2013; Upcraft et al., 2005). The further students live from campus, the less likely they are to take advance of these elements (Kuh et al., 2001). Students who lived on campus have reported more significant gains in personal and social abilities than their counterparts that lived off campus (Kuh et al., 2001; Schudde, 2011). Figure 4 shows the results from a study done in 2015 to provide an example of these differences (Gonyea et al., 2015).

Figure 4

Student's Time Use Between Different Living Arrangements

Hours per Week on Selected Activities: First-year

- Preparing for class
- Co-curricular activities
- Relaxing & socializing
- Community service

ON CAMPUS | WITHIN Walking Distance | FARTHER THAN Walking Distance
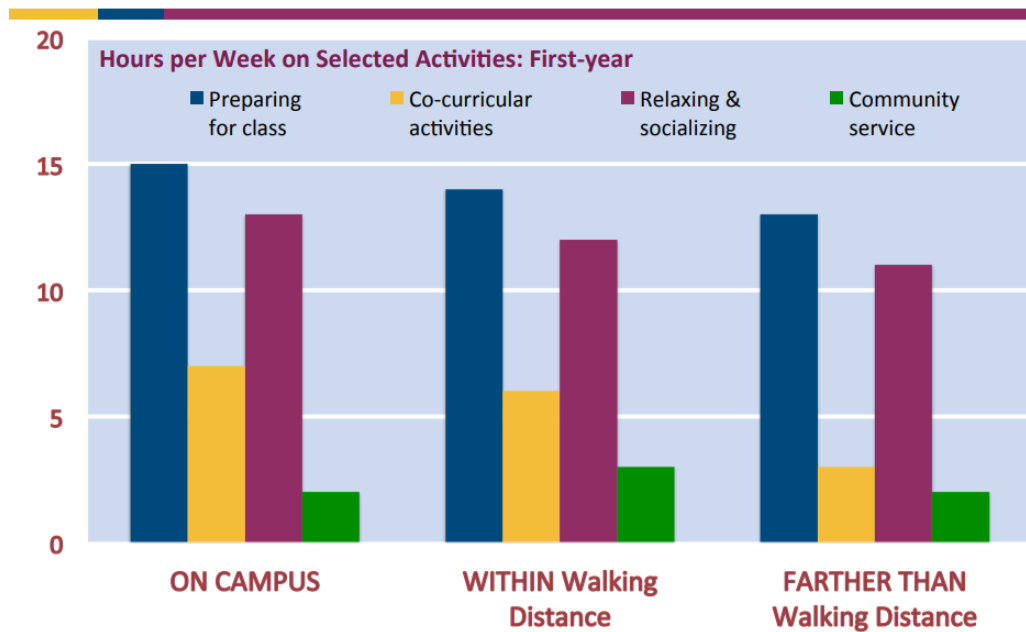
Students who live off campus also may not realize living costs vary more than living on campus. They may forget to consider personal expenses such as gas, bus costs, or toiletries or do not factor in the time needed to get back and forth to campus. They often also do not consider other things they do not need to deal with when they live on campus, such as landlords or lease contracts (Bragg & Rosenboom, 2017). A survey of off-campus students found 67% of students surveyed wished they had known more about costs (e.g., rent, utilities, food) and 27% wished they had known about costs associated with transportation (Rees, 2013). Students living on campus do not have to negotiate these types of aforementioned issues off-campus students face. These benefits of living on campus, coupled with increased opportunities for academic and social integration, increased student–faculty interaction, and access to campus resources, can increase a

student's chance of persisting and graduating college, as well as increase overall student satisfaction with the college experience (Astin, 1999; Jones, 2013).

According to previous studies, students who live on campus are less likely to drop out of school, are more satisfied, and have greater cognitive and personal growth than those who do not (Bozick, 2007; Li et al., 2005). Both Li et al. (2005) and Pascarella and Terenzini (2005) found when all other factors (e.g., precollege characteristics of age, socioeconomic status, age, and employment status) are held constant, graduation and persistence rates for students living in residential halls were significantly higher than those who did not. Ong et al. (2013) agreed, finding living on campus helps increase a student's sense of belonging and improves retention rates. In their study at the University of Florida, Zhang and Dunkel (2017) found living on campus could lead to better academic performance, retention, and graduation rates. They also confirmed students living on campus had significantly higher retention rates than those living off campus.

Residential living spaces can provide the university with a strategic venue to capture the student audience and directly impact retention rates and student satisfaction through intentional engagement and programming opportunities designed to help connect students to campus life. Additionally, some universities, including Arizona State University (ASU), leverage the on-campus living arrangement by creating deliberate learning communities in what are referred to as student residential learning communities (RLCs), one way universities incorporate learning and social opportunities into living spaces.

Smith (2018) explored the connection between student RLCs and student success. According to Smith, prior research has found learning communities help develop positive peer relationships among students, leading to better educational outcomes. Students can also develop better relationships with their faculty and university staff. This study confirmed RLCs helped develop and encouraged social relationships between the different communities and students rather than segregating them.

Hurtado et al. (2019) discussed how RLCs help blur the lines between students' experiences in and out of the classroom. RLCs provide space and opportunities for increased peer, faculty, and community interaction. One of the goals of an RLC is to extend a student's learning experience from the classroom to the living environment (Hurtado et al., 2019). RLCs have gained in popularity as a way to increase critical thinking, academic performance, and exposure to new and diverse people and ideas. As such, Hurtado et al. found RLCs promote student engagement and success.

Concepts and Models of Student Decision Making

The research described previously on the benefits of living on campus, combined with the number of students that do not retain or graduate from universities, highlight an area for improvement. The concepts and models guiding this research study and innovation focused on how educators can help students make informed decisions by understanding the stages and factors involved in how students interpret and approach decisions. I describe these next in more detail, followed by a summary of how they applied to this study and innovation.

Behavioral Economics

The concepts of behavioral economics were relevant to this study as they helped guide the development of the innovation. This concept helps explain the ways students may approach decision making, and factors that influence their thought process and overall decision. Understanding these factors helped in developing an innovation that was intentional, communicated information effectively, and helped students more efficiently make decisions.

Behavioral economics addresses the financial choices students must make as part of their university decision-making process. Behavioral economics applies the principles of behavior, social, and natural sciences to theories of economic decision making based on the nontraditional belief that people make irrational and biased decisions (Voyer, 2015). It was created as an alternative to traditional economic theories and grew out of a desire to understand better how people make decisions. The conventional neoclassical economic theory proposes people make rational and complex decisions, based on a fixed understanding of what they want, with little impact on personal bias or other factors (Dawnay & Shah, 2005). Traditional economic theory asserts people make choices by maximizing personal benefit, satisfaction, and utility. This theory states when people make decisions, they have all the necessary information needed, and they use well-defined and stable personal preferences to carefully weigh all options and make rational decisions (Knoll, 2010). However, many studies have shown this is not the case, especially for long-term decisions (Shah & Dawney, 2005).

Behavioral economics challenges the traditional way of thinking, instead focusing on the reality that people make decisions often with incomplete information and are impacted by contextual and personal factors (Knoll, 2010; see Figure 5). In fact, some would say people are "predictably irrational" (Dolan et al., 2010, p. 13). People do not always make decisions with perfect cost–benefit or logical analysis. Instead, people are fallible, social, and emotional human beings that often make irrational decisions (Dolan et al., 2010). Additionally, context (i.e., situational environment plus individual attributes) inevitably impacts human decision making. Even what is perceived as a rational cost and benefit analysis includes some interpretation or evaluation of the data, meaning, and context (Einhorn & Hogarth, 1981). Behavioral economics applies a more realistic view to decision making and human behavior by incorporating an understanding that decisions are strongly influenced by people's habits, biases, mental shortcuts, automatic responses, and influences from the external environment (Hallsworth et al., 2018).

Figure 5

Fundamental Differences: Traditional and Behavioral Economics
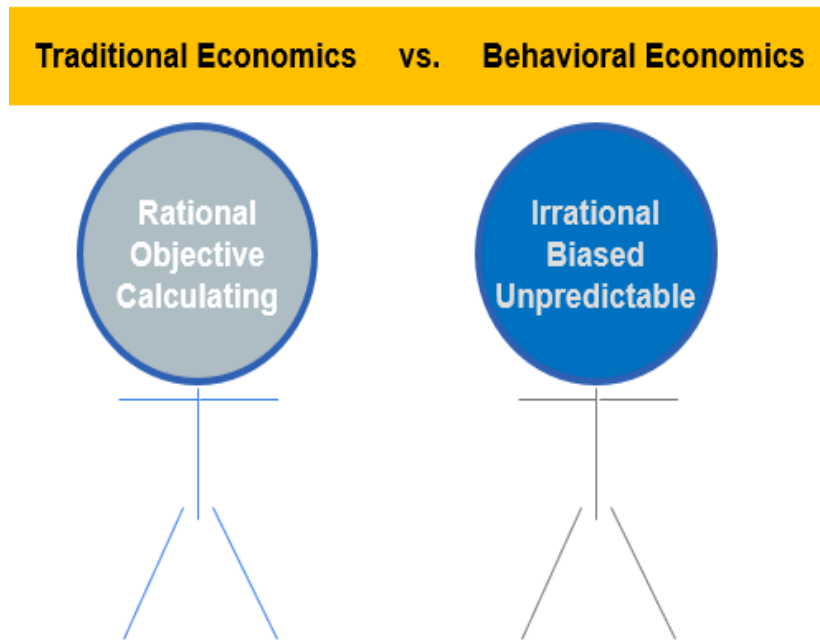
Behavioral economics focuses on fundamental principles and propositions related to decision making, such as biases, and environmental influences, and how these components impact decision making (Voyer, 2015). Regarding decision making, behavioral economists would say people tend to stick to what they know, defaulting to existing behaviors or copying what others have done instead of trying something new that requires much more effort. People tend to act out of habit or choose the easiest option (Voyer, 2015). Behavioral economists consider how a person's past choices influence their current decision making. Additionally, acting out of the ordinary can create anxiety and uncertainty about a potential new situation. People are biased to choose a familiar option instead of a stranger one (Voyer, 2015).

Anxiety and uncertainty over the unknown also apply to how people behave when faced with a decision for an immediate versus future reward. For example, anxiety can impede and weaken a student's ability to decide, pushing them to the safest options (Chemers et al., 2001). Choosing a university is often the first time students have to make a major decision. When faced with complicated decisions such as this, students may struggle with how to gather the necessary information and then understand what part of that information is most important for them to focus on (Scott-Clayton, 2011). Too many options, information overload, or feeling helpless and not in control can also cause anxiety and confusion and can lead to making nonoptimal decisions (Voyer, 2015). Given the financial, social, and economic impact their housing selection decision can have in the short and long run, it is understandable why students can feel anxiety and stress over it (Galotti & Mark, 1994).

According to behavioral economics, decision makers prefer immediate rewards versus future rewards (called hyperbolic discounting) and are more motivated by fear of loss than possible gain (Voyer, 2015). Because a future reward is less guaranteed and concrete than a short-term one, people tend to undervalue future rewards, seeing them as risky, and even avoiding them (Voyer, 2015). People also tend to overestimate an outcome they can more easily understand, relate to, or imagine while underestimating the importance of things that feel vague and might happen in the future. These tendencies can lead people to accept less beneficial circumstances and outcomes in the present, even if the potential for future rewards is great if they choose an alternative.

Behavioral economics also identifies the roles of reciprocity, intrinsic motivation, and social norms in decision making. For example, people tend to change their decision if they feel they owe someone something. Additionally, people tend to make decisions similar to what they perceive their peers are doing or what they feel they are expected to do. People often make decisions out of a sense of fairness or what someone thinks is the right thing to do (Voyer, 2015). In the famous experiment by Milgram, people were influenced by those in authority or by someone they respected, even if their beliefs or actions contradicted their own (Shah & Dawney, 2005).

Behavioral economics also examines how information and choices are framed or presented to people. People are influenced in part by the way things are framed, not just by the content (Hallsworth et al., 2018). For example, when there are fewer options, decisions are easier to make. People are also influenced by how information is presented to them. Things can be perceived as more or less attractive depending on what is highlighted and by who presents it. When one option is framed or messaged by highlighting a positive attribute versus a negative attribute, people will prefer the positive one and choose it more frequently. For example, if a medical treatment is described as having a 90% cure rate, many people would select to do it. However, if instead it was marketed as having only a 10% failure rate, people would not buy it (Voyer, 2015).

Confirmation and optimism bias are two other areas of focus in behavioral economics. Confirmation bias occurs when people make decisions that are in line with their existing beliefs or viewpoints. Behavioral economics looks at the way people tend to confirm their biases by seeking information that confirms their beliefs or spending less

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time critically reviewing information that contradicts their beliefs. For students, if they believe living on campus is too expensive, they may spend less time looking for information that proves it is not (Hallsworth et al., 2018). Optimism bias involves people overestimating their understanding of things, and overconfidence in their knowledge and abilities (Hallsworth et al., 2018). This bias can lead to risky decisions, or decisions based on not having all the information needed to make the best decision.

The behavioral economics concept has been used in practice frequently. For example, the U.K. Cabinet Office was commissioned as a think tank to work on behalf of the U.K. government in 2009 to better understand behavioral economics and its impact on policy (Dolan et al., 2010). This group was tasked to create a framework that could be used throughout their government. Their focus was on the social context (i.e., the environment and cues) in decision making and the factors influencing people to make irrational decisions (Dolan et al., 2010). Their efforts resulted in the creation of the MINDSPACE framework. The resultant framework was a mnemonic to remember the nine overarching categories of the behavioral economics model that shape behavior: (a) messenger, (b) incentives, (c) norms, (d) default, (e) salient, (f) prime, (g) affect, (h) commit, and (i) ego (Dolan et al., 2010). As such, the framework was built around what they defined as the "4 E's" that are used to change behavior: (a) enabling, (b) engaging, (c) encouraging, and (d) exemplifying behavior (Dolan et al., 2010). It presents an easily understood and straightforward visualization of the factors identified by this concept. This framework helped inform the development of my innovation by providing insight into how students make decisions (Dolan et al., 2010).

The framework includes the following components (see Figure 6). Students are influenced by the messenger communicating the message, responding to a desire for incentives and to avoid losses. They are heavily influenced by expectations of social norms and often go with default behaviors out of ease of effort and expected external reaction. Attention is often drawn to salient things, things that are new but seem relevant. Students are subconsciously primed to act in specific ways due to previous individual experiences, subconscious cues, and emotional affect. They are often committed to doing the right thing and reciprocating actions while striving to do something that makes them feel good or better (i.e., ego; Dolan et al., 2010).

Figure 6

Mindspace Components
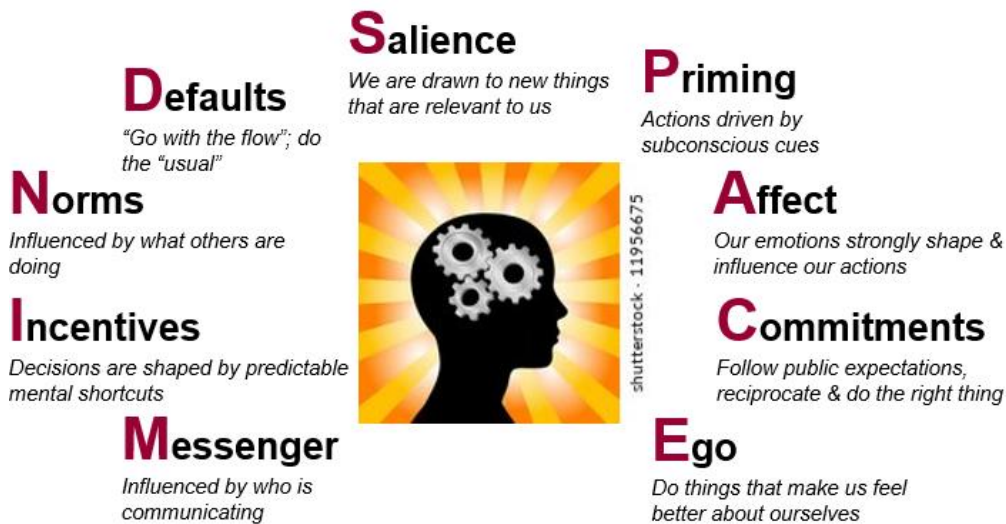
Knowing what influences students to make a decision can help educators present the most valuable information to them in the best way possible. With the cost of

education and housing rising dramatically in the past years, it is even more critical that students and their parents have accurate, clear, and immediate information about the net price of attending college (Hossler & Gallagher, 1987). Iloh's (2018) model of college-going decisions and trajectories provides the pathway in which educators can bridge that gap and help move students into a position to make informed decisions by providing contextual factors that affect decision making.

The Iloh Model of College-Going Decisions and Trajectories

The Iloh (2018) model of college-going decisions and trajectories was relevant to this study in many ways. This model focuses on factors that shape individual students and affect their outcomes and decision making. Although the concept of behavioral economics helps provide factors that in general can impact a person's decision, Iloh focused specifically on more contextual and personal factors that might affect the decision-making process. The consideration of these factors provided additional insight to help guide the creation of the innovation for this study and to help ensure the outcome was a product reaching students where they were at to the best of our ability. Additionally, this model highlights individual contexts that shape students and suggests consideration of individual circumstances and perceptions that should be incorporated into an understanding of decision making.

Like behavioral economics, Iloh's (2018) work on college decision making deviates from traditional decision-making theories by focusing on the individual student. Historically, discussion around college and university choice has been based on sociological and economic frameworks, ignoring students' specific contextual and

individual factors (Iloh, 2018). Sociological perspectives have focused on factors that contribute to students' predisposition for college and university attendance, such as where a student went to high school and their academic achievements and scores or socioeconomic status. Economic perspectives have considered college choice a process of rationally comparing factual benefits of each alternative. However, like many people in general, students' decision making is greater than their predispositions and often not a series of rational decisions.

The Iloh (2018) model of college-going decisions proposes an alternative approach, using an ecological model grounded in context and based on the understanding that each student's individual and unique circumstances shape their perception of reality. Ecological perspectives consider a person's internal and external influences, patterns, processes, relationships, and environment, and how these components have shaped the development of a person into who they are in the present. Iloh's model takes this one step further, focusing on the intersection of three dimensions of a student's decision-making process: information, time, and opportunity. These three nonsequential, yet interdependent, factors look different for each student (Iloh, 2018). Although this model was developed as an alternate way to address a student's college decision-making process, it can also be applied to how a student decides whether to live on or off campus.

Iloh (2018) stated, "Students with access to multiple sources of credible information are likely able to make more informed decisions" (p. 236). Iloh considered information to be one of the most critical factors in college decision making. Yet, information is often not broadly shared or equally accessible. Additionally, as Iloh (2020)

described, information can be impacted by who delivers it, how much and the type of information, and its origin. Students make decisions partly based on whether the information they find or receive is clear, concise, and uncomplicated as opposed to cumbersome, disorganized, and unclear. However, universities often fail to provide students with direct and contextual financial information (Iloh, 2020). For all students in general, studies have found understanding the economic and institutional costs of attendance as critical factors in a student's decisions about college attendance (Hossler & Gallagher, 1987). With costs rising, students and parents alike are increasingly more interested in financial data and its implications (Hossler & Gallagher, 1987). Unfortunately, students from lower socioeconomic statuses tend to have access to fewer sources of information (Cabrera & La Nasa, 2000). If providing equal access and opportunity for students to attend a university is a priority, then ensuring the information provided by the university is clear and digestible for all populations should be a goal (Cabrera & La Nasa, 2000). For all students, having access to relevant information helps them make decisions.

The way information is delivered and by whom could be more important at times than the actual information itself (Schwartz & Baum, 2015). For example, a student may be more receptive to information coming from a professor or a referral coming from a peer. An older student may perhaps find it more challenging to get information than a student in high school because college information is often intentionally discussed and distributed to that level of students and in those venues. This older student would likely

try to find information from a different perspective and have potentially different struggles (Iloh, 2018).

Time, the second dimension in Iloh's (2018) model, incorporates components such as age, condition of the person's family, culture, and life experiences. Iloh stressed the way these components play a role in a student's decision-making process. The events and moments experienced throughout one's life impact how a person approaches a decision and how they decide in the present (Iloh, 2021).

Opportunity, the final dimension in this model, focuses on real and perceived opportunities available to the student. Opportunities could be affected by factors such as finances, geography, culture, or access to technology. Understanding that all students are shaped by prior social, cultural, and educational experiences, educators should seek to address real and perceived barriers students may have (Iloh, 2018). According to Iloh (2018), external factors continually shape environments, processes, interactions, and development, impacting how people behave and make decisions. As such, ASU must focus on individual and contextual factors to truly understand how students make decisions (Iloh, 2018).

Student Development Theory

Student development theory, in particular Chickering's seven vectors theory, was relevant to this study given the focus on student housing and the impact of living on versus off campus on student success (Chickering & Reisser, 1993). In his theory, Chickering specifically addressed the impact and benefits of living on versus off campus

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on student development (Chickering & Reisser, 1993). Additionally, the concepts behind his vectors of development formed the basis for a large part of the innovation.

In the current study, student development theory originally helped explain the reasons for living on campus and the efficacy of the residential college model. However, as I talked with experts in the student services field to help me produce the most valuable innovation for students, the concepts of Chickering's (Chickering & Reisser, 1993) theory became increasingly more relevant and more integral to the innovation. Because the innovation focused less on factual and financial aspects of the housing decision-making process, the discussions focused on the nonfinancial implications to students. It became clear these nonfinancial implications to students were largely developmental as I worked through the process of deciding which images to show students. In trying to best convey the impact of living on versus off campus, selections were heavily guided by the concepts of this theory. The images chosen reflected elements students may not think of such as how living arrangements could affect their development and integration into college life.

Student development models in general look at how students holistically grow and develop during their college-going years. The student development theory created by Chickering takes a psychological development perspective, describing seven paths or tasks students go through as they develop their identity (Chickering & Reisser, 1993). Like other student development theories, this theory strives to describe and guide the development of a student as a whole person. Its goal is not just striving to develop students' intellectual identity but to address their values, interpersonal skills, mental and

physical health, and behaviors that all contribute to a more satisfying life and career in the future (Chickering & Reisser, 1993).

Chickering and Reisser (1993), who revisited and updated Chickering's original theory, argued living on campus has strong positive student developmental impacts, stating that "a student's most important teacher is another student" (p. 392). Students are believed to learn from each other and develop faster when they feel closer to others and part of a community. Residential halls at universities can have a large impact and influence on student development because they provide ready-made communities, by design. They provide an opportunity for academic, personal, and social development through the psychosocial context that living on campus inherently provides.

Research has shown much student development occurs during the first 2 years of college (Chickering & Reisser, 1993). A research study performed by Rest Deemer (1986) found those who lived on campus (versus those lived off campus or those who lived at home) showed more positive signs of development. For example, those students who commuted reported less social confidence, personal autonomy, and independence and these differences were found to continue through their senior year (Chickering & Reisser, 1993).

In Chickering's theory, students develop in stages (Chickering & Reisser, 1993). But unlike other prior theoretical approaches, this model does not focus on development at specific ages but instead on developmental milestone achievement. The theory proposes seven vectors to show where students are in their path of development and which way they might be going (Chickering & Reisser, 1993). Chickering described

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these vectors as highways, along which each driver (i.e., students) might be driving different cars on slightly different paths, perhaps with some detours and stops along the way; but, all students eventually head down the same path (Chickering & Reisser, 1993). Every movement ahead brings more skills, awareness, and autonomy. Students also can go backward on the path. According to this theory, college students are typically on the first through the fourth vectors. Appendix B shows a table from Chickering's book, which lists developmental milestones and transitions.

The seven vectors that are part of this model are (a) developing competence, (b) managing emotions, (c) moving through autonomy toward interdependence, (d) developing mature interpersonal relationships, (e) establishing identity, (f) developing a sense of purpose, and (g) developing integrity (Chickering & Reisser, 1993). Throughout these stages, the student's perceptions and experiences are considered. In this next section, I describe these vectors in more detail.

The first vector, developing competence, involves the student developing intellectually to help them better analyze and synthesize information (Chickering & Reisser, 1993). This includes developing their physical, mental, and manual skills (e.g., sports, art, self-discipline). Additionally, they start to develop their interpersonal skills (e.g., listening, cooperating, and communicating effectively) as they interact with more diverse groups of people.

During the next phase, students work on managing their emotions (Chickering & Reisser, 1993). This can include anger, fear, anxiety, depression, shame, self-regulation,

and other types of emotions. Learning these skills is critical to helping students in their educational pursuits, helping them cope and adjust to the challenges of college.

The third vector, moving through autonomy toward interdependence, involves students learning how to be more self-sufficient (Chickering & Reisser, 1993). Additionally, they begin taking responsibility for themselves and their actions and starting to become less affected or driven by others' opinions. They might start to become more able to feel comfortable standing up to friends or others for their own convictions.

Developing mature interpersonal relationships, the fourth vector, involves how students interact and depend on other people (Chickering & Reisser, 1993). Students develop greater tolerance and appreciation for differences in others. They also begin to feel more comfortable with intimacy.

The fifth vector, establishing identity, is when students explore and discover things they find satisfying and start to become more comfortable with themselves (Chickering & Reisser, 1993). They become more comfortable with their physical appearance, develop self-esteem, and start to define their self-concept. They also develop a sense of self and identify with themselves in historical and/or cultural contexts.

Vector 6 is developing a sense of purpose (Chickering & Reisser, 1993). Chickering and Reisser (1993) stated, "Many college students are all dressed up but do not know where they want to go. They have energy but no destination" (p. 50). In this phase, students develop the ability to define their goals and aspirations and make long-term career plans. Additionally, students learn to overcome obstacles.

Developing integrity, the final and seventh vector, is where students develop their core values and beliefs (Chickering & Reisser, 1993). They build a foundation that guides future behavior and allows them to interpret future experiences. They move away from automatic, rigid beliefs into those that balance personal interests as well as the interests of others.

Institutional Isomorphism

The prior theories informed and guided the development of the innovation. Although not initially considered for this research, the concept of institutional isomorphism, a subset of organizational theory, emerged during the inductive journal analysis part of this study. In reviewing the researcher journal as part of the inductive analysis process, I found the concepts of isomorphism were prevalent. As such, these concepts were used as part of a thematic deductive journal analysis.

In his essay *Economy and Society: An Outline of Interpretive Sociology*, Weber (1968) discussed the impact of bureaucracy on an organization, believing it originally grew from a desire for competition and an efficient way to control people. Weber described an iron cage that symbolized the way felt humanity was becoming constrained by the need to act rationally. His concern was that to be rational, effective, efficient, and profitable organizational and individual creativity would be lost.

DiMaggio and Powell (1983) postured although the bureaucracy Weber wrote about has been achieved, the reasons it continues to exist have changed. Bureaucratic organizational structures have continued to be the norm, but structural changes in current organizations have not been as concerned with competitive advantage or efficiency.

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Instead, their concern is with uncertainty, constraint, and competing with each other over resources and legitimacy. Organizations start out with their own ways of operating and performing; however, as they work to address their concerns, find themselves increasingly more homogenous (more and more like other similar organizations) without becoming more efficient (DiMaggio & Powell, 1983). This process of homogenization leads to isomorphism.

DiMaggio and Powell (1983) described isomorphism as the process whereby an organization's unit starts to resemble another unit that has similar environmental conditions. They described this phenomenon of isomorphism as journal

There are two types of isomorphism: competitive and institutional. DiMaggio and Powell's (1983) research focused on institutional isomorphism, which was applicable to this study. Institutions are units that are external to organizations and "shape them by influencing them to behave in normative ways and limiting [their] freedom to act" (Turner & Angulo, 2018, p. 54). Institutions are typically hierarchical and have centralized decision making, especially with regards to financial decisions (Zucker, 1987). DiMaggio and Powell described three ways that isomorphic change occurs: (a) coercively, (b) mimetically, and (b) normatively.

Coercive isomorphism arises from pressures on organizations, formally and informally. Environmental pressures in the institution force units to conform to accepted ways of operating (Heikkila & Isett, 2004). These pressures could be in the form of cultural expectations or from other organizations on which they depend. In some cases, it may be hard to deviate from the norm without affecting other parts of the institution

(Zucker, 1987). It could also be due to government or legal mandates, required professional certifications, or standard procedures of operating (DiMaggio & Powell, 1983; Zucker, 1987).

Mimetic isomorphism occurs often when organizations want a safe and quick option. New organizations or ideas are often modeled after existing ones, mimicking those that are perceived to be successful (DiMaggio & Powell, 1983). Units tend to look to what their peers are doing before making decisions (Turner & Angulo, 2018). Often called modeling, this response leads to a lack of diversity in the field.

This trend of homogeneity extends to the staff members who work in institutions and organizations. DiMaggio and Powell (1983) referred to this as professionalization of workers. Normative isomorphism comes from the professionalization of the members of a field. This concept refers to the idea that workers in isomorphic organizations tend to mimic each other the same way organizations do. Instead of modeling against other organizations as in mimetic isomorphism, normative isomorphism includes individual staff modeling after other staff or fitting into cultural norms and expectations. Although individuals differ across the organization, they tend to be very similar to their counterparts in other units of the organization. Institutions frequently have formal and structured roles that are fairly consistent over time (Zucker, 1987).

Normative isomorphism could be in the form of being part of professional organizations and guided either directly or indirectly by them. Additionally, it can occur as a result of hiring from the same organizations in the industry (Burruss & Giblin, 2014). Or, it could occur through formalized institutional training. University training is

important for skill building and easy transmission of expectations and roles, but also creates norms across the institution (DiMaggio & Powell, 1983; Zucker, 1987). As people interact across the organization, they share beliefs about the organizations accepted practices (Westwood & Clegg, 2003). People become constrained by their relationships to and position with others in the organization. Units are hesitant to change and go against what others do and who are perceived as the standard of survival or operations (Cardona et al., 2020). DiMaggio and Powell (1983) argued results is a "pool of almost interchangeable individuals who occupy similar positions. . . and possess a similarity of orientation and disposition that may override variations in tradition" (p. 152).

The structure that organizations build due to institutional isomorphism limits their ability to change Cardona et al., 2020). These hierarchical organizations are necessary, but the structure can have negative implications (DiMaggio & Powell, 1983). The larger the organization becomes, the more they are able to control versus adapt to their environment. Change then becomes the exception not the norm and people, therefore, tend to stick to the status quo. Units are hesitant to change and go against what others do and who are perceived as the standard of survival or operations (Cardona et al., 2020). Although not the only factor driving these conditions, isomorphism can be seen in hierarchical organizations, such as universities, where defined lead roles can sometimes become obstacles to egalitarian or innovation (DiMaggio & Powell, 1983).

Implications of Research, Concepts, and Models

By understanding how students view the benefits of living on or off campus, what students find important as part of their decision making, and who and what they use as resources of information for that decision making, educators can better understand how students make decisions about college. Understanding both how university staff make decisions about how to do this and the need to base decisions on student and decision-making theory can help universities create the tools students need to be successful. Prior research about living on campus combined with the fundamental concepts and models described previously provided the foundation and paradigm that guided this action research (see Appendix C). The following section includes a description of how these concepts and models were used in this study.

The concept of behavior economics and Iloh's (2018) model of college-going decision making all focus on how people make decisions. The concept of behavioral economics provided direction and guidance for the development of the innovation by helping me understand the behaviors and factors involved in decision making (Voyer, 2015). The mindspace framework helps further explain behavior economics, by clearly describing critical factors that influence decision making, for both students and staff. Iloh's (2018) model takes this concept one step further by explaining how information, time, and opportunity affect how students gather knowledge to make decisions and how those factors influence their behavior. As I created the innovation, incorporating Iloh's model helped me consider how students might interpret and perceive the final product. Although Iloh's model focused on students, the concepts were also applicable to

understanding the professional staff decision making process while creating the innovation.

While considering images to be part of the final product, it became clear student development theory was a critical component of explaining the nonfinancial aspects of living on versus on campus. Chickering's theory helped me consider the different vectors and the developmental paths students go through on them as part of their college experience (Chickering & Reisser, 1993). This guided the image selection process of the innovation, helping me select images showing students things they may not have thought of but that were critical to their holistic success. Institutional isomorphism helps to understand how university professionals make decisions about change. Together, these concepts, theories, and models helped me design and craft a more effective, intentional, and more successful innovation by understanding how students make decisions, how they might interpret the information presented on the new website, what factors affect a students' ability or perception of the information I shared, and what less obvious impacts their choices may make.

Following an action research approach, this study explored the gaps in student perceptions and available information and how educators can help bridge them to assist students in their decision-making process. This approach also helped this research study and other educators better understand how students make financial decisions (i.e., behavioral economics) and investigate the factors that contribute to overall student decision making (i.e., Iloh's [2018] decision-making model) and as they choose where to live while attending a university.

Action Research

Voyer (2015) stated, "Academic knowledge can have implications for the real world" (p. 3). Action research seeks to identify and solve practical problems through research-informed change (Reason & Bradbury, 2008). This study was an action research study. The definition of action research is exactly as the name implies—it is an action driven by theory-informed research. It is traditionally emergent and participatory, meaning the research takes shape over time and directly includes those being studied (Dick, 2014). Action research combines personal and professional interests to identify actionable problems to produce research-informed changes to address them (Dick, 2014; Mertler, 2017). Those who do action research can be professional researchers or they can be practitioners. Action researchers are not removed from the process of research. Instead, they are integral and necessary, having many years of culminating experience around workplace issues that has led them to identify problems of practice in their workplace settings.

Action research is completed through a process of understanding a need and specific problem, addressing it with simultaneous change and research, and then understanding and reflecting on it through critical inquiry. Given the depth and complexity of problems in the field of education, this reflectiveness and iterative process is necessary for continued process improvement. There is no expectation that an action research study will completely solve or answer a problem. Instead, action research problems are expected to continue to develop and be refined as part of its cyclical process (Creswell & Guetterman, 2019).

Steps in action research are similar to those in traditional research. They include identifying a specific problem (i.e., planning), collecting and analyzing data, addressing the problem with a solution informed by theory (i.e., action), and then reflectively evaluating the research using critical inquiry (Lewin, 1946). In this way, action research bridges the gap between theory and practice (Mertler, 2017). Unlike traditional research, action research is less focused on generalizing results or explaining a phenomenon and instead focuses on developing knowledge that can be directly applied in the workplace setting to foster change (Dick, 2014; Mertler, 2017). Like traditional research, action research uses theory to inform solutions created through planning, action, and reflective evaluation. The next section discusses this current study's concepts and theories in relation to previous cycles of research and the innovation.

Summary of Prior Research Cycles Informing the Study

ASU Housing was used as a case study and the inspiration of my innovation. My literature review and the relevant theories have identified several factors that affect student decision making and how educators can help improve that decision-making process. Prior research cycles helped reinforce the gaps in information students have in making decisions about living on or off campus, and the ASU Housing website's role in decision making. Although many students already used the ASU Housing site, my previous analyses identified several ways the site could be improved. One way students collect data needed to make a decision and fill their own knowledge gap is by researching on their own. However, this research alone does not provide students with all the

necessary information, leaving a gap in their knowledge needed to make an informed decision (i.e., constructivism).

Research has shown students do not always make rational decisions, as described by the behavioral economics model. Their lack of understanding of components such as the total cost of off or on-campus housing; how to deal with landlords, leases, roommates, and paying rent for off-campus arrangements; and their access to all relevant information may contribute to this issue (Iloh, 2020; Riggs, 2019). In particular, students and their parents seldom know the actual costs of college attendance (Hossler & Gallagher, 1987). However, this key factor could deter a student from considering an institution as a potential educational option. The ASU Housing website can provide students with the information needed to make their housing decision accessible and more straightforward. Not only can this information increase a student's understanding of where to live, the benefits of on-campus living, and the best options for their individual needs and circumstances, but it may also help make their decision to attend ASU easier.

During my initial research cycles, I first researched ways to improve the current residential halls themselves to better attract students to the on-campus living arrangement and provide tools embedded in the halls themselves that could help them achieve academic success. However, as I worked through the initial cycles of my research and the theories related to student decision making, it became apparent that there was work to be done to get students to live on campus in the first place, and ASU needed to start helping students with their decisions much earlier in the decision-making process. It also became apparent the decision-making process is more complex and encompassing than just

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providing engagement and programming opportunities. During previous content analysis

work, I also noticed the ASU Housing website communicated in a very transactional

manner. It offered specific room and building-related information, instructions on room

selection, and other housekeeping types of information. However, it has done little to

promote the value of living on campus or the consequences of either decision. Further,

there was no direct link to off-campus housing to help students compare the two options

easily.

In Fall 2022, I conducted a survey to understand better how ASU Housing can

help students understand the benefits and consequences of their decision to live on or off

campus and why students arriving on campus have chosen to live where they did, and to

ask students to reflect on their use of the housing website, although they made their

decision recently. The results from this survey helped further define the final planned

innovation, which was implemented in Spring 2023. As such, Table 1 summarizes these

cycles of research.

Table 1

Summary of Research Cycles and Surveys

Timeframe	Purpose	Actions	Findings
Spring 2020	Cycle 0: Exploratory study to understand what could be done to produce better outcomes and	- Semistructured interviews with two ASU staff members 21 question survey of ASU students	- Community building spaces exist in the halls, but may be underused. - More could be done ton increase community building. - Students want

Timeframe	Purpose	Actions	Findings
	satisfaction for student and the University in University Housing		community and connection. • Residential halls do not completely meet students' needs for connecting to the rest of the university. • Students don't fully understand the value-add that living on campus provides.
Spring 2021	Cycle 0 (repeated): Exploratory study to better understand what was currently being done in the residential halls to create learning and collaborative opportunities for students.	• Semistructured survey of 800 students	• Most students felt cost was an important factor in deciding where they would live while attending the university. • Over half felt they were informed about related costs of housing. • A large number of students used the housing website as part of their decision-making process.
Spring 2022	Content analysis: Explore ASU and other University marketing efforts via websites as vehicles of providing students with living option information	• Review multiple websites and applied coding framework to highlight recurring themes	• Websites that provided direct and clear information were most useful. • Current ASU Housing website is very operations-focused with less focus on impact of living on or off campus, benefits to students, or other not-factual information. • Current ASU Housing website has less affective language. • Other websites

Timeframe	Purpose	Actions	Findings
			provided insight into the way that ASU Housing's website could be improved.
Fall 2022	Cycle 0 (repeated) Exploratory study of students' understanding of the value and cost related to on campus housing versus off campus housing, and their use of/the effectiveness of the current website.	● Semistructured survey of 1,200 students	● Current site lacks information ● Current site has good general hall information ● Students like the pictures and videos on current site ● Current site is easy to use ● Students experience technical issues with current site ● Price/costs on current site unclear
Spring-Summer 2023	Dissertation cycle: Implement innovation and understand the impact of innovation on student decision making	● Semistructured survey of 2,180 students ● Voluntary postsurvey individual interviews with students	● Student behavior / response rate was unexpectedly different from prior cohorts ● Students liked the pictures / learned about campus life from them ● The game needs more financial information ● Innovation helped think about social aspects of living on campus

CHAPTER 3

METHODOLOGY

In Chapter 2, I discussed the theories, concepts, and prior cycles of research that framed and guided my problem of practice and serve as the basis of my intervention. This chapter explains the methodology and tools I used in my action research project. First, an introductory overview of the project and the purpose of the study is provided. I then introduce the components of my intervention, including a description of the setting, participants, and my role as researcher and practitioner. Next, I describe the data sources used in this study, data collection methods, analysis techniques, and results. Finally, I address validity and reliability as part of a mixed-methods action research design and how these are maintained and addressed throughout the study.

Research is one of many ways to understand how best to address a problem. This research study sought to determine how an intervention based on theories related to the creation, development, and sharing of knowledge might influence students' understanding of the benefits and consequences of living on and off campus and thus influence their decisions about their university living arrangements. I used a mixed methods approach for data collection in this study. Combining both types of data helped to provide depth and context to the information collected, providing a better understanding of an innovation's impact.

Quantitative and qualitative data were collected from students and staff during initial cycles to help inform the innovation. For the dissertation research cycle, I conducted surveys to collect data on students' use of the innovation and to get feedback

on students' perspectives of the innovation. I also conducted voluntary postintervention interviews to gain a deeper understanding of this information. Throughout the development of the innovation, I kept a researcher journal to track team discussions and interactions during the collaborative design process. Data were gathered and analyzed to address the following research questions:

- Research Question 1: How do students respond to the innovation as a decision-making tool?

- Research Question 2: How are decisions about innovations made by professionals in a higher education setting?

  - Research Question 2a: How do university professionals navigate a collaborative decision-making process?

  - Research Question 2b: What beliefs about student learning and student experience are reflected in this decision-making process?

Setting

Arizona State University (ASU) was the setting for this study. ASU is a large, urban, diverse campus with many off-campus properties nearby for student living options. In the past 10 years, ASU has seen continued growth in student enrollment, from 65,934 total immersion enrollment in Fall 2012 to 80,065 in Fall 2022 (ASU UOIA, n.d.-a). Of those 80,065 students, 65,492 (81.8%) were undergraduate students. This number is relevant as most students that stay in university on-campus housing are at the undergraduate level and attend the university in person (i.e., immersion students). First-year students have been the focus of ASU Housing until recently, and most residential

halls have been built and geared toward the first-year student population. In Fall 2022, there were 15,151 first-year students, up from 9,166 in Fall of 2012. Historically, ASU houses about 68%–70% of all first-year students, as they are given priority for housing, and then the remaining housing is allocated to any interested upper-division students. This rate has remained flat for many years, even with increased student enrollment in the past few years. The students participating in this study's innovation were immersion undergraduate students with ASU's West campus location designation.

Participants

For the first research question in this study, participants included immersion-based (in-person) students at ASU, who were expected to live at the ASU West campus and had not yet confirmed their housing selection. Two groups of these students were contacted as part of this dissertation research cycle. The first group was contacted through a chatbot and text message system. The second group included students at a freshman kick-off event at the ASU West campus. At this event, students randomly approached the researchers table before and after the event, and voluntarily offered to participate.

The second research question in this study focused on a committee of individuals involved in the design of the innovation. The design committee included ASU professional staff that were part of my department and one external consultant. Each member brought a unique but necessary skillset to the team. Additional participants who were consulted include ASU staff and leadership external to the researcher's department, whose expertise were consulted throughout the design of the innovation. Ongoing

discussions as part of the design and planning of the innovation were recorded in the researcher's journal. More information about the participants of this study is discussed in the following sections.

Role of the Researcher

Given reflexivity and intimate experience with the subject matter are integral to action research, the researcher is, by definition, an integrated component of the research itself (Holmes & Darwin, 2020). For this research project, my role was first and primarily as a researcher. In this role, my purpose was to collect data from multiple sources, analyze that data, and interpret that data to judge the effectiveness of the innovation and better understand student perceptions. In addition to my role as researcher, I also led the creation of the innovation. I worked with a group of experts to create a new web page for the existing ASU website which included an interactive game to help provide information to students. My role on the committee as participant–observer allowed me to add depth to the study and collect rich data throughout the staff decision making process (Jones & Smith, 2017).

Innovation

The goals of my innovation were to (a) provide students with information that could help them make an informed decision about where to live as they attend the university; (b) provide a web-based game for students that consolidated and elevated this information and that would allow them to easily consider on- and off-campus housing lifestyles; (c) improve the housing website to better convey the benefits of living on

campus; (d) explore decision making by first-year students; and (e) use the innovation

design process to explore decision making by university professionals.

To address these goals, I considered the potential gap in information students

have in deciding where to live while attending the university. Based on the theories and

concepts described in Chapter 2, I identified the current gap in the information provided

to students by ASU and the institution's role as educators to help fill that gap with critical

information needed for their decision making. I considered how students are influenced

during the decision-making process, as described by Iloh (2018) and the concepts of

behavioral economics. Informed also by my prior cycles of research and my content

analysis work, also described in Chapter 2, I decided to address this gap by creating an

innovation that would enhance the current ASU housing website content and provide an

interactive way for students to consider their housing options. I drew inspiration from this

content analysis work, which provided examples of best practices, ideas for rebranding

the ASU Housing department, and new ways to enhance marketing efforts. I designed the

innovation based on the concepts of student development theory combined with input

from experts in the field. Given the opportunity to participate in a collaborative design

process, I concurrently maintained a journal of the design team meetings to track the staff

decision-making process for the innovation, discussions, and researcher reflections to

document the innovation development process.

The innovation itself was launched during the spring semester of 2023. Students

were provided with a link to the housing website, which introduced them to the housing

picture game. See Figure 7 for the introductory screen.

Figure 7

Housing Game Introduction

The housing game started by asking two general introductory questions: "What are you looking forward to most about college?" and "What makes you the most anxious?" These questions were intended to prime the students to think about college life

in general, not specific to living on or off campus. In addition to priming the students, the goal was to also collect some information that could be helpful to future iterations of this project.

After students answered the introductory questions, the housing game began. The game had a static header telling students there is much more to going to college than attending class and suggests they will also grow and learn in ways they may not expect. Under the header, students were presented with instructions and a series of pictures. The instructions were given in two parts: (a) to look at the images and click the one that best depicts the college experience they imagine; and (b) to look at the images and click on the one they felt was more important to their college experience. The first page of these two parts is shown in Figures 8 and 9.

Figure 8

Housing Game, Part 1

Figure 9

Housing Game Part 2

The images were supposed to help students think about what life might be like as they attend college and present some information they may not have thought about before. Students moved through the game by selecting one out of two presented images. Each time they clicked on an image to select it, the game moved forward and presented another series of two images, until they were complete. Once they completed the survey, a final page was presented with two potential outputs. Figure 10 includes information presented on the final output page, regardless of selections.

Figure 10

Housing Game Final Page

If the images selected were more than 50% related to being at home or alone

versus on campus, they were presented with information about the ASU West campus,

information about living at home while attending college, information about living on

campus, how to get involved, resources and tips, and a request to take a short survey. If

the images selected were more less than 50% related to being at home or alone versus on

campus, they were presented with information about the ASU West campus, information

about living on campus, how to get involved, resources and tips, and a request to take a

short survey. At this time, they were not shown the information about living at home (with parents) while attending college. The intention was to help and acknowledge students' decisions to live at home and provide helpful information related to living off campus to those who seemed more interested in that option and provide general supportive information to all students who played the game.

Mixed Methods Data Approach

The type of data collected in a research study is driven by the research question and the kind of information that the researcher intends to collect (Saldaña, 2016). Given the types of questions, format of the innovation, and information that was intended to be collected by this action research study, a mixed methods approach for data collection and analysis was used in this study. This method was chosen as a way to provide depth and context to the findings (Mertler, 2017). The innovation assessment included (a) a quantitative postintervention survey that contained three open-ended questions, (b) qualitative interviews following the innovation, and (c) a researcher journal.

Quantitative methods of research strive to produce statistical data (Denzin & Ryan, 2007; Lichtman, 2014; Miller & Brewer, 2003). They are effective in understanding the "what" of a question, but they cannot reveal "how it works, who and what made it work . . . and the meaning students ascribe to their experience" (Iloh, 2016, p. 428). A quantitative postinnovation survey was used to collect information from participants in this study. The low response rate from participants in this study made statistical analyses less valuable; however, the responses still provided useful insight and were compared to other data in the study and prior cycles of research. Descriptive

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statistics taken from the quantitative results provided frequency of student responses; however, the small number of participants in this study put a greater emphasis on the qualitative data collected.

A qualitative approach was used in this study to collect data to get more in-depth insights from participants and to elaborate and expand on what was found using quantitative methods in this study (Mertler, 2017). Qualitative research relies on an interpretive approach to better understand the social meaning in natural settings, using techniques such as interviews, focus groups, observations, or visualization to understand a phenomenon better, recognize patterns, and create a conclusion (Denzin & Ryan, 2007; Lichtman, 2014; Miller & Brewer, 2003). As one qualitative approach, this study used interviews and open-ended survey questions to provide an opportunity at getting a deeper understanding of students' thoughts and perceptions. This study also used a journal to track my observations and discussions during the design process. The journal helped me document how university professionals negotiated and participated in decisions around the development of the innovation, providing a first-hand view and deeper understanding of group dynamics, cultures, and shared practices.

Using a mixed methods approach in this study greatly contributed to a better understanding of the impact and effectiveness of the innovation. Merging both types of data helped to "produce well-validated conclusions" (Ivankova, 2015, p. 128) when evaluating the impact and design of the innovation. A description of each of the methods used in this study will be discussed in more depth in each of the mixed methods sections.

Overview of Data Collection, Sources, and Analyses

In the following sections, I discuss each type of data collected as part of this study, along with its corresponding instruments and analytic approaches. The next section is organized by research question. In each section, I discuss each type of data collected as part of this study, along with its corresponding instruments, participants involved, and analytic approaches. Institutional review board (IRB) approval was obtained in advance of this study. IRB approval documentation is in Appendix D.

Research Question 1: Survey Data

Survey Instruments. The innovation included one survey at the end of the innovation. I created the post-innovation survey I used due to the uniqueness and intentional brevity of the survey. The marketing team and industry experts I consulted suggested that the survey questions be somewhat brief. This was due to the age of the participants (i.e., young, recent high school graduates) and to encourage participants to finish the surveys and not become frustrated or lose interest due to the length.

The post-innovation survey was built and administered using QuestionPro survey software. The survey consisted of six 4-point Likert scale questions, giving participants the option to select *strongly agree*, *agree*, *disagree*, or *strongly disagree*. I intentionally did not provide students with a neutral option so they would need to pick some level of agreement or disagreement which would help me better understand their feeling about the game (Taherdoost, 2019). Three qualitative questions were asked at the end of the postinnovation survey to get students' feedback about the new web-based ASU game. I combined both Likert scale and open-ended responses to get more thorough and deeper

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feedback from the students. The questions asked students what they liked most about the new game, what they liked least, would suggest for improvement, and if they felt that they learned new things from the innovation (see Appendix E). A final question was included for those who took the survey online, which asked if they would be interested in attending a focus group session. The sessions were to be held online using Zoom software and were expected to last 15–30 minutes.

The survey and the housing game were pilot tested with four student workers and reviewed by staff members with expertise in the field. Their feedback was used to understand the following:

- Functionality: Did the housing game work well, function properly, and was it free of technical issues?

- Layout/Design: Was the game visually appealing/was it easy to use?

- Content: Did the game make sense? Did the pictures and questions make sense?

- Comprehension: Were the directions, explanations, and information presented easy to understand?

The student workers were able to speak about their living preferences and experience as students. One member of my design committee (i.e., the director of technology) sat with her student workers as they answered the questionnaire, asking them questions about their understanding, interpretation, and use of the site and checking for clarity and understanding. The feedback from these students showed the innovation was good overall; however, the students offered a few suggestions for improvement. Students

noticed the pictures were not evenly sized and the options were not aligned to the center of the screen in one of the picture options. Additionally, students mentioned the QuestionPro postinnovation survey font was too small and hard to locate on the screen. Another student found a link was not working, and the field allowed users to type in any data in a box that required the entry of a person's email address, not just an email address (i.e., the field did not validate and limit the data only to email address format). The staff members I consulted provided content expert opinions and feedback on the survey design and language, which was documented and reflected in my researcher journal.

Survey Participants: Online. ASU requires digital communication to first-year students be sent through the admissions office to manage and streamline communication to this population; therefore, this office was the conduit for the initial release of the innovation. The ASU admissions team stratified all immersion student data by campus location and further limited to only first-year students at the ASU West campus, who had not yet confirmed their housing selection. This group was chosen because ASU's housing is largely tailored to the first-year student population, and there were initiatives underway to build an additional housing facility at the West campus location.

Using the ASU Admissions Office as the conduit for the initial release of the innovation, a total of 2,180 students were contacted via text message using the existing ASU SUNNY chatbot, which is used by the admissions office for all forms of communication with incoming students. Two reminder messages were sent to students. Given prior response rates, the admissions team expected a large number of respondents. However, this was not the case. Out of the 2,180 contacted, 2,059 received the message

and 121 opted out. Of the 2,059 that did receive the message, seven students responded and participated in the survey in some way. Six answered all the questions, and one additional student only answered some questions during the first attempt. A $50 incentive was offered to each student that participated in the Zoom sessions. Two of the students offered to attend in person focus group sessions to discuss the innovation further. When contacted, neither of these students responded with interest in attending or scheduling the sessions.

Given a low response rate to the initial method, students were again contacted by the ASU admissions team via SUNNY Chatbot, but this time, the message only asked students if they would be willing to participate in a focus group session. It did not contain a link to the innovation. The goal was to see if the incentive and shorter question would increase student responses. A $50 incentive was offered to each student that participated in the focus group session. Again, two reminder messages were sent. Six students responded to this communication stating that they would be interested. When contacted, one student offered to do a focus group session; however, they did not attend after scheduling a session.

Survey Participants: In-Person Tabling Session. In a final attempt to reach more students, I attended an ASU summer tabling session at Sun Devil Send Off at the West campus. These kick-off sessions invite students and their parents to come and hear about transitioning to ASU and involve multiple ASU departments. At this event, I set up a table with four laptops for students to use the innovation, complete the online survey, and discuss the innovation in an interview after they were finished. The tabling session was

set up 20 minutes before the Sun Devil Send Off began, as suggested by the organizers of the event. In hindsight, it would have been good to be there earlier to allow time to attract more students and not be limited by the timing of the start of the event or ask students and their parents to stay after the event was over.

Four students (two female and two male) volunteered to play the housing game and then participate in the interview. The students who volunteered to participate seemed to be attracted to the laptop situated at the table, and to an ASU Housing representative. All students were present with their parents and the parents (even those with other younger children present) seemed content to wait for the students to participate in this study. A $50 incentive was offered to each student that participated in game and following interview sessions. Four students offered to participate. All four students used the innovation; however, only one student completed the online survey.

Survey Data Analysis. Quantitative data techniques were used, which are naturally deductive, building from narrow, specific questions to draw a conclusion (Mertler, 2017). Two surveys were used to capture student feedback about the innovation. Both surveys were exactly the same, except for one question. The first survey had one final question asking students to volunteer for a focus group session. However, this question was removed for the students at the tabling session because they were already in person and informed of the interview following their use of the innovation. QuestionPro software was used to analyze the student responses to the online survey

Because the number of participants was small, I did not choose to do statistical analyses or use graphs to represent the data. I felt this would not produce insightful

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information given the small number of responses. Instead, I used the frequency of responses to understand trends and to see common themes. Tables and graphs were used to present the data and more easily show student responses.

For the open-ended questions students answered as part of the online survey, I downloaded the answers from QuestionPro. I started by reading through the qualitative data to understand what the participants provided. Given the low number of responses, I organized the responses in a crosstab format to see how each participant answered each question, which allowed me to see trends and compare responses. This information was collected in conjunction with the quantitative results to provide deeper insight into student perceptions.

Interviews. I interviewed the four students who volunteered at the tabling sessions after they completed the online game. I created semistructured interview questions using the study's research questions as a basis. These questions acted as a guide to the conversation and allowed for additional questions to help better understand the students' responses and gain depth into the reason for their answers (Kvale & Brinkmann, 2015). I personally led these individual discussions as a way to collect more in-depth, qualitative and contextual information about students' housing decisions and reactions to the new housing game. Participants were interviewed about their experience to obtain a more in-depth understanding of their survey responses and better understand their selection processes (Jarvis & Barberena, 2008). Responses were hand-written and typed up after the event. I asked students to respond to each of the questions and to ask any clarifying questions as needed.

The goal of these interviews was to better understand students' perceptions of living on and off campus, as well as determining the effectiveness of the new web-based game and components that may be improved for future iterations. Questions included whether the new web-based game helped them understand the implications of living on or off campus, if they felt the web page was easy to use if they felt it provided them with new information they did not know before, and if the site provided them with a better understanding of the implications of their housing decision. This provided more in-depth insight into the participant's observations and understanding (Ahlin, 2019). As the students responded to the interview questions, I took manual notes (with pen and paper). The list of questions used in the interviews can be found in Appendix F.

Interview Data Analysis. Interview responses were first transcribed into a Word document from the handwritten notes taken during the tabling sessions. Similar to the approach taken for the open-ended survey questions, I started by reading through the qualitative data collected to understand what the participants provided. Given the low number of responses, I organized the responses in a crosstab format to see how each participant answered each question, which allowed me to see trends and compare responses. As with the open-ended survey questions, this information was used in conjunction with the quantitative results to provide deeper insight into student perceptions.

Research Question 2: Researcher Journal Data

The second research question addressed how members of organizations make decisions, recognizing institutions may struggle in engaging with new approaches or

ways of doing work. As an embedded action-based researcher in creating this innovation, I kept a journal to track how decisions were made. These journal notes were coded for themes to identify not only how members of institutions make decisions, but also how they think about the student decision-making process.

Throughout the study, I kept a journal of emerging themes, thoughts, and reflections that arose throughout the development of the innovation. The journal was created as a Google word document and shared with the development team. The journal was organized according to dates of meetings. During each meeting, I took hand-written notes to document the discussion and then transcribed the notes into the Google document to track details about the discussion, researcher reflections about the discussion and process, and any action items that arose from the meeting. My journaling ended once the innovation was completed and ready to be implemented. This journal helped me evaluate the progress of the innovation. It also helped document my thoughts and considerations for further study, aspects relevant to the research questions, or documentation of changes throughout the data collection and analysis process. The goal of the researcher journal was to track and reflect on the innovation journey, to help address my third research question in my study.

Journal Participants. At the top of the journal, I maintained and updated a running list of all participants (13 external stakeholders, and four design team members) included in the development of the innovation throughout the study and updated as new contacts were made. I led the development of the innovation with three people that were currently part of the ASU/EOSS team: director of technology/information technology,

executive director of data strategy and implementation, and executive director of marketing/communications. An external consultant was hired to build the actual innovation. The consultant had prior experience working for ASU and was a critical component to the actual building of the final product. Other participants were external to my department but still ASU staff consulted throughout the project.

Journal Data Analysis: Summary. To analyze my researcher journal, I followed two approaches: inductive and deductive coding. The journal documented meetings beginning September of 2022, and continuing through April of 2023. I originally coded the journal data inductively expecting to see patterns emerge. Instead, my initial coding focused unintentionally on the content or type of activity occurring, such as "suggestions for the new tool" or "technical discussion." As I concurrently coded the student interviews and open-ended questions, I felt some of the decision-making factors for student decision making also applied to staff decision making in this setting. I also realized that the staff behavior resembled the concepts of Institutional Isomorphism theory. I used the trends I noticed in the inductive phase of coding and insight from student decision-making theories to create a priori codes that could be applied deductively to the journal data.

Journal Data Analysis: Inductive Coding. For initial coding, I used inductive coding as a preliminary way to analyze the journal data. I was interested in seeing patterns of staff behavior and trends of activity as an initial and high-level review (Saldaña, 20121). This first cycle approach used a descriptive method of coding that focused on what was discussed during the meetings (Saldaña, 2021).

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I inductively coded the journal in two phases. In the first phase, I analyzed 23 pages of notes panning meetings occurring between September 27th, 2022, and the end of January 2023. In the second phase, I analyzed eight pages of meeting notes from January 5th, 2023–March 27th, 2023. When Phase 2 was complete at the end of April 2023, I did a second round of inductive coding across all the journal data. Once the coding process was finalized, I grouped the codes into similar categories using HyperResearch software. This allowed me to see organize the codes to identify any trends or patterns. However, once completed, I realized the results from this coding exercise showed patterns of activity and not decision making as I intended.

Concurrently, I was working daily on designing the innovation and applying the theories and concepts from this study to the design of the housing game. In considering how best to understand the behavior of staff, I considered two patterns that emerged from the initial coding exercise: the team was continually collecting new information and I was constantly reclarifying the project goals and intention. I also considered how some of the concepts from behavior economics and Iloh's (2018, 2021) decision-making model might apply to staff behavior. Additionally, staff exhibited the coercive, mimetic, and normative behaviors described by Institutional Isomorphism theory. Using these three resources, I identified themes that I might expect to see in the data and began a process of thematic deductive coding.

Journal Data Analysis: Deductive Coding. My deductive coding approach was inspired by my previous inductive analysis that revealed patterns of activity similar to the concepts of isomorphic theory. I used these concepts to code the journal data. The

analysis was performed between August 22nd, 2023–August 24th, 2023. I used deductive theoretical thematic coding because I intended to use my theories and concepts as preconceived themes that I expected to find in the data. I followed an inductive approach to allow new themes and categories emerge from the new findings.

I started the coding process by following a six-step process created by Braun and Clarke (2006). This six-step process included:

(1) Familiarizing myself with the data,

(2) Generating initial codes,

(3) Searching for themes,

(4) Reviewing themes,

(5) Defining and naming themes, and

(6) Producing a report.

The first step I took as part of the deductive thematic coding process started on August 22nd, 2023, after the student surveys and tabling sessions were complete. The purpose of this round of coding was to familiarize myself with the data. I read over my journal to refamiliarize myself with it and so the data were fresh in my mind. I also separated out the journal into individual documents instead of the one large Google document that it had been created in, with one page for each day so each could be analyzed as its own instance. Once completed, I uploaded these documents in Nvivo software as individual files. Once loaded, I renamed the files to reflect the date of each meeting, which allowed the files to be more chronologically sorted.

Next, I created codes that corresponded to key elements of the theories and concepts in my study. For example, I created a code called "Iloh," named after one of the concepts guiding this dissertation. Under that header code, I created subcodes to match each of the components of that concept: information, opportunity, time. Appendix G has the full list of codes. Then, as part of Step 2 in the thematic coding process, I began the process of applying these codes to my data. I highlighted the applicable sections in Nvivo and coded them accordingly.

The next step in the thematic coding process was to generate themes. To do this, I first exported the codes with highlighted text from the journal to a PDF document. This allowed me to review my work in NVivo and ensure that nothing was missing, duplicated, or coded incorrectly. Once I was satisfied with the initial codes, I then exported the codes to an Excel spreadsheet and created a matrix/crosstab to show my codes and the parts of my data that were coded to them. This allowed me to see patterns or common topics that overlapped or were similar across all of the codes. Then, I reread and copied excerpts from the journal that corresponded to each theme and inserted this copied text into a column next to the themes. This helped me create a clear picture and link between the codes and the data to help me articulate and connect my findings.

For Step 4, I reviewed the themes to see if they seemed clear, adequately captured their associated codes, and encompassed all relevant concepts. I also created assertions that could be derived from the dominant codes and themes. I did this because I wanted to ensure my themes answered my research questions and were tied to the outcomes of this research study. Following the next step in Braun and Clarke's (2006) thematic coding

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process, I reread and considered the name of each theme. I also asked other colleagues to review the codes, journal excerpts, and themes for their input to ensure the themes were easily understandable and conveyed what I intended. Step 6 in the thematic coding process is writing up the findings, which occurred in the next chapters of this dissertation (Braun & Clarke, 2006).

Innovation Evolution and Initial Observations About the Influence of Concepts and Theories. When this dissertation project first began, I was researching how to bring educational and engaging experiences into the residential halls for students at all grade levels. I had talked to a few experts in ASU Student Services about it at that time. Because those efforts were already underway, I shifted to instead focus my innovation to creating a comparative tool that would help students compare costs and other data-based factors when considering where to live while attending ASU.

Initial discussions began with ASU marketing and web development experts in early Fall of 2022. At this time, I was focused on creating a side-by-side comparison tool for students to compare options. I shared the concepts and theories driving this study with the team, reinforcing the connection between these and my innovation design ideas. For example, we used the concepts from behavior economics and the mindspace framework as we designed the innovation; we needed to keep in mind as students are deciding where to live, they have a lot of decisions on their plate, have a lot going on in their lives, are likely overwhelmed, and do not know what resources to use or what to trust. We needed to also assume they are not going to have all the information they need and will be influenced by multiple factors as they make decisions, such family commitments,

financial status, and peer influence. Also, because we knew people tend to choose the easiest option or act out of habit, we needed to consider how to present information in the easiest and most quickly digestible manner. Thinking about the concepts in behavior economics regarding people's tendency to underestimate the importance of things they do not understand or something happening in the future, we needed to ensure students understood the importance and long-term impact of their decision. Iloh's (2018, 2021) model reiterates the importance of who delivers the message. As such, we needed to make the innovation deeply personal to them and include their peers in the messaging.

These discussions about the theories led to further conversations about the need to identify what drives and motivates students to tailor the innovation to address or highlight those elements. The team reached out to a colleague in a different ASU department who had experience with marketing to students for some ideas. She suggested we look at modeling our innovation after the ASU Me3 picture game, which tailors the outcome of a picture game to different output pages depending on the pictures selected, or ASU Find your Fit, which creates output pages based on personal selections of various answers. She also stated that this generation, Generation Z, was interested in community, things in line with their interests, and learning about themselves. Therefore, we should consider that in whatever we created.

Based on this feedback and in discussions with my dissertation committee, the innovation design pivoted away from a side-by-side comparison tool that would have been much less personal and interactive, to a picture game. I also decided to narrow the project down from all students to first-year students, and from all campuses to focus on

the ASU West campus. There were many reasons for making these changes. First, ASU currently did not have a large housing inventory for upper-division students and, therefore, their options for living on campus were very limited. Having a game that presented on campus options could have increased student demand to live on campus, which ASU currently cannot meet and could unintentionally create discontent. Additionally, the first-year experience for students is critical for success and retention. These factors, combined with a flat housing first-year student capture rate, and impending new residential halls for this population, caused me to pivot to focus on first-year students. Given that the first and most imminent new hall being built was going to be at the ASU West campus, and because the capture rate for first-year student housing was lowest there than other campuses, I decided to focus on West campus. With this new project scope, the project pivoted to consider focusing on students' involvement and experience of living on or off campus and highlighting the personal value of each option.

The new focus and direction of the game invigorated the team and provided focus. Over the next few months, the team worked on a draft of the game. During this time, I continued to find it necessary to refocus the group on providing a game that helped students decide for themselves, versus only presenting the benefits of an on-campus living option. It also became clear that the team needed a dedicated project manager to help document action items and ensure the project kept momentum. Figures 11 and 12 are examples of our brainstorming session to discuss the new scope.

Figure 11

Brainstorming Session Part 1
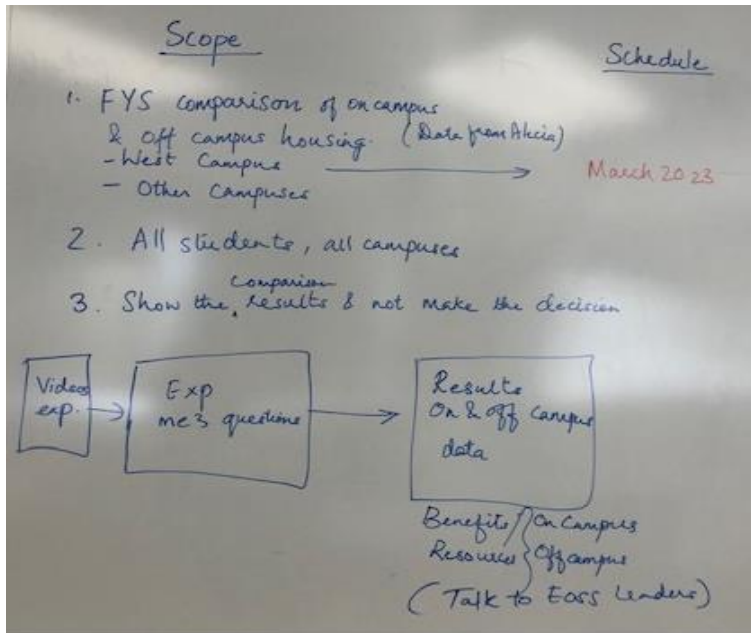
Figure 12

Brainstorming Session Part 2
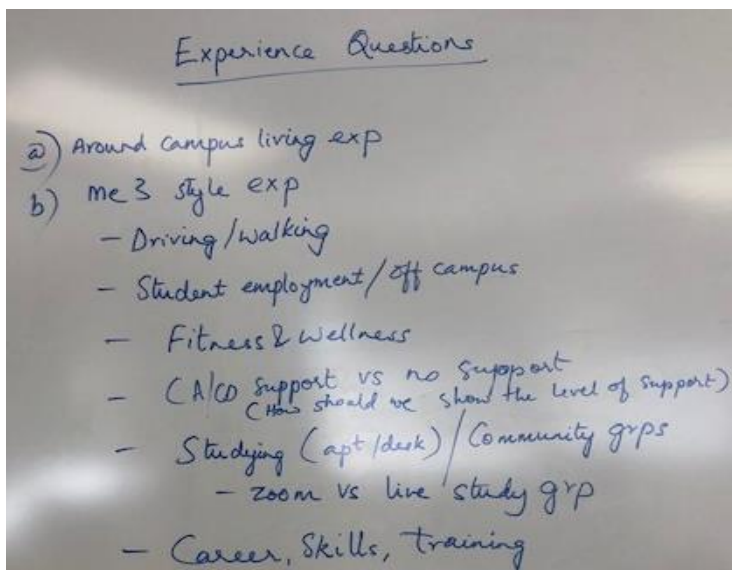
My dissertation journal served as a way to document the team's action items while also documenting the team interactions. Unexpectedly, the number of these interactions and action items began to grow immensely, as I started to reach out to other experts in the field of student services to get their input and feedback on the game.

The innovation design team began to meet with the individuals identified, such as the dean at the ASU West campus; the ASU Student Health, Wellness, And Counseling leadership team; and ASU's Admissions Office. These meetings provided great feedback and further direction for the project. These units also provided the team with additional contacts to meet with for further assistance and input.

Discussions with the dean at the West campus highlighted many elements the design team had not considered about the student population at West campus. In particular, those students may have had more family commitments other students may not have. Also, many first-generation students attended the West campus. Meaning, the students and their parents may not understand the impact of living on campus or how finances work, and assume students live at home while attending school. Because of this, they may self-select out of even applying for housing on the FAFSA. Additionally, these families may not understand how demanding the academic experience will be for first-year students and underestimate the challenges of living off campus. The dean also mentioned there were more limited off campus options for students close to campus, thus increasing the choice for students to stay home if not living on campus. She also

suggested we consider the parents and how to reach out and involve them, if not for this project, then in the future.

The meeting with ASU Student Health, Wellness, And Counseling solidified the focus of this project and confirmed how integral student development theory was to the innovation. I met with this team multiple times. When discussing feedback about the draft housing game, it became clear student development theory was integral to this project. Although Chickering's (1993) student development theory was integral to the research supporting the benefits of living on campus and thus this dissertation study, it also became integral in how the innovation design team approached the selection of images and information for the innovation. The team had been informally discussing the concepts of student development theory (e.g., looking for pictures that showed students socializing with others, or finding jobs); however, it was not formalized as a guiding and integral part of our design decisions until this meeting. In the discussion with the health, wellness, and counseling team, student development theory took on that role.

With the health, wellness, and counseling team, we discussed the ways living on campus helps with students' developmental stages. One of the attendees mentioned intentionally focusing the pictures on these developmental items because students are not thinking about those often. For example, students do not think about how living on campus provides them with opportunity for casual conversations while walking on campus. They may not consider how living on campus can provide more time to bond with and make friends, opportunities to accidentally hear or see information about events, and exposure to experiences to which they may not otherwise be exposed. We also

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discussed choosing pictures that reflected the concepts of the proximity of down time—

being close to elements that help students take care of themselves, learn about oneself by

contributing the community, and stay engaged. The health, wellness, and counseling team

followed up after the meeting by sending out links for further reading about student

development theories and the things discussed at this meeting. Additional contacts were

also suggested by this team for future consideration and input. The design team met after

this meeting and created a draft of the game structure, incorporating student development

theory components, as can be seen in the snapshot in Figure 13.

Figure 13

Draft Game Structure

Picture Game Page On vs Off	Topic	Answer A (off campus)	Answer B (on campus)
Page 1	Studying	Studying at home alone	Studying in the dorm maybe with friends
Page 2	Commute	Driving in traffic	Walking/biking to class
Page 3	Travel	Struggling to find parking	Walking to class
Page 4	How studying	Zoom at home	Library
Page 5	Meals	Eating at home	On campus dining
Page 6	Working out	Alone at home?	Campus gym
Page 7	Laundry	Laundromat	On campus facility
Page 8	Commute	Rushing to get to class	Walking to class with ease
Page 9	Socializing		
Page 10	Grocery shopping	At the store	Dining hall
Page 11	Academic support	Studying alone or searching online?	Tutor groups in the dorms? group studying?
Page 12	Idependence	Parents entering room at home	Student in dorm on campus
Page 13	Community	Students watching ASU sports game	Students at a game

Developmental Opportunities	Topic	Information to Surface in Output Page:
Page 1	Community/Group socialization	Benefits of learning from being part of a social structure; community helps long term student success, benefit of learning and living with peers
Page 2	Community/Group socialization	Benefits of learning from being part of a social structure; community helps long term student success, benefit of learning and living with peers
Page 3	Intellectual /Academic support	Access to professors, tutors, classes, and academic resources easier while living on campus
Page 4	Intellectual /Academic support	Access to professors, tutors, classes, and academic resources easier while living on campus
Page 5	Social interaction	Benefits of learning from being part of a social structure; community helps long term student success, benefit of learning and living with peers
Page 6	Social interaction	Benefits of learning from being part of a social structure; community helps long term student success, benefit of learning and living with peers
Page 7	Social interaction	Benefits of learning from being part of a social structure; community helps long term student success, benefit of learning and living with peers
Page 8	Transition to adulthood	Development of independence, trasition to adulthood
Page 9	Financial literacy and wellness	Career services/ benefits of the ease of living and working on campus, long term success outcomes from these experiences
Page 10	Financial literacy and wellness	Why it is important; Ways to help fill out FAFSA and resources to help afford living on campus
Page 11	Developing integrity	Making one's values more personal, more human and connected to a valid set of beliefs
Page 12	Sexual identification/roles	Establishing Identity: becoming self assured in with regard to sexual identification, roles and behavior
Page 13	Multicultural interaction	Freeing Interpersonal Relationships: ability to express greater trust, individuality, friendliness, warmth and respect for a wide range of people
Page 14	Physcial health wellness	Establishing Identity: understanding one's physical needs, characteristics and personal appearance, access to HWC
Page 15	Mental health/wellness	Managing Emotions: Becoming aware of personal feelings and relating them to behavior, decisions and future plans; access to asu counseling services, campus CA support

The innovation design team also met with the ASU Admissions Office. Per ASU requirements, this office was required to send out any communication to first-year students for consistent and timed messaging. This team was very interested in the housing game and helped the team better understand the timeline for distribution. Discussions with this group before and after implementation of the innovation provided helpful context into student behaviors. Additional contacts for further input were also suggested by this team.

The innovation launched later than anticipated but did go out to students initially in late spring of 2023. Although extending the project timeline slightly, input from university partners proved critical and extremely informative throughout this project. The journal highlighted the need for collaboration, inclusiveness, and the need to allow time for additional input and continual revision/improvement during project development and implementation. It also showed the tendency in human behavior to approach problems according to what individuals are used to and trained for, and the need, therefore, to watch adjust to maintain scope. Results from coding the journal also reinforced for me the value of in-person, open communication to help explain digital information. These results are discussed in the next section.

Procedures and Timeline

For this project, I was responsible for implementing the full scope of this research, including the creation of the innovation, data collection, and data analysis. To accomplish this, I worked with others in staff and leadership positions to provide feedback on the project as it developed to help ensure it worked in the constraints of the technical requirements to be posted on the ASU Housing website. Given my expertise was not in web development, I worked with web technologists and marketing experts to create a new page on the ASU website that contained an interactive game to help provide information to students.

The innovation design planning began in September 2022. The design committee met as a team until the innovation was implemented in April 2023. During that time, I conducted one survey in October 2022. This survey sought feedback from students about

their perception of living on versus of campus as well as their feedback about the current

ASU Housing website. The survey contained a series of questions using a Likert scale

and concluded with open-ended questions. Though the response rate was not as good as I

hoped for, results from this survey highlighted things about the ASU Housing website

that helped inform the design of my innovation.

While still meeting with the design team and other ASU experts to create the

innovation, I analyzed my fall survey results during December 2022. Between January

and April 2023, I used inductive coding to analyze my researcher journal. The innovation

first launched in April 2023 and was used through July 2023. Table 2 shows the timeline

for the innovation.

Table 2

Timeline and Procedures of the Innovation

Timeframe	Action
September 2022–April 2023	Innovation planning ● Biweekly meetings to plan and develop innovation with Technologist for web development ● Researcher journaling
October–November 2022	Cycle 1, student survey ● 1,200 student data pulled, 800 students randomly surveyed from that pool Learn ways that ASU housing can help students understand the benefits and consequences of their decision to live on or off campus ● Understand student use of the current ASU housing website ● Feedback about the current ASU housing website ● Innovation planning ● Biweekly meetings to plan and develop innovation with Technologist for web development ● Work with ASU Marketing and Communications team on creation of new web page ● Researcher journaling
December 2022	Analyze Cycle 1 survey data Continue innovation planning ● Biweekly meetings to plan and develop innovation with Technologist for web development ● Researcher journaling ● Begin work on surveys for innovation implementation ● Complete innovation ● Work with ASU Marketing and Communications team to finalize new web page
January–April 2023	Continued innovation planning ● Review draft innovation with ASU leadership ● Follow up with technologist and ASU Marketing and Communications team for revisions ● Inductive researcher journal coding
April–July 2023	Innovation implementation ● Sent survey to students via Sunny Chatbot system and invited to zoom focus group session ● Invited four students to test the new innovation in person during tabling sessions. ● Conducted postintervention interviews. ● Planned how to present data and results ● Researcher journaling

Additional Considerations

Reliability, validity, and ethical issues are concerns of any study, as was the case with this current mixed methods research study (Creswell & Guetterman, 2019). Reliability and validity create credibility and trustworthiness in both types of research studies; however, they are handled differently for quantitative and qualitative studies. This next section defines and discusses these factors and differences between the two, as well as the implications and applicability to this study.

Quantitative Considerations

Reliability. Reliability refers to the ability of an instrument to produce the same consistent, repeatable, and accurate results each time it is used, and the ability for it to be interpreted the same way by everyone using it (Drost, 2011; Fraenkel et al., 2012; Mertler, 2017). This study used a survey I created to obtain quantitative data regarding participant perceptions about related topics. I invited 10 students and staff chosen by convenience sampling to take the survey to test this.

Although reliability is needed for quantitative research to be valid, it alone is not sufficient to determine validity (Drost, 2011). A research instrument may be repeatable and consistent (i.e., reliable) and yet still be inaccurate (i.e., invalid). Next, I describe the consideration of validity in this research project.

Validity. Although validity can never be guaranteed completely, there are ways researchers can strengthen the validity of their instrument. Validity refers to the extent to which an instrument measures what it is supposed to measure, does what it should and

was intended to do, and produces quality accurate results (Drost, 2011; Fraenkel et al., 2012; Salkind & Frey, 2019). To reduce potential response bias, which occurs when people answer survey questions in an inaccurate, untruthful, or misleading way, I reinforced the anonymity and confidentiality of the study. To address inherent bias, I worked to ensure survey questions were as clear, simple, familiar, safe, and comprehensive as possible. I did this by reviewing the questions multiple times myself, as well as by having students, ASU leadership, and other team members read the questions and provide me with their feedback about these factors (Fowler, 2014).

Qualitative Considerations

Trustworthiness. In qualitative studies, ensuring reliability is handled differently than quantitative studies. Unlike quantitative studies, qualitative studies rely on trustworthiness to ensure reliability (Merriam & Tisdell, 2015; Shenton, 2004; Sinkovics & Penz, 2008). Trustworthiness can be enhanced through four elements: (a) credibility, (b) transferability, (c) confirmability, and (d) dependability (Bengtsson, 2016).

Credibility refers to ensuring findings are true, the researcher did what they intended, and the results accurately represent reality (Stahl & King, 2020). For this study, I compared the survey and interview results from this dissertation cycle to those from former cycles' surveys and interviews and with previous literature. This helped show consistency of responses.

Transferability means the study can be done in other contexts and circumstances. To do that, other researchers need to understand in detail how the study was performed. To ensure transferability, I provided rich details about the research and innovation such

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that someone else could perform similar research in their own contexts and settings (Merriam & Tisdell, 2015; Mertler, 2017).

Confirmability in qualitative studies refers to neutrality, meaning the results and conclusions are not biased or skewed by researcher motivation or interest and should reflect participants' responses. One way to strengthen confirmability is to provide an audit trail that documents every step of the research process. This helps explain the rationale and reasons for decisions made and helps document steps taken to ensure the accuracy of responses. This also helps ensure a research project is dependable (Merriam & Tisdell, 2015).

Dependability means other researchers can replicate the study. One way dependability was be addressed in this study was through constant peer examination. Peer examination involves having others review and interpret the instruments and the interpretation of the data. For this study, I asked other colleagues and experts in student services and student housing to review my survey questions to see if they understand and interpret them similarly. I also consulted with them throughout the design of the innovation and asked them to review and confirm my themes and conclusions in this study were consistent with the data collected (Merriam & Tisdell, 2015).

To strengthen the four aspects of trustworthiness further, I employed a member checking strategy. This strategy involved taking the data collected and interpretations I made, and asking one of the original participants in the design process to review it and confirm that it reflects what they would expect (Merriam & Tisdell, 2015). For this study, I also reached out to experts and leaders in the student services and housing field as part

of a peer/colleague examination and asked that they look at the data I collected and provide feedback on the plausibility of my findings (Merriam & Tisdell, 2015).

Ethical Matters

A final consideration needed to ensure a valid research study is surrounding ethics. Ethical concerns in social science research center around two questions: (a) how to collect, analyze, and report on data and (b) how to interact with research participants (Kitchener & Kitchener, 2009). The Belmont Report, created in 1978 by the U.S. Department of Health, Education and Welfare, focused on five principles that help guide social science researchers and provides the basis for federal institutional review board guidelines: (a) nonmaleficence (i.e., seeking positive impact on people/not intentionally causing harm), (b) beneficence (i.e., doing well/intentionally acting in a way that helps and maximizes the benefit to others), (c) respecting others (i.e., treating people as autonomous individuals who can make their own decisions/protecting those who are not able to, to ensure their decision to participate is informed, understood, and voluntary), (d) fidelity (i.e., trust, confidentiality, and instilling faith in the process), and (e) justice (i.e., being fair in the treatment of others; Kitchener & Kitchener, 2009; U.S. Department of Health, Education and Welfare, 1978).

For this current study, care was taken to ensure research was conducted in a way that incorporates these principles. I took steps to ensure that participants' information is kept anonymous as much as possible. The data from the survey were collected in the aggregate and reported on from a statistical standpoint, thus not requiring individual responses or identifying information. Subjects were not identified in the interviews, and

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their feedback will remain anonymous. I reported on the codes and emerging categories

to mitigate the slight possibility that someone could try to identify the person based on

the comments made.

CHAPTER 4

ANALYSIS AND PRESENTATION OF FINDINGS FOR RESEARCH

QUESTION 1

The first research question addressed how students responded to the innovation as a decision-making tool.   Thus, one purpose of this mixed methods action research study was to explore how students understand and make decisions. Using Arizona State University (ASU) Housing and student's process of making a housing selection a case study., an interactive housing game was created to examine how students understand the impact of their decisions, including consequences or effects that they may not have otherwise considered.

To examine this issue, data were collected from two types of sources: (a) online survey with open-ended survey questions and (b) semistructured student interviews. In this chapter, I present and analyze the data collected from these sources in two sections. A summary of the findings follows each section. Due to the low response rate and limited number of students in this study, results were not statistically analyzed. Instead, results are summarized, reflected on, and studied for overarching themes and feedback for future improvement.

Student Decision-Making Survey: Survey About Students' Priorities and Values With Housing Decision Making

As one approach to answer my first research question, I collected data by using an online survey provided at the end of the housing game. The survey asked questions about students' perception of what living on or off campus would be to them, with options to

select such as "More expensive for me" or "Give me easier access to academic support."

Students answered these questions using a Likert scale, with responses that included *strongly agree*, *agree*, *disagree*, and *strongly disagree*. The survey was sent used in two ways: (a) via chatbot and (b) provided to students who volunteered for interviews at the tabling sessions. Results were combined from both and analyzed. Seven students responded to all questions and one additional student responded only to the questions at the end of the game.

Student General Perceptions of Living On or Off Campus

When asked if living on campus would be more a more expensive housing option for them, 6 out of 7 students (86%) agreed or strongly agreed and all (100%) believed it would give them easier access to academic support. When asked the same question about living off campus, four students (57%) strongly agreed it would be a more expensive housing option for them, and 2 out of 7 students felt it would give them easy access to academic support and independence. Similarly, although all (100%) seven students felt living on campus helped them gain more independence, only three (43%) of students felt living off campus provided the same.

When asked if living on campus would make it easier to see friends, 6 out of 7 students (86%) agreed or strongly agreed compared to 4 out of 7 (57%) when asked if living off campus makes it easier. Five students (71%) felt living on campus would allow them to have a job they could work between classes, while 6 out of 7 students (86%) felt living off campus provided this same option. Students were also asked if living on or off campus would impact their ability to fulfill any family responsibilities. Five out of seven

(71%) either disagreed or strongly disagreed with this statement regardless of the living

on or off campus. Figure 14 summarize these results for both on and campus responses.

Full results can be found in Appendix H.

Figure 14

Descriptive Statistics Measuring Student Perception of Housing Options
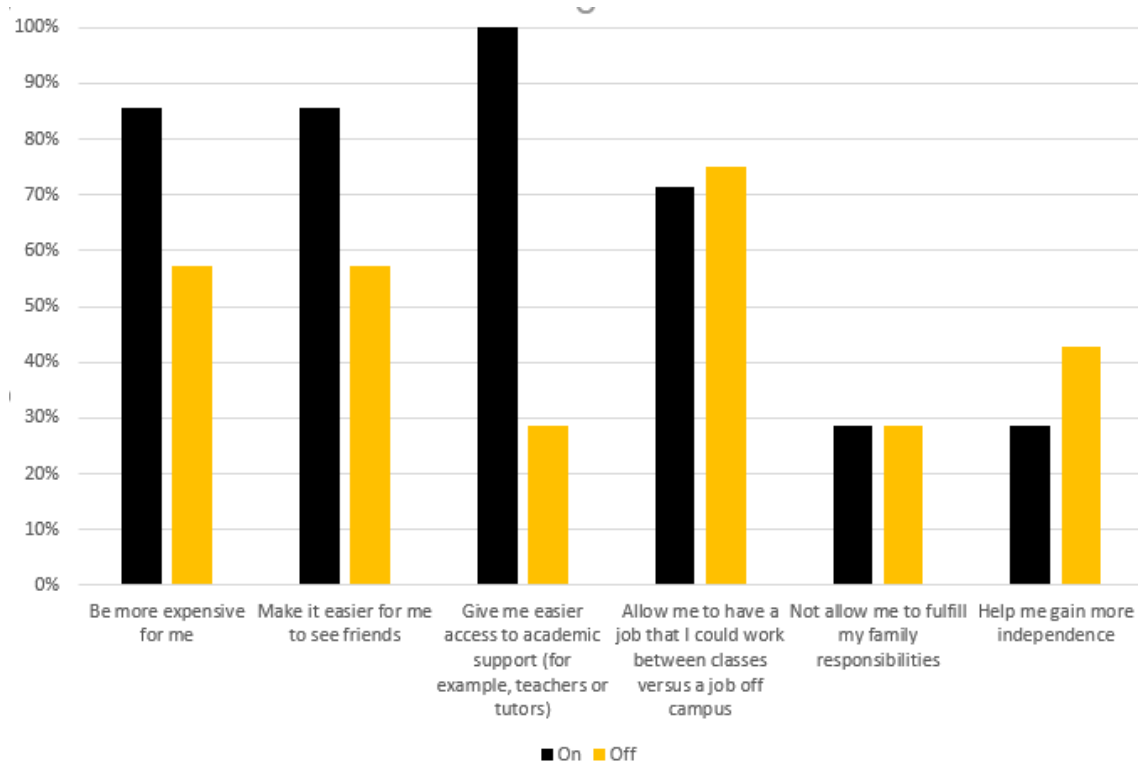
Student Attributing Importance of Factors Affecting Their First Year After Innovation

Next, students were asked, after playing the housing game, to consider how

important they felt about certain variables in terms of their success at Arizona State

University (ASU) as a first-year student. Students answered these questions using a

Likert scale, with responses that included *very important*, *important*, *somewhat*

important, and *not important*. Students were asked to rate the importance of similar components, such as living on campus, being near resources while in college, and transitioning to independence.

One student only completed these questions posted after playing the housing game, bringing the total participant count from seven to eight. After playing the housing game, 6 out of the 8 (75%) students reported being near resources and people was important or very important during their 1st year of school. Five out of seven students (71%) ranked social, mental, and physical wellness in the same way. All seven felt transitioning to independence was important or very important their success as first-year students. No students found these factors to be not important.

For other questions, students differed in their responses. After playing the housing game and considering the importance on their success as first-year students, only one student felt living on campus was not important. All seven students reported the residential model's connection of students to others in their degree program was at least somewhat important. Although 6 out of 8 students felt being close to their peers was at least somewhat important, two students (29%) felt this was not important to their success as first-year students. Figure 15 summarizes these results. Full results can be found in Appendix I.

Figure 15

Descriptive Statistics Measuring Student Importance of Factors Affecting Students' First Year
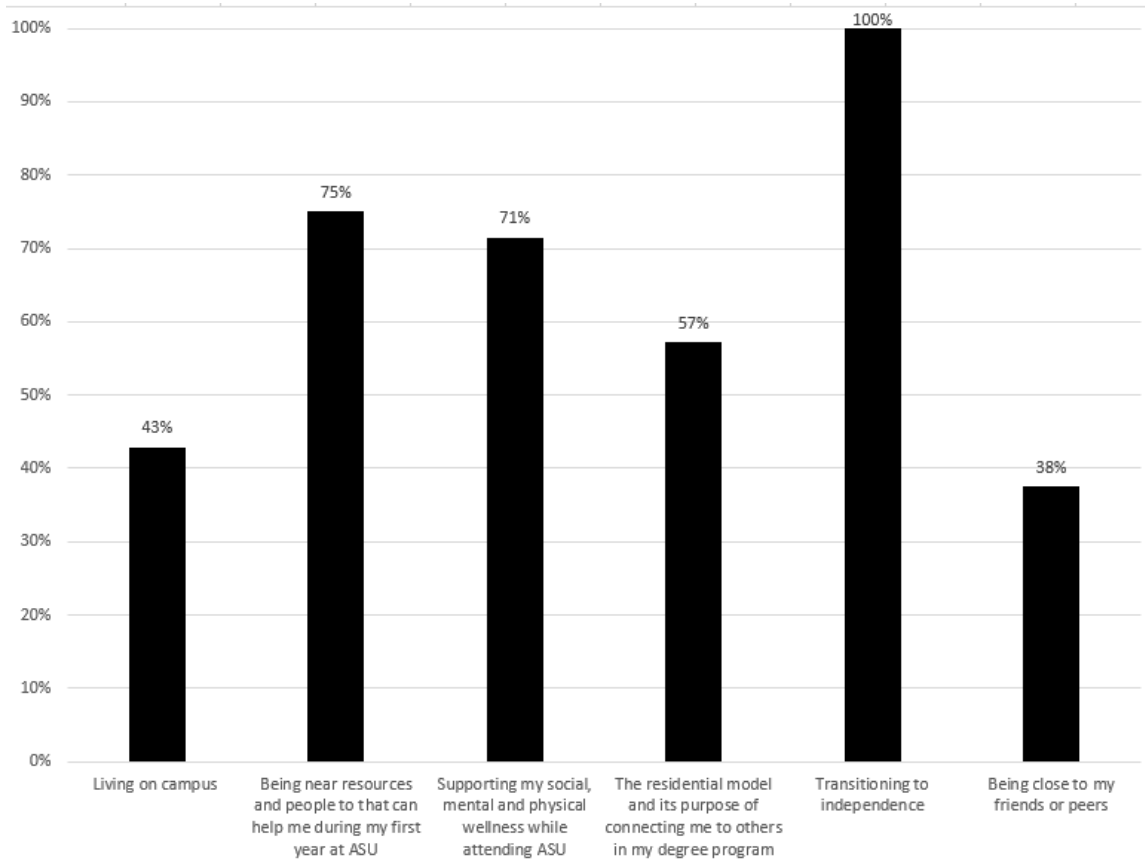
Student Attributing Value to Factors Affecting Their 1st Year After Innovation

       The survey concluded with three additional questions at the end of the survey. The survey asked students to consider if the housing game helped them think about the value of things such as "living on campus" or "social, mental, and physical wellness while attending ASU." Students answered the first few questions using a Likert scale, with responses that included *strongly agree*, *agree*, *disagree*, and *strongly disagree*. Six

students completed the full online survey, while one additional student only answered some of the questions.

Students unanimously agreed the innovation helped them think about the value of living on campus. They also all agreed or strongly agreed the innovation made them consider the value of being near resources and people to help them during their 1st year at ASU. Five out of seven students (71%) felt the housing game showed them the value of social, mental, and physical wellness while attending ASU. Six out of seven students (86%) felt the innovation showed them how the ASU residential housing model connects them to others in their degree program, how living on campus can help transition them to independence, the value of being close to their peers while attending college, and the value of being close to campus.

When asked if the housing game helped them consider costs of living off campus, such as paying for transportation or time spent commuting, students were more split in their responses. Of those who responded, four students (57%) agreed or strongly agreed and three students (43%) disagreed. Only 38% of students responded being near their peers was important. Figure 16 summarizes these results. Full results can be found in Appendix J.

Figure 16

Student Feedback on Innovation
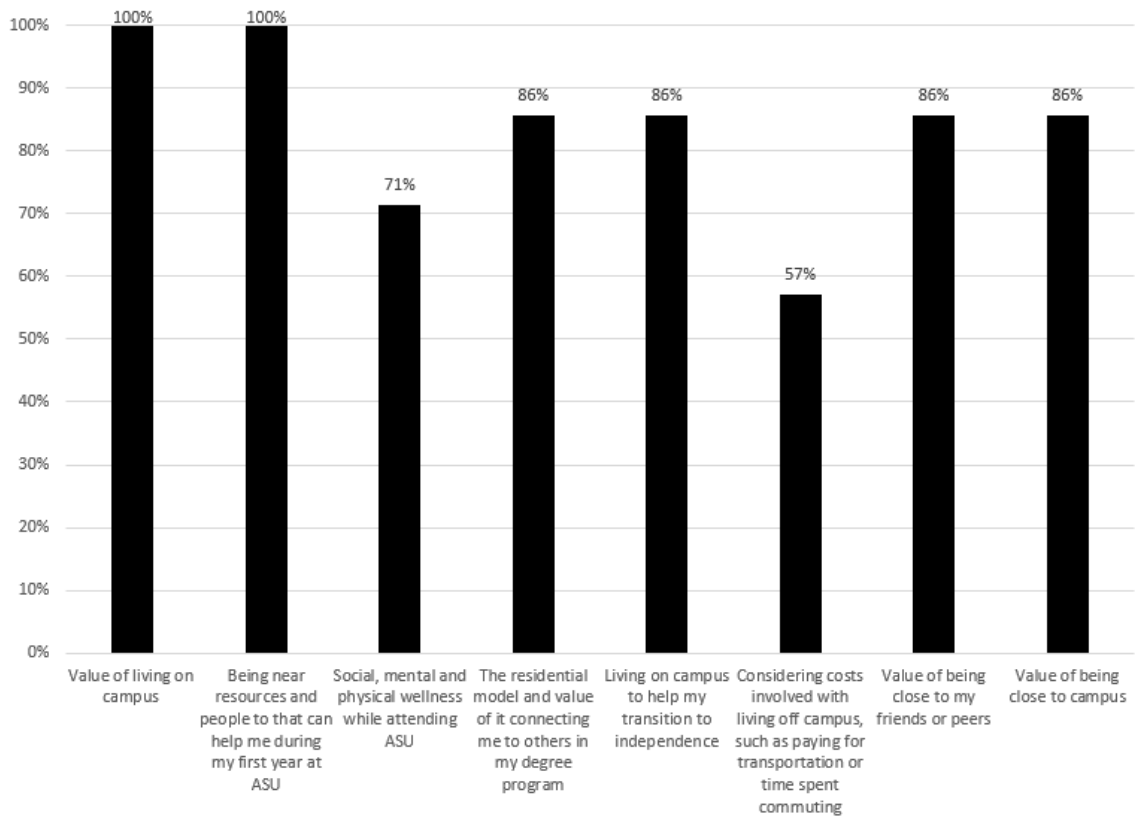
Students were asked three short answer questions at the end of the online survey.
First, they were asked about what they learned about living on campus by playing the
housing game. In general, students felt the game was helpful and positive. One student
felt living on campus would help them make friends and find help if needed. Similarly,
another student stated living on campus would let them be closer to their professors and
have resources more in reach. Another student commented they learned about the
conveniences of living on campus. And finally, another student mentioned learning about

the students' experience, stating they realized things are not as bad as they may seem, and the more involved a student is, the better the experience.

The second question students were asked at the end of the online survey was what they liked about the game. Multiple students mentioned they liked the detailed images in the game, and the option of being able to pick between the two pictures. Other students commented they liked how the game showed them ways to make friends and examples of activities they could do with them. One student found the game to be informative and said the choices provided were relevant. Similarly, another student found the game showed them the expectations and reality of college life.

The third and final short answer question asked at the end of the online survey was if the students had any suggestions to improve the game. Most stated they would improve nothing. However, one student felt the pictures could be improved, finding some of them confusing. Another student suggested we may want to consider adding captions to the pictures. Table 3 summarizes student responses to the online survey.

Table 3

Student Responses to Open-Ended Survey Questions

Survey question	Responses
Things learned about living on campus by playing this game	● Easier to make friends and be near my peers ● Closer to resources for support ● Ways to have fun and be more engaged and the more engaged you are the better ● Helps me have more freedom/be independent ● Convenience to things/proximity
Positive feedback about the housing game	● Shows how students can make friends more easily and be near their peers ● Provides good, relevant data ● Shows opportunity for fun and social engagement ● Pictures show good and relevant information ● The game is good as is and needs no improvement ● Shows true expectations of college/campus life
Suggested improvements for about the housing game	● Add pictures of students with professors ● Add captions

Summary

Results from the survey give insight into the way students make decisions about living on versus off campus, and how they view the implications of those living arrangements. The results also highlight what students find important. It also gives insight into how they make their decisions and the resources they rely on for information to do so.

Student responses showed they felt living on campus has more positive implications than living off campus in some areas. In general, student responses revealed an understanding that living on campus helps them gain more independence, makes it easier for them to see friends, and provides them with easier access to academic resources. Students seemed to understand the value and way the residential college model

works, and the convenience of living on campus. However, contrary to researcher expectations, students did not feel either living arrangement would hinder their ability to meet family obligations.

Another surprising result was student responses to a question asking if living on and off campus would make it easier to have a job they could work between classes. Students felt living on campus provides nearly the same level of opportunity for flexible work opportunities than living off campus. In both scenarios, living on and off campus, students noted it would expensive for them and they did not feel these living arrangements would prevent them from fulfilling any family responsibilities. When asked if living on campus would be more expensive for them, most student responses indicated they felt living on campus would be more expensive for them. Former cycles of research did show similar results to student responses about cost of living on campus.

The online survey ended by asking students for open responses to three final questions. Students were asked to provide feedback about what they learned by playing the housing game, and they were asked for suggestions for future improvement of the innovation. Student responses mimicked largely what they reported in the survey, reporting they learned how living on campus could help them make friends, connect them to help and other resources, and be closer to professors if needed. When asked for feedback about the innovation, students mentioned the game helped them understand the convenience of living on campus and the value of getting involved while attending college. Most students liked the pictures and the details in the pictures and felt they were relevant. Other feedback centered around the way the game helped show expectations of

campus life and social opportunities available to them. A few suggestions for improvement were some of the pictures were confusing and to consider adding captions to the pictures.

Student Decision-Making Interviews: Interviews About Students' Priorities and Values With Housing Decision Making

As another approach to answering Research Question 1, I attended a tabling session where ASU West campus first-year students were attending an event in person. At the event, students were invited to participate in an in-person interview after playing the housing game and taking the survey. The students engaging in the interview process varied in attitude, interest, and knowledge, speaking to the diversity of experiences students brought to the table when making decisions about their futures. Four students participated in the tabling session interviews. Each interview lasted approximately 10–15 minutes. Students were very eager to provide one-on-one feedback. Other students who chose not to participate approach the table with general housing questions, as did some of their parents, looking for specific information about their situation (e.g., size of room, website not working to sign up, trying to understand how the reservation process works, looking for move-in related documents). Although the questions did not pertain to the scope of this study, it was clear incoming students and families had many housing questions and were unsure of who they could contact to resolve them.

The first participant started the game before the event, which compressed the amount of time the individual had to provide feedback. This caused the participant's responses to be shorter and a bit hurried because he was missing key opening remarks

and needed to return to his seat with his parents. This student was, however, very interested in giving feedback and showed interest in the questions being asked; he approached the table after the event with personal questions about housing and issues he experienced with the current website.

Participant 2 was very excited to talk about this topic and eager to give feedback. She seemed more familiar with the process and ASU, given she had a sibling that lived on campus all 4 years of her college experience. Her interview was quick-paced and would have benefited from having the conversation recorded instead of me trying to write her responses down, given she spoke excitedly and quickly about the topics. She spent a lot of time thinking about questions before answering.

Participant 3 was a more reserved student who seemed interested in the housing game but was shorter in his answers. His answers were more direct and succinct, and he was a bit shy as he spoke to me. He participated in the innovation after the event was over.

Participant 4 was similar in nature to Participant 2. She seemed to have more experience with ASU and access to resources and sources of information about her housing options. She was very excited to provide feedback and took time to think about and find the best way to articulate her answers. Like Participant 2, she often spoke quickly, reminding me a recording of the interviews would have been very useful.

Student General Perceptions of Living On or Off Campus Before the Innovation

The first set of questions asked students to reflect on what they knew about living on campus before they played the housing game, and what information or resources they

used or would have liked to have to make their decision. Questions included things such as "Before playing this game, what did you believe were the benefits of living on campus?" and "What additional information or resources do you feel could have helped you understand the benefits and drawbacks better, if any was missing?"

In general, results showed they did seem to know about some benefits of living on campus. One participant stated she felt living on campus allowed her to "connect with some people in the same majors." Two other students stated living on campus allowed them to be "closer to surroundings and people [who] are available to help [them]," and with "proximity, [they] don't have to commute, [which] helps with work life balance." When asked about the drawbacks to living on campus, students referred to the distance from support and family, stating, "[students] would have to be independent and no family; anxiety and isolation, fears of being alone," and being "away from family." Figure 17 shows these student responses. A full list of responses can be found in Appendix K.

Figure 17

Interview Responses: Preinnovation Understanding About Living Options
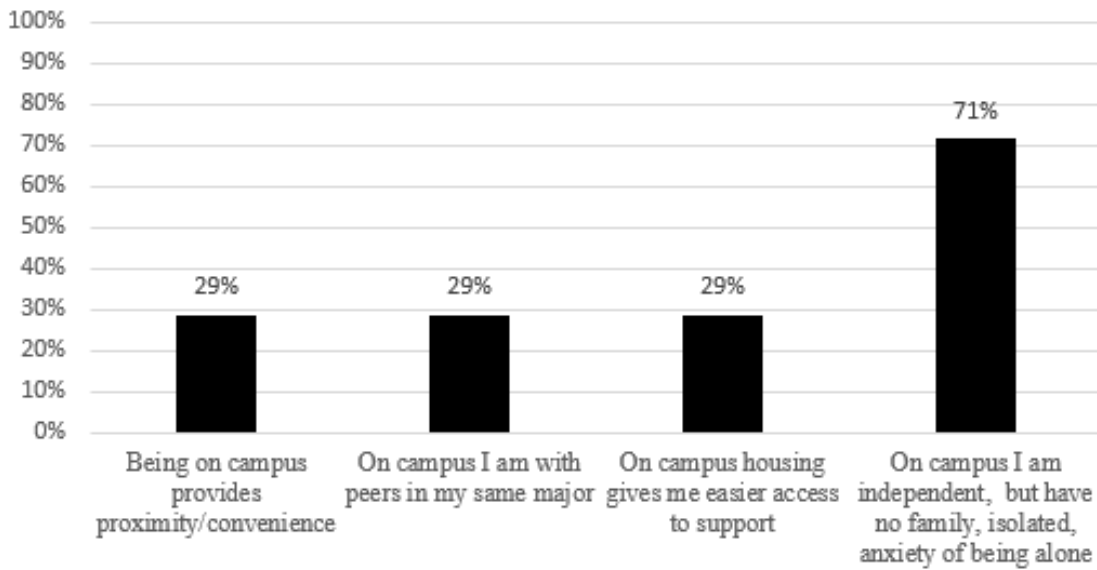
Information and Resources Used to Make Housing Decisions

When asked about information and resources used to make their housing decision, or understand the benefits and drawbacks of living on or off campus, Participant 2 stated:

I talked to my sister who lived on campus all of her 4 years while attending ASU. I asked about what would I do for food and other resources. I also talked to my parents and my brother about campus life, talked to school counselors and Gear up coaches. I also used the ASU website to answer questions.

Participant 4 stated they relied on "parents, website, and an advocate in Tempe." They said, "Each year a lady brings to juniors and seniors people to talk about college, since my school is so far away from things (like military recruiters, ASU representatives, etc)."

These students suggested additional information or resources that would have been useful in helping them in this decision. Participant 2 suggested, "Make website more accessible, FAQ or 3 sections of housing, finance sheet, etc." Participant 3 suggested, "More website info, more details about dorm life." See Figure 18 and Table 4 for these responses. Full responses can be found in Appendix L.

Figure 18

Information Students Use to Make Housing Decisions
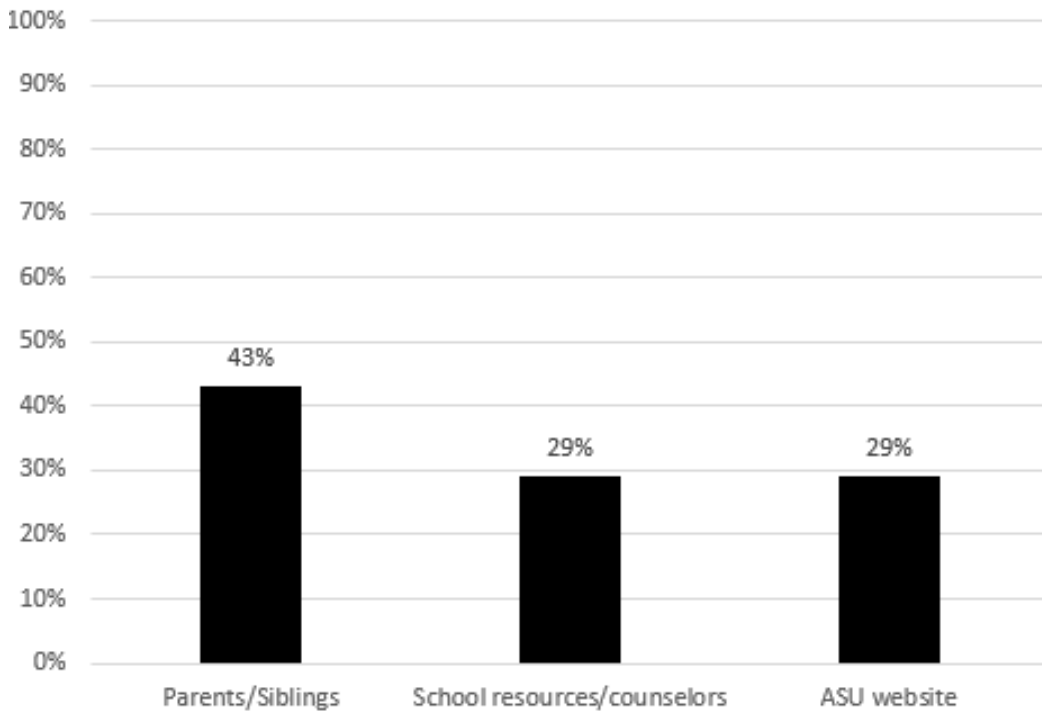
Table 4

Interview Responses: Information and Resources Students Used to Make Housing

Decision

Survey question	Responses
What information or resources did you use to make you feel that way about living on or off campus?	● Personal experiences ● Talked to a sibling that had previously lived on campus at ASU ● Asked siblings about food and other resources ● Talked to parents about campus life and housing options ● School counselors ● Gear up coaches ● ASU Website ● Visitors to high school that talk about college (e.g., military recruiters, ASU representatives) ● Gold guides
What additional information or resources do you feel could have helped you understand the benefits and drawbacks better, if any, was missing that could have helped you?	● Make the housing website more accessible ● Add in FAQ section ● Needs more information about finances ● Add more information about details about living in the dorms on campus/campus-based housing life

Student Feedback About ASU Housing Website

The next set of questions asked students about their prior knowledge of and feedback about the current ASU Housing website. Students were also asked to comment on their familiarity with the ASU Housing website and their impression of it. Overall, students responded positively, with Participant 2 stating, "[The website is] pretty good, showed living preferences." Participant 4 concurred, stating it was "good, self-explanatory, helped make [their] decision." Table 5 reflects these responses. A full list of responses can be found in Appendix M.

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Table 5

Interview Responses: Student Feedback About the Current ASU Housing Website

Survey question	Responses
Were you aware that ASU had a housing website? If yes what did you find helpful about the site?	● It was very direct ● Links on the site were helpful ● Videos were good and useful ● Step by step information was good
What did you find missing or not helpful about the site?	● Some forms and technology on the site were not working ● Information about roommates is confusing ● Deadlines are not clear or obvious ● Add information about allergies ● Needs more options/more categories to select from
What was your overall impression of the ASU Housing website?	● Good, organized ● Showed living options ● Self-explanatory ● Helped me make my housing decision

Student Feedback About Innovation

When asked more specific questions about the housing game and its impact on their understanding about the impact of living on or off campus, Participant 2 thought it showed them additional options they had not thought of before. They said:

I can connect with teachers online, in person, and have better access to study information so that I can talk to teachers to ask questions about classes. I can be closer to food when you need it, access to digital money, gym and pool use, shuttle to travel to other campuses.

In the housing game, Participant 4 stated, "[I] saw images of more people working together on campus, coming together vs me by myself. Showed me that I can count on peers and not be alone. Showed groups of students working together." Other students

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stated that it showed them "two sides of living on campus, and being by [themselves]

versus with friends," "about experiences, socializing," and "[they] can walk to most

places by living on campus; take a shuttle for transportation, cafeteria is close." One

student expressed being "more excited [to live on campus] now." Other students did feel

the game needed more information about financials and budget. Table 6 summarizes

these responses. A full list of responses can be found in Appendix N.

Table 6

Interview Responses: Student User Feedback About the Innovation

Survey question	Responses
What aspects of the housing game you just played would you describe as easy to use?	● Pictures were good ● Visual images were good and helpful ● The game was easy ● Showed the reality of living on or off campus versus expectations
What aspects would you describe as difficult to use?	● Good, organized ● Showed living options ● Self-explanatory ● Helped me make my housing decision
What was learned, if anything, from using the tool/what did the tool help you understand about living on and off campus?	● Living on campus being with friends versus off campus and by myself ● I can connect better with teachers ● Better access to study information and resources ● Easier to talk to teachers to ask questions about classes ● Closer to resources like food options ● Easier access to digital money ● Closer to things like the gym and pool ● Close/easy access to use the shuttle to get to other campuses ● Living on campus provides opportunities for experiences/socializing ● Easier for groups of students working together on campus ● With other people versus being alone

Survey question	Responses
How the housing game did or didn't help you understand nonfinancial related implications about living on or off campus?	● Able to count on and access my peers ● Jobs on campus are easier; off campus don't work as flexibly with you ● I am more excited about living on campus now ● You can walk most place by living on campus, take a shuttle, easier/cheaper transportation options ● Cafeteria is close

The last part of the interview focused on the structure, format, and design of the innovation. Students were asked what they liked about the format of the game and what they found helpful or appealing about the game. Students liked that it was "simple, not complicated" and another stated the "layout was friendly." Other students mentioned, "It was all helpful. I really liked it—it was different, never done something like that before, I enjoyed it."

Students were then asked to provide feedback on what they felt was not helpful. One student found a spelling error, but the other students had nothing they could suggest was not helpful. Participant 4 suggested changing the "scales [used] and adding a third visual option." Table 7 summarize the interview responses. A full list of responses can be found in Appendix O.

Table 7

Student Feedback on the Helpfulness of the Innovation

Survey question	Responses
What did you find helpful or appealing about the format of the game and how information was presented?	● I liked all of the game ● I liked how it gave two options to pick from ● The visuals and pictures were good ● Easy to use ● Layout was friendly
What was not helpful?	● It was all helpful. I really liked it ● It was different – I never done something like that before ● I enjoyed it and liked how it showed living options ● It made me think about connecting with others
What changes would you like to see in the tool that would help make it more useful to you as you decide where to live while attending ASU?	● Add scales to rate percent agree with the pictures ● No changes needed ● One spelling error

Summary

Interviews with students mimicked feedback received from students through the online survey. Students showed basic knowledge about the benefits and consequences of living on versus off campus. Most students felt living on campus provided academic support, helped transition them to independence, and made it easier to see and make friends. They also felt the innovation helped them understand the way living on campus connected them to others in their degree program through the residential college model. Although students felt the innovation helped them see the value of social, mental, and physical wellness and how living on campus puts them nearer to resources and people to help them, they placed less importance on the impact of these factors on their success during their 1st year. Students felt the innovation lacked information on cost and financial

impact of living options but felt the innovation helped them overall see what college life

and life in the dorms would be like. Interviews with students provided a bit more depth,

with students commenting on work–life balance, using parents and siblings as

information resources, and other ways to improve the current ASU Housing website.

CHAPTER 5

ANALYSIS AND PRESENTATION OF THE FINDINGS FOR RESEARCH

QUESTION 2

Research Question 2 asked, how are decisions about innovations made by professionals in a higher education setting? Thus, a second purpose of this mixed methods action research study was to examine the process of staff decision making as they designed and created the innovation. To accomplish this, I kept a journal throughout the innovation design process to provide insight into staff decision making. Research Question 2 had two components:

- Research Question 2a: How do university professionals navigate a collaborative decision-making process?

- Research Question 2b: What beliefs about student learning and student experience are reflected in this decision-making process?

This chapter contains four sections: (a) inductive coding analysis and results, (b) deductive coding for student themes, (c) deductive coding for staff themes, and (d) summary of resultant themes and assumptions. Each section contains results from the coding exercises. The final journal summary of themes presents themes resulting from both student and staff data analysis.

Inductive Coding

The goal of documenting the innovation-development process through a journal exercise was to explicate how decisions get made. These findings can demonstrate how people in an organization take action to solve a problem. Namely, I was interested in

seeing whether team members could avoid isomorphic behaviors and intentionally think about student decision making in the development process.

To analyze the researcher journal, I began by coding the journal inductively using HyperResearch software. I used inductive analysis to identify topics in the data. This exercise resulted in the generation of a full a list of codes. I then combined similar codes into categories. To better summarize and identify patterns, I ran a frequency report to show the frequency of each code and category applied. I then exported the report to create visualizations from the data. The frequency report is shown in Table 8. Figure 19 includes a visual chart to identify patterns easily.

Table 8

Inductive Analysis of Journal Results: Coding Tree Categories and Codes

Category	Code	Number
1	Add expand or change direction of project	46
	Additional stakeholders added to discussion	6
	Change direction or focus of research project	13
	Suggestions for the new tool	27
2	Clarification about project intention and goals	31
	Confusion over goal of project	5
	Discuss refocus or redirect on giving students information vs getting them to choose on campus housing	5
	Email communication about the project	7
	Overview of topic and project	9
	Tracking or discussion about user experience	5
3	Technical discussion to plan actual website tool	27
	Data discussion	2
	In person discussion about the project	8
	Technical discussion	17

Note. Total number of researcher journal codes = 104.

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Figure 19

Researcher Journal Coding
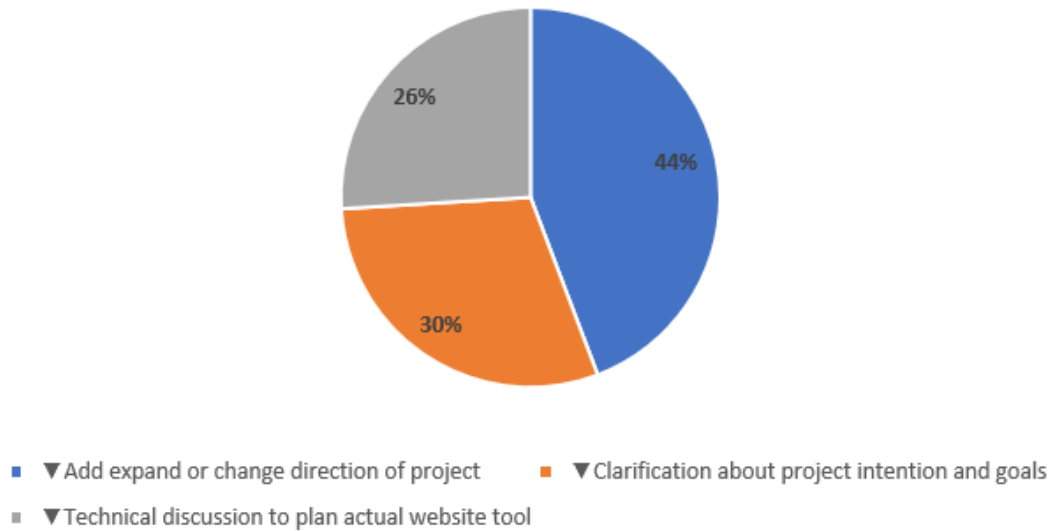
Summary

       Results from inductive coding showed the pattern of staff activity throughout the design process. Early team meetings reflected brainstorming sessions and idea generation for the project, which quickly added information and stakeholders to the project, occasionally leading to expansion of scope of the project. As the scope expanded, the direction of the project changed. This was the first most coded activity in the design process. The second most frequent activity was clarification and identification of the goals and direction of the project, to steer the team back on track. Technical discussions about the innovation itself was the least most coded activity in which the team participated. Although showing categories of project management and interesting patterns

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of team activity, this coding did not provide the depth of information I was seeking.

However, the process highlighted themes that would be used for the deductive coding

exercise, which will be described next.

Deductive Coding: Staff Themes

The inductive coding approach resulted in coding my journal entries into

categories about project management. To not let project management issues obfuscate the

goal of understanding decision making, I engaged in deductive coding by using the

thematic categories from the literature review. This thematic deductive approach built

upon patterns I identified during the initial inductive analysis. The patterns revealed some

activity that seemed in line with the concepts of isomorphism. I decided to use those

concepts to deductively code the journal with isomorphic codes. I also created themes

based on other patterns of behavior that were prevalent and I noticed during the inductive

process related to the influence of emotions on behavior, individual factors,

communication on the team, and information sharing activity. Once coded, I analyzed the

data to understand the frequency that the codes appeared. These codes are described in

Table 9.

Table 9

Definition of Deductive Codes Used for Research Question 2a

Thematic categories	Codes	Definition
Isomorphic concepts		Homogenization of staff behavior across the organization
	Iso: Normative professionalization	
	Iso: Mimetic pressures	Modeling/copying others
	Iso: Coercive pressures	Technologist for web development
Information sharing activity	Info: Priming	Providing information indirectly or early to awaken subconscious cues
	Info: What highlighted	Modeling/copying others
	Info: Fewer options	Fewer options is easier to understand/more efficient
	Info: Share/review	Information sharing, reviewing, discussing
	Info: How info is shared/messenger	Who shares the information/how presented effects reaction to it
Staff individual orientation/motivations for behavior	Orient: Drawn to relevance	Drawn to things relevant to them
	Orient: Go with what know	Going with what they know or have done before
	Orient: Confirm. Bias	Biased to hearing/seeing/listening for what they expect
Communication on the team	Comm: Time	Impact of time on availability to meet/perform work
	Comm: Opportunity	Impact of access, geographical limitations on work
Personal emotional influences on behavior	Pers/Emotion: Emotions influence	Emotions impacting the work or team dynamics
	Pers/Emotion: Do what feels good	Performing a task for personal emotional gain

To start the deductive coding process, I used Nvivo software to code the journal, using the theories and concepts that guided this study as codes. Once completed, I ran a

crosstab to visually see the frequency of codes along with the date. Because I originally separated each of the 34 meetings into its own document and named it by date, I was able to see the timing of the activities coded. A total of 407 codes were applied to the journal, of which 158 were staff-related codes. I ran a crosstab query to show the number of codes for each topic on each meeting. In any given meeting, there could be more than one code and the code could appear more than once on a meeting because the discussions could cover multiple topics in the same meeting (e.g., if "normative professions" was identified three times in a meeting, the number of codes would be three). I also ran a second crosstab to see in how many meetings each code appeared/was discussed (e.g., if "normative professions" was discussed three times in a meeting, the result would be "yes," it appeared in that meeting and counted once). Then, I summarized all results in a table to see total codes by research question to highlight frequency for each focus area. In the next section, I describe the findings from the deductive analysis performed on the researcher journal, followed by a summary of the themes and assertions that emerged from that analysis.

Isomorphic Concepts

Results from the analysis for isomorphism concepts showed the team frequently exhibited isomorphic behavior, meaning institutional decision making replicated existing ways of thinking. Results showed moderately strong normative tendencies accounting for 8 out of 158 total codes and appearing in a fairly large (15%) number of meetings. Results showed even stronger signs of the influence of mimetic and coercive pressures on the team, with each code appearing in 19 out of the 158 total codes and observed in over

35% of the meetings. Mimetic behavior was observed during discussions about the consideration of the existing Arizona State University (ASU) "Me3" chatbot or "Find your Fit" website ASU already used versus designing our own product.

Another area coded this way included a discussion about implementing a preinnovation survey that would mimic other ASU marketing strategies, even though it was not integral to the game itself and not requested. Normative professionalism was evident in the way university staff members with similar titles, functions, and roles across the university were oriented to similar ideas, offered similar template-style solutions, and showed similar interests. Additionally, other journal discussions reflected ways ASU staff were predisposed to focus on only presenting information about living on campus students, and avoiding information about living off campus, even when directed otherwise. Coercive pressures could be seen in interactions with the ASU admissions team in which they instructed the design team to run all communication to first-year students through them to have consistent messaging. Another part of the journal code for isomorphic concepts includes discussion about limitations on the project due to ASU regulations and the need for the team to include external parties in the design of the innovation. Table 10 reflects these codes.

Table 10

Staff Deductive Coding Frequency Results for Isomorphism

Codes	# codes	% of all staff codes	# meetings (out of 34)	% meetings appeared
Iso: Normative professionalization	8	5	5	15
Iso: Mimetic pressures	19	12	12	35
Iso: Coercive pressures	19	12	12	35

Note. Total isomorphic concepts = 46.

Information Sharing Activity

Information sharing codes showed the team frequently engaged in this behavior, but largely due to one type of information activity. Data showed the team spent a lot of time reviewing and sharing information, accounting for 33 out of 158 total codes and appearing in a very large number of meetings (almost 53% of all meetings). Many journal notes showed different times when information was shared with the team by experts. These conversations led to more information sharing by additional experts. Other sections of the journal were coded to reflect how the team shared information with each other successfully (i.e., in person, whiteboard sessions) or unsuccessfully (i.e., email, Zoom meetings) or how the team became overwhelmed at times with information and lost track of the goal of the project. Table 11 reflects these codes.

Table 11

Staff Deductive Coding Frequency Results for Information Sharing Activity Concepts

Codes	# codes	% of all staff codes	# meetings (out of 34)	% meetings appeared
Info: Priming	1	1	1	3
Info: What highlighted	1	1	1	3
Info: Fewer options	5	3	5	15
Info: Share/review	33	21	18	53
Info: How info is shared/messenger	2	1	2	6

Note. Total information sharing activity = 42.

Staff Individual Orientation/Motivations for Behavior

Results from analysis for individual behaviors and orientation showed the team frequently engaged in this behavior. Results showed staff were drawn to things they found relevant, accounting for 18 out of 158 total codes and appearing in a very large number of meetings (over 35% of all meetings). Staff behavior and making decisions based on what they knew and were familiar with occurred in 23 out of the 158 codes and just under 50% of the meetings. A few journal entries reflected staff tendency to ignore the parameters of the project—intentionally or unintentionally—and create components of the housing game that were moving the project in the wrong direction but in the direction of what was familiar to them. In discussions, team members showed signs of gravitating toward what was relevant to them, such as focusing on marketing attributes but not content-based discussions. Table 12 reflects these codes.

Table 12

Staff Deductive Coding Frequency Results for Individual Orientation Behavior Concepts

Codes	# codes	% of all staff codes	# meetings (out of 34)	% meetings appeared
Orient: Drawn to relevance	18	11	12	35
Orient: Go with what know	23	15	16	47
Orient: Confirm. Bias	1	1	1	3

Note. Total individual orientation behavior = 42.

Communication and Personal Emotional Influences on Behavior on the Team

Codes for communication and the influence of emotions on team interactions and decision making were less prevalent but still noteworthy. The code of emotions influencing decisions was found in 10 out of 158 total codes and appeared in nearly 30% of the meetings. Although coded fewer times, both the factors of time and opportunity appeared in 20.59% of all meetings. Sections of the journal included in this code contained notes about the time limitations staff had to work on this project due to competing external demands, which caused the team to be unable to meet as a group or to have to communicate through email at times, which led to some miscommunication.

Other codes reflected barriers the technology consultant experienced in the form of limited access to ASU resources. Because he was a consultant and not a staff member, we had to find ways to work around his inability to work directly on the ASU servers and website. Sections of the journal that included these codes contained notes about how the team behaved as the project became increasing delayed and teams became distracted with other unrelated tasks. The journal reflected the way decisions were made more quickly

and with less intention and thought as emotions became strained and tense. At other times

when teams were energized and excited about the project, many more ideas were

generated, the team collaborated better, and output was more efficient. Table 13 reflects

these codes.

Table 13

Staff Deductive Coding Frequency Results for Communication and Personal/Emotional

Concepts

Codes	# codes	% of all staff codes	# meetings (out of 34)	% meetings appeared
Comm: Time	7	4	7	21
Comm: Opportunity	8	5	7	21
Pers/Emotion: Emotions influence	10	6	10	29
Pers/Emotion: Do what feels good	3	2	2	6

Note. Total communication = 15; total emotions influencing behavior = 13.

Summary

Deductive coding provided insight into how staff interacted and worked through

the design process. Institutional isomorphism was reflected in the way the design team

worked with each other and others across the institution to create the innovation, showing

tendencies to mimic other like areas across the university. The design team behavior also

reflected coercive pressures from institutional regulation and requirements for

information dissemination.

Additionally, in meetings with other university stakeholders, journal results

showed normative professionalization in similarities between staff with similar roles,

titles, and duties across the university. Other factors were notably present during staff interactions and impacted their decision-making and design process. The amount, type, frequency of distribution, and method of information sharing stood out as prevalent factors. Additionally, staff behavior regarding tendencies to perform work in relation to their individual orientation was coded as frequently as information sharing but was noticeable in a larger number of meetings. Time, opportunity, and emotional factors were less prevalent but yet still moderately present.

Deductive Coding: Student Themes

To answer Research Question 2b, I analyzed the researcher journal to see how the design team incorporated the student experience into their decision making. For this analysis, I followed a thematic deductive approach, using only concepts from the theories guiding this study as codes. Once coded, I analyzed the data to understand the frequency in which the codes appeared.

As mentioned previously, a total of 407 codes were applied to the journal, of which 249 were student-related codes. I ran a crosstab query to show the number of codes for each topic on each day. In any given meeting, there could be more than one code and the code could appear more than once in a meeting because discussions could cover multiple topics in the same meeting (e.g., if "social norms" was discussed three times in the meeting, the count would be three). I also ran a second crosstab to see in how many meetings each code appeared/was discussed (e.g., if "social norms" was discussed times in a day, the result would be "yes," it appeared in that meeting). Then, I summarized all results in a table to see total codes by research question to highlight frequency for each

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focus area. In the next section, I describe the findings from deductive analysis performed

on the researcher journal, followed by a summary of the themes and assertions that

emerged from that analysis. The codes are described in Table 14.

Table 14

Definition of Deductive Codes Used for Research Question 2b

Concept	Codes	Definition
Behavior economics	BE: Mental shortcuts	Decide based on what recall, what think they know, quicker easier answers
	BE: Social norms	Behaving according to what society expects
	BE: Drawn to relevant to us	Drawn to things relevant to them
	BE: Priming	Actions driven by subconscious cues
	BE: Peer influence	Peers influence decisions
	BE: Attractive based on highlighted	Highlighting a positive attribute versus a negative attribute, people will prefer the positive one and choose it more frequently
	BE: Framing	People are influenced in part by the way things are framed, not just by the content
	BE: Go with what know	Going with what they know or have done before, go with the flow, what they think is normal
	BE: Public expectations	Do what they think is expected of them
	BE: Fewer options	Fewer options is easier to understand/more efficient
	BE: Emotions influence	Emotions impact decisions (scared, anxious, overwhelmed)
	BE: Do what feels good	Makes them feel good, or reciprocity/owe it to others
	BE: Confirmation bias	Make decisions that are in line with their existing beliefs or viewpoints
	CH: Autonomy to interdependence	Learning how to be more self-sufficient; responsibility for

Concept	Codes	Definition
Chickering's student development theory		themselves and their actions and starting to become less affected or driven by others' opinions
	CH: Managing emotions	Learn to manage their emotions (anger, fear, anxiety, depression, shame, self-regulation)
	CH: Establishing identify	explore and discover things they find satisfying and start to become more comfortable with themselves
	CH: Dev mature relations	Interact and depend on other people
	CH: Dev integrity	Develop their core values and beliefs
	CH: Dev competence	Developing intellectually to help them better analyze and synthesize information
	CH: Dev sense of purpose	develop the ability to define their goals and aspirations and make long-term career plans.
Iloh's model of college-going decision-making concepts	Iloh: Time	Influence of age, family, culture, and life experiences on decisions
	Iloh: Opportunity	Perceived opportunities and barriers
	Iloh: Information	How delivered/by whom effects how it is received; equal access to information, simple and easy to understand, all in one place

Behavior Economics

Although the innovation design group discussed all student-related codes highly, the largest number of codes that resulted from analyzing the journal deductively for student experience-related cost came from behavior economics. Out of 249 codes, this concept was coded 90 times (36% of all student codes). The most coded factor from this concept was students going with what they know. The design team discussed this code 24 out of 90 times and in almost 30% of all meetings. All factors of behavior economics were discussed in many meetings, with an average of nearly 12% of all meetings.

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Sections of the journal reflecting these codes included notes in which the team considered feedback from the West campus dean of students, stating the population attending classes there often has different family demands other campus students may not have. Therefore, the team discussed including demands from family responsibilities as a question in the survey in the housing game. Other parts of the journal were coded for discussions about how students are influenced by the peers, therefore, showing the housing game should include videos and comments from other students. Table 15 shows the frequency of these behavior economic codes.

Table 15

Student Deductive Coding Frequency Results for Behavior Economics

Codes	# codes	% freq of only student codes	# meetings appeared	% # meetings appeared
BE: Mental shortcuts	2	1	1	3
BE: Social norms	7	3	5	15
BE: Drawn to relevant to us	8	3	4	12
BE: Priming	4	2	3	9
BE: Peer influence	6	2	4	12
BE: Attractive based on highlighted	1	1	1	3
BE: Framing	7	3	5	15
BE: Go with what know	24	10	10	29
BE: Public expectations	3	1	2	6
BE: Fewer options	7	3	5	15
BE: Emotions influence	11	4	5	15
BE: Do what feels good	5	2	4	12
BE: Confirmation bias	5	2	3	9

Note. Total behavior economics concepts = 90.

Student Development Theory

Chickering's (1993) student development theory had the second highest number of codes, reflected in 33% of all 249 codes. Discussions of student autonomy to interdependence and development of mature relationships was coded 29 times. Managing emotions and developing competence were the next most highly coded concepts and both were discussed in 23.53% of all meetings. Sections of the journal included in these codes contain notes where the team considered feedback from experts in the health, wellness, and counseling unit at ASU, in particular focusing on the need for mental, physical, and social well-being. Other parts of the journal were coded for discussions about the importance of students' independence. Based on these discussions, the team discussed including images reflecting these concepts and information at the end of the game about these factors. Table 16 reflects these results.

Table 16

Student Deductive Coding Frequency Results for Chickering's Student Development Theory

Codes	# codes	% freq of only student codes	# meetings appeared	% # meetings appeared
CH: Autonomy to interdependence	19	8	9	26
CH: Managing emotions	12	5	8	24
CH: Establishing identify	7	3	7	21
CH: Dev mature relations	19	8	11	32
CH: Dev integrity	5	2	4	12
CH: Dev competence	13	5	8	24
CH: Dev sense of purpose	6	2	4	12

Note. Total student development concepts = 81.

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Iloh's Model of College-Going Decision Making

Results from the crosstab matrix for codes related to Iloh's (2018) model of college-going decision making showed all three factors having very strong presence in the data. Time and opportunity were coded 23 of 249 times and showed up in a large number of meetings. Information was discussed 32 times and was present in over 35% of all meetings. Sections of the journal included in these codes contained notes in which the team discussed and focused on things students may perceive as barriers to either living option, and how we could best show them the facts.

Other sections of the journal were coded to reflect how the team intentionally discussed students have varied backgrounds and experiences and, therefore, the innovation had to reach and speak to a broad audience. Additional coded journal items related to the team discussing how to increase accessibility of information for students by way of consolidating as much information in the game in the most concise and easily digestible way to provide effective, efficient, and easily digestible information. A summary of the frequency of these codes is shown in Table 17.

Table 17

Student Deductive Coding Frequency Results for Iloh's Model of College-Going Decision Making

Codes	# codes	% freq of only student codes	# meetings appeared	% # meetings appeared
Iloh: Time	23	9	8	24
Iloh: Opportunity	23	9	11	32
Iloh: Information	32	13	12	35

Note. Total Iloh's model concepts = 78.

Summary

Deductive coding provided insight into how staff incorporated the student experience and relied on theory to guide their decision making as part of the innovation design process. Journal coding showed once consulted experts identified the underlying theory behind some of the ideas for our project, namely student development theory (Chickering & Reisser, 1993), the theory became an integral part of the design process. The team focused intentionally to include concepts such as transition to independence and health/well-being in the images and information presented in the game.

The concepts of behavior economics intentionally guided the innovation design to ensure it was created from a student perspective and with student decision-making behaviors in mind. Analysis showed these concepts throughout the journal. This theory also helped the team consider how to present the housing game to the students, such as considering who was presenting the information to the students might influence their affinity for the game or the information presented. Iloh's (2018) model of college-going decision making kept the team focused on the individual factors and experiences of students that may shape their perception and experiences. The team worked to reflect answers to perceived barriers and create a game that provided a wide scope of information for students.

Journal Data Analysis Summary: Themes and Assertions

In this next section, I describe themes I derived from the journal analysis for Research Question 2, organized by findings for each research question. Findings for Research Question 2 are further organized by results relating to staff interactions and decision-making process, and results relating to staff incorporation of the student experience in the innovation. The journal itself consisted of short notes and reflections from the researcher and not direct quotes from the participants. As such, I summarize the content of the journal to explain research findings in lieu of providing direct quotes. Table 18 shows provides an outline of the categories and themes that emerged from the qualitative analysis.

Table 18

Qualitative Thematic Outline

Theme	Category	Supporting codes
Staff interaction	Category 1. Institutional/ organizational influences	• Coercive outside pressures • Mimetic/replicating existing structures • Normative professionalization • Following public expectations to do the right thing • Peer pressure/peer influence • Following expected social norms
	Category 2. Personal and Emotional Influences	• Do what they felt was good • Emotions influence decisions
	Category 3. Orienting to what is familiar	• Go with what they know • Drawn to things that are relevant to them/they are familiar with • Confirmation bias
	Category 4. Staff location and availability	• Location, availability • Time

Theme	Category	Supporting codes
	Category 5. Mode and Amount of Information	- Information/fewer options are less complex to understand and digest - How the information is framed/the messenger - Options look more or less attractive depending on how it is presented - Information shared in advance to prime the discussion - Information overload/use mental shortcuts for ease - Information modality- timing, who, when, amount
Student theory in the design	Category 1. Consult experts, ground decisions and diffusion of innovation in student development and decision-making theory	- Developing a sense of purpose - Developing competence - Developing integrity - Developing mature relationships - Establishing identity - Managing emotions - Confirmation bias - Ego – do things that make us feel god - Emotions influence us - Fewer options are less complex - Follow public expectations to do the right thing - Go with what they know - How information is framed/the messenger impacts interpretation - Information is more/less attractive depending what is highlighted - Peer influences - Priming decisions for subconscious cues - Salience- drawn to things that are relevant to us/that we are familiar with - Social norms /pressure on decisions - People use mental shortcuts for easier/faster decisions
	Category 2. Personalized approach grounded in Iloh's model	Consider students' individual factors and barriers: information, opportunity, and time

Once the journal was coded, I followed an inductive process of allowing new categories and themes to emerge from the data. After coding and organizing codes into categories, I was able to recognize common themes across the data. I created themes both for staff and for students separately because the codes used in the coding process were split in the same fashion. After identifying themes, I created assertions. A description of each theme follows Tables 19 and 20, which summarize these findings.

Table 19

Staff Themes, Categories and Assertions Based on Deductive Coding

Theme	Categories	Assertion
Theme 1: Competing agendas (exogenous and endogenous factors)	1. Institutional/organizational influences 2. Personal goals and objectives 3. Orienting to what is familiar	Inclination to orient to personal or institutional goals increased efficient product development but reduced flexibility and innovation.
Theme 2: Communication	1. Geography /staff location 2. Modes and amount of information sharing	Amount and method of disseminating information impacts the ability to internalize and apply shared knowledge to the product.

Table 20

Student Themes, Categories and Assertions Based on Deductive Coding

Theme	Categories	Assertion
Theme 1: Incorporation of concepts and theories into innovation development	1. Consult experts 2. Connect student development theory and decision-making principles to product development and diffusion	Information gathering to base decisions on a theoretical framework helps connect project to student needs.
Theme 2: Personalized approach	1. Consider individual student factors in approach to information sharing	Consider individual and external factors to help personalize information for students

Student Theme 1: Incorporate Concepts and Theory

This theme comprised three categories that led to the assertion that information gathering to base decisions on a theoretical framework helps connect project to student needs: (a) consulting experts and (b) connecting student development theory and decision-making principles to product development and diffusion. The following section describes these categories in further detail.

Consult Experts. The journaling exercise I conducted as part of this study helped reveal the impact and role of the innovation design committee. The design committee was necessary because the innovation for this dissertation I envisioned was a product outside of my expertise. Each member of the design committee was chosen for their unique skillset. As the design process progressed, it became clear our team lacked the expertise of someone in the student services field. When the team reached out to others across ASU with this skillset, they were very helpful and provided excellent direction and feedback.

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However, these experts increasingly recommended we talk with others in the field. In reviewing the journaling exercise, a few components stood out about these conversations.

First, to create the best possible product, the innovation required the design team to acknowledge our limitations of expertise and willingness to reach out to others for help and support. Secondly, the success of this student-focused product depended on having the right information needed to inform the team's decisions about how to create, shape, and build the innovation. The information the additional staff provided not only helped inform but also changed and greatly improved the product.

Third, although I thought we had the right mix of experts from the start of the project, the additional input from others showed the importance of including a broad range of perspectives and skillsets. Some of the referred experts we talked to brought up key points we would not have expected them to provide and would not have considered previously. Finally, although the design was informed by the concepts and theories discussed in this dissertation, discussions with experts and others in the field provided depth of meaning to how to apply the design to a student-focused product. Without the input of the other staff members the design team consulted, the innovation would have been based on limited information and staff perspectives of student perspectives and behavior.

Connect Student Development Theory and Decision-Making Principles to Product Development and Diffusion. During the design of the innovation, it was critical to consider student decision-making behavior and the concepts of student development to create a useful and appealing student product. The team's goal was to design a product

that would attract and interact with students. To do this, the team had to consider how to make the innovation appeal to students' interest and keep them involved in the game. Given our limited expertise, we needed to rely on theory to guide the functional and psychological aspects of the design.

Behavior economics and Iloh's (2018) model of college-going decision making discuss many relevant concepts and factors that impact student decision. The design team incorporated these concepts into the housing game design. For example, one concept describes how students' emotions can influence their decisions. Meaning students avoid risky decisions, go with decisions that are easier to understand, choose less vague options to reduce anxiety and confusion, and make decisions they feel are right for them to do (Iloh, 2018). This information guided the design team's construction of the housing game.

To make the information less stressful, more inviting, and less confusing, we decided on the picture game format for student interaction. Because Iloh's (2018) model and the behavior economics concepts describe how students are more likely to be influenced by their peers, we incorporated a video at the end of the game showing other students engaging in campus activities. Understanding students are drawn to what is relevant to them, we wanted to create a game that attracted and kept their attention. To do this, we relied on student development theory.

As the design team met with experts in the field, we were directed to Chickering's (Chickering & Reisser, 1993) student development theory. The discussions focused on how Chickering's (Chickering & Reisser, 1993) theory shows up during the student

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experience, and the importance of student development during a students' college years. It became clear these developmental concepts were underlying the concepts the design team was trying to incorporate into the innovation. But instead of knowing about the theory, we needed to let it guide the development of the product. For example, although the team discussed showing pictures in the game of students socializing, Chickering's theory discusses the need for students to develop relationships with diverse people. Using this theory as a guide and the feedback from our experts, we focused on finding images of student engagement that highlighted diversity and social engagement.

Staff consulted also discussed the transition students go through while in college through independence to interdependence and the need for students to develop a sense of purpose, which are additional vectors of Chickering's (Chickering & Reisser, 1993) theory. The design team used this discussion to focus on images that showed students living in ASU dorms with support and assistance and contributing while living in a community setting. To show images of students managing their emotions and developing competence—two additional vectors of Chickering's theory—our experts provided suggestions for images that included students caring for their physical and mental well-being and getting support for academic success. These images were well-received by students, and they identified the concepts when asked for feedback about the game.

The innovation design team consisted of a variety of skilled experts in various fields in a student services organization. However, without using these concepts and theories to guide the innovation design work, our team would have been informed but not led by the theory. Being forced to rely on external experts who directed us to theory, the

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innovation shifted from a staff-centric idea to a student-centric one. It reinforced the reason our teams were doing the work and kept the focus on the student instead of our individual perspectives or the design process. The result was a much better, professional and student-focused product.

Student Theme 2: Personalized Approach

This theme comprised one category that led to the assertion to consider individual and external factors to help personalize information for students—individualized student approach to information sharing (i.e., information, opportunity, and time). The following section describes this concept in further detail.

Individualized Approach to Information Sharing. The concepts and theories I researched for the purposes of this study, combined with the discussions I held with experts in the field, highlighted the personalization of information as a consistent necessary component when considering development of a student product. In addition to the role in guiding the development of the functional and psychological components of the product, Iloh's (2018) model also highlights the necessity of considering individual factors in student decision making. Student development theory reinforces this concept by focusing on individual paths students take for development.

Iloh's (2018) model focuses on empowering student decision making by providing them with enough information to make an informed decision. Additionally, the model stresses the need to make information relevant to them. To do this, Iloh highlighted the way that information is not accessible or understandable by everyone, and the need to consider perceived or real barriers students feel exist. As the design team

worked through the process, the journal helped show how we applied these concepts to the innovation.

One way the team applied Iloh's (2018) model was by considering students come from all experiences, cultures, and backgrounds. As we designed the product, we kept this mind both in the picture selection process and in the display of information at the beginning and end of the game. For example, we tried to ensure the information did not assume any level of understanding about how college life and college living arrangements work. We strived to create content that covered a broad range of populations, including information anyone, regardless of their culture, stage in life, and experiences could use and make the best decision (i.e., older students may have different needs, or different cultures may have different understandings of college life, for example). Along these lines, we also created content that gave students information about living at home, if that was the most informed outcome for them. Knowing some students faced real or perceived barriers, such as financial barriers, we provided resource information and tried to address known concerns on our final information output page.

Student development theory considers the developmental paths individual students take. In addition to the impact this theory had on the general innovation design process (i.e., guiding the categorical content and information chosen), it also made the team consider the broad range of possible things individual student might experience as part of their journey. We had to consider how students' paths vary by individual, and so, we had to consciously include material that could reach all students where they were at

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on their path. We could not assume levels of development and needed to be intentional about making the content broad and understandable by a wide range of audiences.

By considering individual factors that may affect students' lives and their college decision-making process, the design team was able to focus on the information presented in the housing game. Much like the benefit of applying theory to the design process, this allowed the design team to intentionally focus on the work they were doing versus the process of creating content. The result was a more thoughtful product, which students seemed describe as appealing in their feedback in surveys and interview sessions.

Staff Theme 1: Competing Agendas (Exogenous and Endogenous Factors)

This theme comprised three categories that led to the assertion that inclination to orient to personal or institutional goals increased efficient product development but reduced flexibility and innovation: (a) institutional/organizational influences, (b) personal goals and objectives, and (c) orienting to what is familiar. The following section describes these categories in further detail.

Institutional/Organizational Influences. The components of organizational theory were deductively coded as part of the journal data analysis process, with the expectation of finding these types of behaviors during the meetings. Organizational theory describes the way in which organizations become increasingly more similar through mimetic processes and environmental constraints (Burke, 2016). Pressure can take the form of standard operating procedures, practices, or policies that push organizations to conform as employees "produce and reproduce meanings, beliefs, values, and material practices, thereby shaping their institutional environment" (Rouleau,

2022, p. 33). Organizational institutionalism is a subset of organizational theory that focuses on how and why institutions conform to normative demands, even if their success is negatively impacted (Heikkila & Isett, 2004). This theory looks at the ways in which society, environment, culture, and values define and shape institutions into becoming increasingly more homogenous. The tendency for homogenization as part of conformity is referred to as isomorphism (Burke, 2016).

One way in which institutional and organizational influences appeared in the journal was during team idea generation. As the internal team brainstormed ideas or discussed how to proceed, staff often offered ideas and suggestions that seemed to fall in line with what they knew or thought was acceptable or used in other parts of the institution instead of creating something new that might not be viewed as acceptable by other colleagues. They seemed to make decisions or perform work based on what others had already done or what was universally acceptable, not veering from standards or norms. Individuals often referred to or relied on work they had done previously or referred to work that already existed at the institution as something on which to mimic our own work. Additionally, as the project progressed, it seemed some individuals participated based on the expectation of their role versus an interest in the product. Meaning, some team members appeared to be present based on an obligation as an organization team member or because of their hierarchal role, but they were not vested in the outcome of the project.

Another way in which institutional and organizational influences appeared in the journal was during meetings with external ASU staff partners. Multiple meetings

included discussions about how to and the need to follow university protocol and guidelines to ensure consistent and similar messaging to students. The dissemination of the innovation itself was required to go through a central ASU office to communicate with the students.

As we met with people across the university, it became clear people in similar roles, even though external to our internal team, behaved similarly and had similar ideas and orientation. For example, staff on our internal team were typically oriented to get students to live on campus given all the positive benefits associated with the outcomes of that experience. When we met with other ASU staff partners on the marketing or admissions teams, even after multiple discussions involving the intention of this innovation to provide students with all information to make the best individual decisions, they reverted to ideas focused only on on-campus living arrangements. Additionally, staff on internal and external teams were familiar with and biased toward the same products they knew were accepted and well received. However, in separate units, staff with similar roles behaved similarly to each other.

Personal Goals and Objectives. Everyone involved in this project approached this project from different perspectives, backgrounds, experiences, predispositions, and barriers. The journal and resulting coding revealed these factors throughout the process. For some, time seemed to be a factor. Staff had limited time to dedicate to the project due to demands at work for other projects. The technologist on the team owned his own company that had competing deadlines, especially once the project became delayed. However, the project continued longer than expected and caused some barriers to

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implementation due to time, interest, and motivation. The project spanned multiple

semesters and periods of holidays and vacations, which either increased delays in the

project or caused gaps in information sharing.

Another factor that became clear during the journaling process was individual

emotions influenced the project and decisions as the team worked together and over time.

In the beginning and in pockets throughout, the team was invigorated to participate in the

process. Team members appeared to feel good about their role, expertise they could

contribute to the team, and participation in the project. However, these feelings fluctuated

over time due to factors mentioned previously. At times, the team was unable to meet or

meet all together, and the project stalled or slowed. Additionally, as the project became

delayed, emotions influenced decisions. Periods of excitement led to collaborative

discussions, helpfulness, and decision making. However, as the project continued and did

not progress well, people had more negative emotions, which caused them to make less

than ideal decisions and a breakdown in communication. Additionally, some staff

appeared to have a desire to make the project more universal (i.e., using the final product

for other additional purposes). However, this desire for a more universal product moved

the innovation away from the intended outcome and had to be redirected.

Orienting to What Is Familiar. Similar to staff tendency to follow institutional

goals objectives, the journal showed how staff tended to do or gravitated toward what

they were familiar with during the project. For example, staff were drawn to suggestions

made by others in similar roles across the institution. Additionally, staff occasionally

brought ideas that were relevant and in line with their area of expertise but not relevant to

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the project. For example, they tried to fit the project into a template designed for another purpose or tried to fit the project in a way they knew they could create quickly or had done before. In some cases, staff seemed to go into discussions with a frame of mind of what worked and would not work and looked for reasons to validate those paths. They also exhibited a tendency to suggest reproducing things they had done in the past and maintained their own way of innovation versus going with the researcher's and team's decisions. The team leaned toward technological solutions they were familiar with, both for the purposes of efficiency and familiarity.

For myself, I noticed I went into this project geared toward information with which I was familiar. I expected and planned to do a quantitatively focused and statistically heavy innovation because my experience and comfort is in those areas. I started the innovation with a financial focus including some factors that would be less obvious to students about their living options. Instead, it became clear the less obvious factors were the critical components of the innovation.

Staff Theme 2: Communication

This theme comprised two categories that led to the assertion that the amount and mode of disseminating information impacts the ability to internalize and apply shared knowledge to the product: (a) geography/staff location and (b) modes and amount of information sharing. The following section describes these categories in further detail.

Geography. Geography was a factor in the success of this project. Teams worked from different locations, so they relied on email or Zoom usually. Reliance on these modes of communication contributed to miscommunication and difficulties moving the

project forward. Additionally, because the meetings were most frequently on Zoom, technology needed to available and work well; however, this was not always the case. Team members experience occasional technical difficulties that prevented one or more members from attending all or part of some meetings.

Access due to role or function was also a slight hinderance to the project. The technologist was contracted to do this project; however, he was not considered an ASU employee. As such, he did not have access to all ASU resources or the same resources as the rest of the team. This was challenging because he was creating the innovation product for where the site would be built and live, following ASU branding. The team worked through these challenges, but it created some delays and affected the timelines of the final product.

Mode and Amount of Information Sharing. Information regarding the project was shared by email initially and in large amounts; however, this method proved to be an unsuccessful way of sharing an understanding of the project and theories. The large amount of information about the project and its goals was shared initially with the team by email, and then, information was later to new stakeholders. However, perhaps due to limited time and unfamiliarity with the project, people did not understand the information well. It became clear the information shared was more complex and needed to be simplified. Additionally, the journal helped document my consideration over the timing of the information sharing. For example, I noted instead of discussing the innovation goals and objectives in the meetings with other stakeholders, it would have been beneficial to share all information in simplified form upfront before having discussions

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about solutions idea generation. This would have allowed for better use of time and more strategic discussion.

Other members of the team used email for information sharing throughout the project as well. However, this did not allow us the ability to talk through this complex, multiperson, and multifaceted projected. Email communication worked well for short responses and to track action items that resulted from our meetings; however, Zoom or in-person sessions were much more productive. As the project moved to less information gathering and more technical development of the innovation, it became clear even Zoom was not a fully viable option and in-person, hands-on, whiteboarding sessions were necessary to fully flush out our ideas and get the team on the same page.

As the innovation progressed, the design team did an extensive amount of information gathering. This was beneficial to the eventual outcome of the project; however, in doing so, the team collected too much information and the team showed signs of information overload. Staff had too much information and too many options and were overwhelmed. Instead of moving forward, this overload of information, which resulted in inertia or information gathering at times, became its own agenda. As a group, we had to decide on and limit an expanding scope that was detracting from the original goal of the project and created additional constraints on the project timeline. Once we decided to stop information gathering and focus on the development of the innovation, the project moved ahead.

CHAPTER 6

DISCUSSION: INTERSECTION BETWEEN STUDENT DECISION MAKING

AND PROFESSIONAL STAFF

In this study, data were collected in three ways: (a) a quantitative postintervention survey that contained three open-ended questions, (b) qualitative interviews, and (c) researcher journaling. In the surveys, students provided their feedback through Likert scales and open-ended questions. In the interviews, students provided feedback to semistructured questions. The researcher journal helped me document the staff decision-making and collaborative design process while creating the innovation for this study.

Summary of Chapter 4: Research Question 1

In Chapter 4, I presented the findings from student surveys and interviews to explain Research Question 1 regarding how students responded to the innovation as a decision-making tool. The analysis revealed a few patterns across the student responses. Prior to the innovation, students reported having a basic understanding of the residential college model and the way living on campus provides easier access to academic support and their peers. Students felt living on campus was more expensive than living off campus and off campus housing would provide them with nearly the same flexible work opportunities as living on campus. Students felt living on and off campus almost equally impacted their ability to meet family responsibilities.

After the innovation, students reported understanding the value living on campus provides them. They valued being near friends; receiving help to support their emotional, physical, and mental well-being; and being near to support and resources provided during

their 1st year of college. However, although they stated they valued these factors, they ranked living on campus, being close to peers, and the residential college model fairly low in importance during their 1st year.

Students felt the innovation helped them see the value of living on campus, being near resources, personal wellness, and being near peers. Additionally, they stated the innovation helped them see the value of being close to campus, how living on campus helps them transition to independence, and the value of the residential college model. Most felt the innovation did not provide them with information about costs related to living off campus.

The results from these data showed the innovation was largely successful in achieving desired outcomes and students responded positively to the innovation. For example, by relying on student development theory, the goal was to show students the value and importance of the residential college model and being near resources to help them be successful during their first year. Responses from students confirmed they did indeed know about, understand, and value the residential college model and having resources near where they live during their first year of college. Additionally, although students reported they felt living off campus ranked higher in ability to transition them to adulthood prior to the innovation, they reported seeing the value and importance of living on campus to help this transition after the innovation.

Summary of Chapter 5: Research Question 2

In Chapter 5, I presented the findings from researcher journal to explain Research Question 2 regarding how university professionals in a higher education setting make

decisions about innovations, including how staff navigate a collaborative decision-making process and incorporate the student experience in their decisions. Results from the journal analysis showed staff seemingly unintentionally focused on concepts related to student decision-making theories as they decided on content and format of the innovation. Concepts included students' relying on what they already know to make decisions, following social norms or peers, and being drawn to things they find relevant. As the team discussed what information to present to students and the effects of their housing decisions on their first-year success, we realized we were discussing student development theory. Student survey responses corroborated their tendency to follow peers or social norms, and students specifically commented the innovation content was relevant to them.

Furthermore, students found the game was informative and provided them with information they found useful. Knowing students tend to rely on what the know, staff focused on providing information of which students may not be aware. This approach also proved successful as students commented on the way the game showed them things they had not considered and the reality of the college experience. Additionally, using the theories that guided this study, staff intentionally incorporated pictures and information focused on transition to independence, students managing emotional situations, developing academic and social competence, and creating relationships. These concepts were highlighted throughout student survey responses and feedback.

Implications of Staff Decision Making on Students

One clear takeaway from the interviews at the tabling session was students were very enthusiastic and willing and seemed to enjoy talking to me in person. Interestingly, as the innovation design group worked on the housing game, the suggestion to talk to students never came up. Even during conversations with other ASU departments or internal leadership, no one suggested we talk to students directly. Instead, the focus was entirely on our view of the solution, which was a survey and digital game with no direct human interaction. However, given the feedback and excitement from the students during interviews, best results for future student-centric innovations might be achieved by coupling the innovation with in-person interviews to get richer, more detailed, and more useful student feedback.

An additional implication from this study is the way in which the intentional use of student decision-making theories helps produce positive results. This study shows when professionals take these elements and integrate them into the design process, students learn and benefit. Students reported learning about campus living options from the game, and about college life in general. Students received many of the intended messages from playing the game.

In a few cases, students understood the importance of the factors shown in the game but they did not see how it would apply it to their own future success. One area in which staff could improve the innovation in the future is by emphasizing the way living on campus can help provide academic and emotional support to students. Students consistently rated being near resources and social, mental, and physical wellness very

highly. This could reflect students' anxiety related to being alone or feeling isolated while living away from home. Also, students understood and valued the residential college model but did not find it important. Students also highly valued the transition to independence and found it to be important. The residential college model provides support and transition to independence, but students did not seem to connect those factors. This lack of connection may show an opportunity for staff to find enhanced ways of presenting this information to students in future iterations.

Although the innovation did not focus on the financial aspects of living on or off campus, students did mention it as a desired improvement to the game, which could impact student responses. For example, students understood the value of and role that living on campus provided but ranked it as less important to them. Although the results showed the innovation reflected students' understanding of most of the concepts presented in the game, students did not seem to apply these concepts to themselves when asked to consider how important they were to their first year of success. This may show the need to further consider making student-centric innovations clearly relevant to students, including gaining a better understanding what factors cause them to assess relevance.

An implication and consideration for collaborative teams in the future is to include others in the planning, design, and decision-making process. As my design team reached out and talked to others in the organization, we continually improved our product. This also helped us realize the gaps in our own skillset. Also, including a broad range of other people provided unexpected insight and feedback for our project. The

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experts we consulted were also critical to this project. Without their guidance and direction, we could not have made the product as student-centric as it turned out to be. Future team collaboration should include a variety of perspectives to create the most effective product.

The team also reacted differently when presented with varying types, amounts, and modes of information sharing. Zoom meetings were good for planning, project management, and easier discussions but ineffective for mapping out the actual product or more complex ideation and planning discussions. Email proved to be inefficient for sharing large and complicated amounts of information, as team members did not read full emails or confused the intention of the messaging. In-person and Zoom meetings were much better suited to ensure everyone interpreted information the same way and understood the necessary action items. Additionally, our team realized halfway through the project that we needed a project manager to ensure the team and project stayed on task. Once assigned, this proved to be a valuable change. These factors should be considered when staff work together on projects in the future.

And finally, institutional hierarchy and regulation provided guardrails and direction for our project but also hindered innovative design in some ways. For example, the communication requirements and need to add additional parties to the discussions was both helpful to the product and also harmful in terms of added delays. Although these elements all have positive and negative impacts on the innovation, it is a reminder to be aware of and consider them early on in the project.

CHAPTER 7

SUMMARY AND CONCLUSION

In this chapter, I discuss how the outcomes from this action research study connect with the literature, concepts and theories explored in Chapter 2. I also identify limitations of this study, implications for practitioners, and areas of further research. Finally, I reflect on personal lessons learned from conducting this research study.

Outcomes Related to Research and Theory

This study built on prior research done in the fields of decision making and student development in many ways. Previous studies have focused on these concepts individually, but little has been done to study how student decision making affects and drives choices that impact student development, or the process by which staff incorporate the student experience into a design process. At Arizona State University (ASU), first-year students are expected to live on campus; however, approximately 30% of these students choose not to do so. That rate has remained fairly stagnant for many years (ASU UOIA, 2022). Yet research has shown many benefits of living on campus (Chemers et al., 2001; Fristwold-Atwood, 2018). This study adds insight to these studies by integrating the concepts and theories explored in this study and applying them to the process of how students decide where to live while attending college. This study also provides insight into the process of how university staff worked to accomplish a collaborative task by documenting staff interactions during the design process. As ASU leadership continue to seek ways to increase on-campus student housing, retention, and graduation rates, the insight from this study could help inform future changes for increased student success.

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This study incorporated four pieces of prior research. First, the literature showed living on campus increases student success. Therefore, by providing this service to students, ASU's University Housing is in a unique position to help increase student success. Secondly, behavior economics focuses on how people make decisions and how this decision-making process is impacted by components such as people's habits, mental shortcuts, and external factors (Hallsworth et al., 2018). Third, Iloh's (2018, 2021) model of college-going decisions and trajectories also describes decision making, but focuses on individual and contextual factors, such as socioeconomic status, culture, and prior experience. Finally, student development theory looks at how students grow and develop during their college-going years, focusing on factors such as competence, emotions, independence, and establishing identity (Chickering & Reisser, 1993).

With these concepts and theories as a foundation, a web-based ASU Housing game was created to provide students with information needed to make their decision about where to live while attending college. Additionally, the information provided was intended to highlight areas of student development that students may not think about but are critical to their success as first-year students at a university. Although not initially considered before starting this research, the concepts of organizational institutionalism (i.e., focusing on how institutions, and staff working in them, become increasingly homogenous) emerged as a theme in journaling the innovation design process.

In this next section, I describe how the outcomes from this research study relate to the theories and concepts guiding this study. There are three outcomes described: (a) student response to an innovation based on theory, (b) theory as the foundation for staff

decisions about the innovation design, and (c) staff behavior during decision making and the innovation design process.

Student Response to a Theory-Based Innovation

Overall, students responded positively to the innovation. Student survey and interviews responses showed the innovation was mostly effective in highlighting components of student development theory and provided students with information of which they previously may not have been aware. Additionally, the innovation was successful in implementation of the concepts of behavior economics and Iloh's (2018, 2021) model of college-going decision making, as can be seen in student feedback about the game.

Chickering's student development theory (Chickering & Reisser, 1993) was introduced in this study because it helps explain why living on campus and the residential college model help students succeed. It also addresses how students develop and grow during their college years, focusing on student experiences and perceptions and how living on campus provides a ready-made community where students can experience and grow through these stages (Chickering & Reisser, 1993). The design team used the theory to create a categorical framework of topics we felt were relevant and wanted to reflect in the game, such as mental and physical health and wellness, community and socialization, academic support and not being alone, intellectual and academic support, multicultural interaction, and financial literacy.

Student responses showed this approach was largely accomplished. They felt the game gave them new knowledge, such as the convenience of living on campus, how

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getting engaged can make a difference in their experiences, and what the expectations and reality of life living on campus could really be like. Students liked the game itself, including the pictures, and felt it was relevant to them. Student responses showed they generally understood the need for support for developmental components during their 1st year. They also recognized the benefits of living on campus and how it would relate to their first-year student success. Most students understood the residential college model and benefits it provides.

Although the survey questions were intended to be general and were not explicitly focused on student development theory components, some questions asked about students' understanding of specific developmental milestones. For example, one survey question asked about being close to their peers or friends (i.e., part of Chickering's [Chickering & Reisser, 1993] concept of developing mature relationships). Another question asked about students' understanding and importance of transitioning to independence during their 1st year, and all students found this to be important (i.e., Chickering's concept of moving through autonomy to interdependence). This was a successful outcome because our goal was to convey developmental milestones, on campus benefits, and student life through our pictures and brief information.

Iloh's (2018) model of college-going decisions and trajectories focuses on individual factors that affect decision making. The design team kept these factors in mind throughout the design process and helped the team consider individual and contextual factors that might be affecting students' decision making. For example, we considered the influence of students' family members on their decisions including the impact of being a

first-generation college student may have on their decision making. The team considered the possibility that the students' parents may also not be aware of the value of living on campus and the implications of both decisions. As such, we wanted to ensure the information presented in the game was professional and conveyed information that was clear and easy to understand by those with and without prior college experience. Additionally, we intentionally chose images we hoped would reflect a broad range of students' personal background and experiences. We also kept in mind that too much information can be overwhelming, and tried to concisely consolidate what we felt was useful information into the short game.

Behavior economics looks at how people make financial decisions and the factors that may cause them to make what could be perceived as irrational decisions. Part of the goal of the innovation was to create a product that provided students with information needed to make a decision. To do this well, we had to understand what might influence and effect students as they make those decisions. As the team developed the housing game, it was critical to ensure they continued to focus on the aspects of behavior economics (e.g., people tend to go with the easiest solution, can feel overwhelmed when too much information is present, or decide poorly when feeling anxious) so our final product reduced the potential of students making unintentionally less than ideal decisions (Voyer, 2015). The application of this concept to the design process is evident throughout early discussion with the design team. For example, the team focused on how to present information that was easy to digest, emotionally appealing, and showed information that was familiar to students through the pictures.

Additionally, following the concept of priming, we embedded a preinnovation survey and initial landing page of information before the students began the housing game to get them thinking about the concepts of college housing and associated implications. The team also considered the concept that students decided based on what they know. Knowing this, the team intentionally tried to present new information that was less obvious or less common.

Both Iloh's (2018,) model of college-going decisions and trajectories and behavior economics focus on how information is presented or framed. As the design team worked through deciding the innovation format, we kept this concept in mind by focusing on creating a product that graduating high school students would find visually appealing and be interested in, and that was long enough to provide sufficient information yet short enough to keep their attention. We also intentionally selected photos that reflected college-aged students because students tend to be more receptive to information coming from peers (Iloh, 2018).

Student feedback reflected that the behavior economics and Iloh's (2018) model were successfully embedded in the innovation design. For example, students commented they liked the videos and seeing how living on campus connected them with friends. This was an intentional implementation of delivering the message to students by their peers— one of the concepts in behavior economics. Additionally, students mentioned they felt the information provided was relevant. This is a successful outcome of the design team's intentional focus on trying to provide information that reached all students and considered individual characteristics and circumstances.

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One aspect of student development was not as successfully communicated by this innovation. Students placed less importance on the need for social, mental, and physical wellness during their 1st year. The team intentionally considered this student development theory concept as part of the innovation. The team selected pictures and provided information specifically around these concepts. Given students feedback, this shows an area to direct more work, especially knowing the importance of these factors, and more so recently after the COVID-19 global pandemic.

Staff Navigation of a Collaborative and Horizontal Design Process

I previously discussed the way in which the design team reflected organizational theory and the tendency toward normative behaviors, leading to isomorphism (DiMaggio & Powell, 1983). The outcomes of this study clearly reflect a strong connection to, and reflection of, this theory. One additional piece of research can also help explain some of the staff behavior discussed as an outcome of this study.

Results from the researcher journal coding showed how university staff made decisions grounded in theory and the roles team members played; however, results also showed patterns of isomorphic tendencies of staff during the collaborative design process. To address the goal of this project, university staff were asked to participate in a design team that would be responsible for the development of the innovation. Staff were selected based on their areas of expertise and affiliation with the researcher's department. The composition of the team also included a contracted technologist external to the team, but with whom the researcher was familiar from prior work experiences. The composition of this team was expected to contain the expertise needed to complete the

innovation. However, after realizing the team contained functional expertise, the team needed to expand to include other subject matter experts. Although not originally guided by research, the structure and behavior of the team connected to and built upon existing literature.

In the article "Multilevel Theory of Team Decision Making: Decision Performance in Teams Incorporating Distributed Expertise," Hollenbeck et al. (1995) discussed how teams can be composed. Often, one person is the lead decision maker, therefore, having a different status than others on the team. They also described a second attribute of teams—each member brings different expertise, referred to as distributed expertise. Because of this distributed expertise, these teams are highly interdependent. Hollenbeck et al. found when teams had a hierarchy (i.e., one decision maker) and distributed expertise, they were tied to a common outcome or goal because the success of one person affected the success of all. This was not the case with the innovation design team.

In the case of this innovation, although I was final decision maker, the other members of the team did not report to me hierarchically in the organization, and I did not manage their other workload. Therefore, individuals were not required to perform or prioritize the work. This lack of authority and leadership led to indecision and delays in the project.

Hollenbeck et al. (1995) also found the amount and type of information shared among team members can affect team effectiveness. They found the amount of information shared between team members did not matter as much as the type—teams

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who spent time asking questions were lower performers than those who spent time sharing and working through information. Time wasted asking questions took away productive development time and time away from consulting with experts. Similarly, their research showed inefficient teams shared data differently than efficient teams. Efficient teams shared results of data as information while inefficient teams sent raw data to each other. Given the difference of expertise on the team, they found some level of processing the information was helpful prior to sharing. Hollenbeck et al. also noted inefficient teams often had members who failed to read communications sent out to them, leading to more questions and confusion. This type of behavior led to more time wasted and increased ineffectiveness.

Team decision making and the inclusion of expertise in collaborative team efforts in organizations has been a growing need for many years (Hollenbeck et al., 1995). Recent research studies have shown the growing need for collaborative partnerships and teamwork to innovate and diffuse practices across organizations (Heikkila & Isett, 2004). Work shifted during the 1980s and 1990s from individual contribution to organizing work around clusters for teams (Hollenbeck et al., 1995). The innovation design team reflected this type of approach a project.

Limitations

One limitation of this study was sample size, which may have been due to timing of releasing the innovation. The innovation was intended to go live around the middle to end of February 2023, when many students would not yet have decided about where they wanted to live while attending ASU during their freshman year. However, due to delays

that resulted in project scope changes, reliance on external experts, and the need to involve additional university partners, the innovation did not go live until nearly the end of March 2023. This innovation required collaboration with the researcher and a team of university partners that would provide input and perform the actual functions of creating the web-based game. To create the web-based game, this project relied on marketing, technology, and development experts. As such, the timing of this project was delayed at times based on other priorities they had on their plates.

Given the high visibility of this game and the desire to ensure consistent communication flow and messaging to first-year students from a university standpoint, the project required collaboration with ASU's Admissions team. During development of the innovation content, it became clear it would be beneficial to involve other ASU parties and experts to ensure the best product. These parties included deans of students, health and counseling center leadership, housing leadership, and representatives from ASU financial aid. Although this collaboration led to a better game, it did delay the project further.

The delay of the project meant more students may have already either chosen to live on campus or not, thus decreasing the potential samples size. Additionally, students might have had more distractions as the timing was near the end of the school year. Student might have been focusing on their high school studies wrapping up and the many demands with the upcoming transition out of high school, leading fewer students participating in this study. Although the total impact of the delay is unknown, it did present a possible limitation to this project.

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Another limitation of this project was inherent to the campus selected as the focus of this project. ASU has many campuses, and each campus has a different population of students attending it. In this project, the ASU West campus was chosen out of four options in the Phoenix metropolitan area. Although this choice was intended to help increase attention to the West campus housing options, it also meant the overall population of first-year students was smaller and so the sample size was already drastically less than the original Tempe, Arizona campus options might have been. The West campus student families were also socioeconomically lower than other campuses, which could be part of why these students were less inclined to live on campus and more live at home (i.e., historically, approximately 46% lived on campus vs. 70% on the Tempe campus). Therefore, student may not be as interested or willing to hear about housing options.

Implications for Practitioners

I intend to disseminate the study findings to key stakeholders, including ASU Housing, ASU Admissions, and ASU Educational Outreach and Student Services leadership. This communication aims to provide these entities with valuable insights derived from students' feedback on the game and their perceptions of university housing. The goal is to enhance their understanding of the factors influencing students' decisions regarding on-campus or off-campus living arrangements. Additionally, it offers an opportunity for stakeholders to contemplate how students make these pivotal choices. Concurrently, the design team is actively integrating student feedback to improve the existing housing game.

Looking ahead to the long-term, the innovation design committee envisions expanding the housing game to deliver a more comprehensive and enriched experience for upper-division students. This extension includes providing additional comparative information about on-campus versus off-campus housing, establishing links to existing off-campus housing resources, and enabling the housing game to offer customized content based on students' more intricate preferences and survey responses.

It is important to acknowledge this project faced constraints, both in terms of its scope and the timing of its rollout. The timeline for implementation was inadvertently delayed, impacting its potential impact. To enhance future iterations and expansions of this project, I propose rolling out the housing game much earlier in the process. This would allow high school students to explore the platform during their senior year, aligning with their college decision-making phase. For upper-division students, a launch in October would correspond with the period when off-campus properties begin marketing leases for the upcoming year. Furthermore, administrators should consider ways to effectively communicate the implications of on-campus and off-campus living to parents, given their significant influence on students' housing decisions while attending ASU. Administrators should also explore avenues to better educate students and parents about the costs associated with both living options, encouraging them to complete FAFSA applications early to mitigate housing expenses.

The feedback obtained from students illuminated potential areas for improvement beyond the immediate study scope. Notably, there is an opportunity to better inform students about on-campus employment opportunities and highlight the flexibility and

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benefits of working on campus. Furthermore, students placed less emphasis on social, physical, and mental wellness than expected, based on existing research and expert insights from the administration. Thus, there may be merit in emphasizing the critical role of these aspects in students' overall success and how ASU can support them in these areas.

This study also brought to the forefront students' strong desire for support in their transition to independence. Although the study primarily focused on housing-related factors, it revealed a broader need for assisting students in this pivotal phase of their academic journey. Increased messaging about transitioning to independence and outlining how ASU can facilitate this process may foster stronger connections with students.

Furthermore, students displayed notable interest in the images and information related to student engagement in the housing game. Research has shown a demonstrated the link between increased student engagement and higher retention rates (Hurtado et al., 2019). Given students' enthusiasm in this area, there is a clear opportunity for the institution to intensify efforts and messaging to promote student engagement.

During the tabling session, I had the opportunity to engage with many students and parents, particularly after they learned of my affiliation with ASU Housing. They raised various queries concerning residential halls, registration processes, website portal issues, dormitory tours, room specifications, timing of room placements, and the move-in experience. Providing contact information for housing, offering information about dormitories and tours, and sharing advance details about the move-in process could

alleviate stress for both students and parents, enabling them to plan for the financial aspects of on-campus living.

Lastly, the tabling session underscored the significant interest and enthusiasm among students and parents for personal interaction. Students readily provided insights and feedback, while parents patiently waited for their turn. This unexpected level of participation encourages me to explore more in-person engagement strategies for involving students in future projects.

The insights gleaned from this study have not only informed the ongoing dissertation process but also hold implications for future phases of this project and similar initiatives. They underscore the importance of knowledge transfer and stakeholder engagement in project development. Although technical aspects remain critical, the study revealed effective communication and collaboration with stakeholders played a pivotal role in shaping the project's direction. I believe the knowledge gained from this exercise is extremely useful to me and perhaps to others doing this work in the future.

Considerations for Further Research

The journey of this innovation research was marked by unexpected delays, numerous twists and turns, and a response that fell short of my expectations. However, the experiences I gained from this project offer valuable insights that can inform future research and initiatives.

First and foremost, the enthusiasm students, university staff, and educators displayed for this type of gamified approach with first-year students was striking. It is evident there exists a keen interest in further developing and expanding this type of tool

and expanding the game to upper-division students. As the university contemplates future expansion and new construction projects, it becomes increasingly clear there will be a growing need for enhanced support in housing decision making and a deeper understanding of the implications of such decisions, both for students and university leadership.

Students participating in the innovation project exhibited lower engagement with the survey but expressed enthusiasm for discussing the innovation in person. This response was unexpected behavior. University leadership expected the student response to the survey to be very high, which would be in line with their experiences with other cohorts of incoming freshman. However, after the drastically lower response rate to the survey in this study, it was determined this new behavior was not unique to this study. Conversations with university leadership revealed similar unforeseen patterns emerging in other aspects of the university. Although the precise reasons for this shift from prior years' first-year students' behavior has remained unclear, it appears students are showing reduced responsiveness to previously successful digital marketing and communication methods. Furthermore, incoming students for Fall 2023 seem to be more oriented toward last minute deadlines.

Discussions with university experts in enrollment behavior suggest the impact of the COVID-19 global pandemic may be a contributing factor for students' recent behavior. This cohort commenced ninth grade in Fall 2019, missing out on crucial college counseling and preparation during 10th and 11th grade due to the COVID-19 global pandemic. Consequently, they found themselves without adequate planning and

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understanding of timelines, costs, and other pertinent aspects until their senior year when they had to make crucial decisions. This behavior shift may stem from the tendency to filter out extraneous information in light of these challenging circumstances. Research has indicated the COVID-19 global pandemic disrupted students' goal-setting skills, encompassing time management, responsibility, and self-directed learning (Deveci, 2022). Additionally, it has hindered student development, impacting students' emotional growth, goal attainment, and transition to independence (Ohannessian, 2021).

Considering the ASU West campus primarily serves a population of first-generation students with lower socioeconomic status who are more likely to live at home while attending college compared to other campuses, it is possible discussions regarding housing, its benefits, and affordability need to occur at an earlier stage than conventionally practiced. Students may mistakenly assume living on campus is financially unattainable and consequently exclude this option when filling out their FAFSA. As a result, they may disregard any communication or conversations about on-campus living, assuming it to be beyond their reach.

Furthermore, documenting the discussions and planning meetings for the innovation project yielded additional lessons. Although these lessons were not primarily student-focused, their implications for university service delivery could be substantial. First, any change initiative should involve broad representation from multiple units and stakeholders across the university. What initially began as an individual idea gained momentum and sophistication through discussions with various internal and external stakeholders. These conversations were conducted via Zoom or in person and were

unstructured but guided by questions, which allowed a rich conversation and brainstorming to occur. Given my own proclivity to structured conversation, email, or other written communication, the benefits of these conversations were unexpected and invaluable. Each conversation led to others who could provide input and be involved, and all provided excellent guidance and input. However, the time needed for these conversations was extensive. In the future, conversations should start much earlier in the development of a new game and include a wide variety of individuals.

Because I, as the researcher in this project, was not the person creating the final game there were also unanticipated challenges and delays. One component that could have increased the success of this innovation would been to have a definitive project map whereby technologists and web developers could better understand where the project could allow for creative flexibility and where it could not. At times, the project veered off the intended outcome and cost valuable time in this project. Additionally, a project manager was not assigned to this project, and instead the team and I managed it as a group. In hindsight, a formal project manager would have helped to keep the team focused and on track and could have helped guide the discussions and planning meetings. For future projects, conversations should commence much earlier in the development process and include a diverse array of participants.

Lessons Learned

"The lotus flower grows in mud- out of challenges comes gratitude and beauty." – Five Parks Yoga, 2021

The lessons I learned as part of this dissertation process include but go beyond, the content of what is in this paper. The dissertation process was quite a challenge for me. The quote from Five Parks Yoga (2021) reflects part of what I have taken from this experience. This dissertation took many twists and turns along the way, and forced me to think, work, learn, and collaborate in different (and sometimes uncomfortable) ways. It took me out of my personal comfort zone, challenged and humbled me as a student, and elevated my abilities hopefully as a colleague and a leader. The outcome was not my original goal and at times, shifting from the plan was difficult to embrace. I pivoted many times until the end to make my current circumstances turn into successful outcomes. The challenge and intensity of this was not always easy and writing it about later was even less easy!

The EdD program and dissertation process taught me great respect for the connection of theory to action in the workplace. My interest in obtaining my EdD was in part due to the action research focus of the program and the connection of theory, research, and application to my workplace. The experience these past 3 years did not disappoint! Not only did we explore the necessity of connecting action research to theory but also this process unexpectedly became a huge part of my research and one of the findings for this paper. Through journaling how teams work together, I learned many components about the importance of teams working horizontally, sharing information, and communicating. I also gained insight into how teams approach decisions and interact with each other. Because I provided the inspiration for the innovation but did not have the skills to create it, I needed to rely on others for content and technical development of the

innovation. This created some complexities that delayed the project yet elevated my personal learning and leadership experience.

I went into this EdD program knowing I would be in a somewhat new space, learning outside of my current scope of experience. I intentionally chose to focus on the student experience given the student services aspect of higher education is not a direct part of my education or business and finance training. Although I had been exposed to the student experience often during my nearly 21 years in academia, I felt I needed to intentionally study this field to help me be effective in a university leadership role. Additionally, although business and finance are intricately woven into all aspects of university processes, they are often not recognized this way and, therefore, treated, trained, and regarded separately. I hoped this program would help me combine the two, which it did in many ways.

This doctoral journey also taught me about myself and interactions with others. First, my natural inclination and comfort level is to communicate electronically versus in person, if possible. From journaling throughout this study and my interactions with the team, I learned when that approach works and when it does not. The complexity of the innovation forced in person and whiteboard sessions to get group input and clarification of project planning. It also forced a multitude of meetings with new people. After the COVID-19 global pandemic, teams tended to gravitate toward Zoom instead of doing things in person. Although Zoom meetings were helpful to connect the committee who worked from remote locations, they were most useful for quick updates and reviews. The in-person sessions were much more efficient and valuable for lengthier discussions and

connecting different views. I reflect now on how this same phenomenon occurs in my work setting and will continue to consider it as I continue on in my career.

Additionally, discussions with students surprised me. They were much more interested in talking one-on-one than I had expected. Their insight and excitement about providing their input was invigorating. I would have most likely not done the tabling sessions if this dissertation had gone as planned and if I had not been forced to find other ways of collecting data after a few disappointing survey responses. I am grateful, however, this occurred and forced me to try a new approach. I plan to continue doing student focus groups to help inform my professional decisions.

Similarly, before this experience I would have steered away from group class activities, preferring instead to work independently. This class introduced the idea of communities of practice early on. The group of women I have been working with all year were a huge part of my success. I easily would suggest any future student connect with or create a similar team, and especially in a remote academic program. This wonderful group of unintentional friends provided the interaction, academic help, and at times, emotional support to each other that made an invaluable difference to my journey.

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APPENDIX A

HOUSING ONLINE PICTURE GAME/INNOVATION

Picture yourself at ASU.

The ASU Experience: You'll earn your degree and so much more

There is more to college than going to class. A college campus is its own world, and students can do many different things that can help them grow and change in ways you might not expect. Students learn to be independent, mature, and responsible by going to college. But you don't have to do everything on your own.

Sun Devil Life: An experience you'll create

You may be curious about what your first year of college will be like, the pros and cons of living on or off campus, and how you will connect with the people, resources, and opportunities that will help you succeed. Take this short quiz and play our picture game for a glimpse of the college experience that you can create at ASU.

Please enter your email address: [_____]

☐ By checking this box I understand that I am agree to participate in this survey.

The survey will take approximately 3 minutes to complete.

Start Survey

ASU Arizona State University

Picture yourself at ASU.

What are you looking forward to most about college? Check the ones that apply.

☐ Making new friends/meeting new people

☐ Living on my own and learning how to "adult"

☐ Learning from professors who are on the cutting edge of their field

☐ Learning how to start my own business or get funding for my ideas

☐ Joining a club or an intramural sports team

☐ Exploring my own identity

☐ Learning to think creatively and work collaboratively

☐ Participating in internships or study abroad programs

☐ Socializing with peers or attending university events

☐ Becoming career-ready

Continue

ASU
Arizona State
University

Picture yourself at ASU.

What makes you the most anxious? Pick all that apply.

☐ A new place with new people   ☐ Paying for college and housing

☐ More challenging college classes   ☐ Making friends

☐ Living away from my family for first time   ☐ Navigating a new campus

☐ Deciding on a major

Continue

ASU Arizona State University

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PART I

Look at the images and click on the one that best depicts the college experience you imagine.

OR

ASU Arizona State University

186

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187

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OR

![ASU Arizona State University]

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ASU Arizona State University

191

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PART I

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ASU Arizona State University

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Look at the images and click on the one that best depicts the college experience you imagine.

OR

Arizona State University

194

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PART I

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ASU Arizona State University

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PART I

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OR

![ASU Arizona State University]

196

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PART I

Look at the images and click on the one that best depicts the college experience you imagine.

OR

ASU Arizona State University

The ASU Experience: You'll earn your degree and so much more.

OR

ASU Arizona State University

The ASU Experience: You'll earn your degree and so much more.

Part 2

In this section please look at the images and click on the one you feel is more important to your college experience.

OR

ASU Arizona State University

The ASU Experience: You'll earn your degree and so much more.

Part 2

In this section please look at the images and click on the one you feel is more important to your college experience.

OR

The ASU Experience: You'll earn your degree and so much more.

Part 2

In this section please look at the images and click on the one you feel is more important to your college experience.

OR

The ASU Experience: You'll earn your degree and so much more.

Part 2

In this section please look at the images and click on the one you feel is more important to your college experience.

OR

ASU Arizona State University

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The ASU Experience: You'll earn your degree and so much more.

Part 2

In this section please look at the images and click on the one you feel is more important to your college experience.

OR

The ASU Experience: You'll earn your degree and so much more.

Part 2

In this section please look at the images and click on the one you feel is more important to your college experience.

OR

Picture yourself at ASU's

West Campus

Student's who find their place on the serene West Campus enjoy a small circle of close friends surrounded by lush landscaping, courtyards, fountains, and public art.

Who we are and how we learn

Students who live on the West Campus can forge their own paths to success by pursuing novel approaches to education and ultimately creating the life they've always dreamed of. For example, the annual CSI scavenger hunt challenges students to investigate a fictional case, like something out of an episode of "Law & Order: SVU". On the West Campus, the energy and creativity of student and faculty combine to create a dynamic learning environment that equips learners with both the liberal arts foundation and the skills necessary to succeed in the 21st century workplace.

Living on campus

Life as a Sun Devil means building skills that lead to success -- teamwork critical thinking, networking and leadership. Living on campus is a great way to immerse yourself in college life, make new friends and connections all while being steps away from academic buildings, student services, and campus dining locations.

At ASU, first-year students are expected to live on campus. Many universities, including ASU, advocate on-campus living because research shows that students who spend their first year on campus are more likely to persist in their studies and graduate. In fact, at some institutions, students are required to live on campus for their first year of study (although exemptions can be requested). **The key benefits of living on campus include:**

Academic Success

First year students live in their Residential College with peers with the same major or career interests. This experience supports student success in and outside the classroom.

Independence

Learning to balance freedom and responsibility in a supportive environment like your residence hall is an important part of growing up and makes the transition to life after college easier.

Connection

Students who live on campus are more likely to interact with professors and future employers outside of class, attend events, work on campus, and particpate in clubs and organizations.

Explore Your Residential College

Resident Colleges at ASU provide first-year students the opportunity to live and study with peers who share similar academic and career interests. You'll gain valuable hands-on experience in your chosen field of student as well as community engagement early in your college career, putting you on the right track for success at ASU and beyond.

Get involved and find your place

Being a Sun Devil is about making connections, embracing traditions, and learning lessons that will last a lifetime. Find out what motivates you to keep becoming the best version of yourself, and discover the student success resources and services that are here to help you make it happen. Join a student club, engage in ASU's many events and activities, serve your community, or promote your idea for making the world a better place. Enjoy Sun Devil Life!

Join a club or organization

You can choose from more than 1,000 student clubs and organizations focusing on the outdoors, sports, Greek life, leadership, and the arts. And if you didn't find what you're looking for, you can start your own club, and we're here to help.

Volunteer

Are you passionate about social jsutirce or want to make a difference by volunteering? Do you have an inventive answer to a worldwide problem? Our like-minded student team is here to guide you through the many ways you can make a difference at ASU in Changemaker spaces and events on all four ASU campuses.

Next-level learning

You can learn alongside some of the brightest minds in the world at Arizona State University. Our faculty members are at the pinnacle of their fields, offering innovative learning opportunities for students. They are also academic mentors who are there to lead you on a path to further study.

Student success tips and resources

Making friends and building connections ⌄

Making connections and feeling a sense of belonging during your time at ASU is an important part of your personal development and overall well-being. Your community assistant or Dean of Students team can help you explore the many opportunities to engage and connect with peers and discover new interests and passions – from joining club to playing on an intramural sports team to community volunteering.

Helpful resources:

- Changemaker Central
- Dean of Students
- Fraternity and Sorority Life
- Residential Life
- Student Connection and Community
- Student Clubs and Organizations
- Sun Devil Fitness and Wellness

Unlocking innovative learning opportunities and the keys to academic success ⌄

Your ASU education will ensure that you have opportunities to develop your skills and talents and apply them in and outside of the classroom. Whether it's through service learning, internships, study abroad or research initiatives. As you shape your experiences and advance your individual academic and personal goals, resources like ASU's Career and Professional Development Services will be ready to answer your questions, offer guidance, and provide support.

Helpful resources:

- Career and Professional Development Services
- Changemaker Central
- Research
- Service Learning
- Student Accessibility and Inclusive Learning Services
- Student Success Center
- Study Abroad
- TRIO Programs

Minimizing stress and enhancing your well-being ⌃

Learning to maintain and nurture a sense of well-being is essential as an ASU student and throughout your life. ASU has many resources to help students practice self-care and connect with counseling services, wellness programming and other services that promote healthy lifestyles.

Helpful resources:

- Counseling Services
- Devils4Devils
- Health Services
- Live Well @ ASU
- Student Accessibility and Inclusive Learning Services
- Student Advocacy and Assistance
- Students with Families
- Sun Devil Fitness and Wellness

Learn about financial aid, scholarships, and grants to help pay for college ∧

The ASU experience includes learning to find, apply for and manage financial resources responsibly. There are several resources on campus that can assist you in finding funding options for your tuition, student living expenses and extracurricular activities in which you may wish to participate.

Helpful resources:

- FAFSA
- Financial Aid
- Grants
- Scholarships
- Student Employment

Exploring individual interests and identities ⌃

Your time at ASU is intended for academic growth as well as identity exploration and the pursuit of meaning and purpose. Your Dean of Students team can put you in touch with university resources and engage in reflective conversations with you to support your growth in these areas.

Helpful resources:

- Career self-exploration and assessment tools
- Council of Coalitions
- Dean of Students
- International Student Engagement
- Multicultural Communities of Excellence
- Out @ ASU

Please take this short survey to give us feedback on the quiz and presentation you've just completed.

You are invited to participate in a survey that will help us improve students' experiences with our new website and students' understanding of the benefits of living on campus. Thank you.
Follow up Survey on questionpro

ASU Arizona State University

APPENDIX B

THE SEVEN VECTORS: GENERAL DEVELOPMENTAL DIRECTIONS (ADAPTED

FROM ORIGINAL TEXT)

From	To
Developing Competence	
Low level of competence (intellectual, physical, interpersonal)	High level of competence in each area
Lack of Confidence	Strong sense of competence
Managing Emotions	
Little control over disruptive emotions (fear and anxiety, anger leading to aggression, depression, guilt, and shame, and dysfunctional sexual or romantic attraction)	Flexible control and appropriate expression
Little awareness of feelings	Increasing awareness and acceptance of emotions
Inability to integrate feelings with actions	Ability to integrate feelings with responsible action
Moving Through Autonomy Toward Interdependence	
Emotional dependence	Freedom from continual and pressing need for reassurance
Poor self-direction or ability to solve problems; little freedom or confidence to be mobile	Instrumental independence (inner direction, persistence, and mobility)
Independence	Recognition and acceptance of the importance of interdependence
Developing Mature Interpersonal Relationships	
Lack of awareness of differences; intolerance of differences	Tolerance and appreciation of differences
Nonexistent, short-term, or unhealthy intimate relationships	Capacity for intimacy which is enduring and nurturing

From	To
Establishing Identity	
Discomfort with body and appearance	Comfort with body and appearance
Discomfort with gender and sexual orientation	Comfort with gender and sexual orientation
Lack of clarity about heritage and social/cultural roots of identity	Sense of self in a social, historical, and cultural context
Confusion about "who I am" and experimentation with roles and lifestyles	Clarification of self-concept through roles and lifestyle
Lack of clarity about others' evaluation	Sense of self in response to feedback from valued others
Dissatisfaction with self	Self-acceptance and self-esteem
Unstable, fragmented personality	Personal stability and integration
Developing Purpose	
Unclear vocational goals	Clear vocational goals
Shallow, scattered personal interests	More sustained, focused, rewarding activities
Few meaningful interpersonal commitments	Strong interpersonal and family commitments
Developing Integrity	
Dualistic thinking and rigid beliefs	Humanizing values
Unclear or untested personal values and beliefs	Personalizing (clarifying and affirming) values while respecting others' beliefs
Self-interest	Social responsibility
Discrepancies between values and actions	Congruence and authenticity

APPENDIX C

SUMMARY OF THEORIES AND FUNDAMENTAL CONCEPTS GUIDING ACTION

RESEARCH

-Students are unsure where to live while attending the university – use information & assistance to help decide

-To help, we need to understand how decisions are made

Economic decision making	
Behavioral economics:	*Irrational decision making*
	Focuses on economic decision making
	Applies behavior, social, and natural science to decision-making
	People do not make perfect cost-benefit decisions
	People are not usually logical or rational
	Looks at impact of bias and environment
	People are rational thinkers

Principles/Propositions	Environmental Influence
• People stick to what they know • Default to what they usually do • Copy others • Minimize effort • Do things out of habit • Past choices/behavior affect current decisions • Avoid anxiety and uncertainty • Biased to choose familiar vs unfamiliar options • People choose what they think is "right"	• Framing/presentation impacts decisions • "Who" delivers the message is important • What aspects are being highlighted?

The MINDSPACE framework was created by taking these concepts and applying to a business setting

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Individual student college decision making		
Iloh's Model of CGD&T:	*Ecological model focused on the individual	
(Iloh, 2021)	Not focused on pre-college factors	
	Students do not make rational decisions	
	Considers internal/external influences and environment	
	Specifically looks at factor of information, time, and opportunity	
	Who delivers information, how much, what type	
	Aspects of a person across time (age, family, culture, experiences)	
	Access /lack of access to opportunity	

Information	Time	Opportunity
• One of most critical factors in college decision-making • Not broadly shared or equally accessible • Needs to be clear, concise, easily understood • Who delivers it is important	• Age, family, culture, life experiences • Events throughout a person's life	• Real and perceived by the student • Finances, geography, culture • Access to technology

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APPENDIX D

DISSERTATION IRB APPLICATION AND APPROVAL

ASU | **Knowledge Enterprise Development**

APPROVAL: MODIFICATION

Elisabeth Gee
MLFTC: Educational Leadership and Innovation, Division of
480/965-4284
Elisabeth.Gee@asu.edu

Dear Elisabeth Gee:

On 7/3/2023 the ASU IRB reviewed the following protocol:

Type of Review:	Modification / Update
Title:	Utilizing an interactive tool to help students make informed decisions about campus housing.
Investigator:	Elisabeth Gee
IRB ID:	STUDY00016996
Funding:	Name: EOSS: Educational Outreach and Student Services
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Consent form tabling session, Category: Consent Form; • Interview Questions for summer events, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • IRB protocol revised to incl talbing, Category: IRB Protocol; • picture game, Category: Other; • survey for tabling, Category: Other;

The IRB approved the modification.

When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

APPENDIX E

POSTINTERVENTION SURVEY QUESTIONS

ASU
Arizona State University

Dear Student:

You are invited to participate in a survey that will help us improve students' experiences with our new website and students' understanding of the benefits of living on campus. I am a doctoral student working under the direction of Professor Elisabeth Gee in the Mary Lou Fulton Teachers College at Arizona State University (ASU). I am conducting a research study to understand what influences a student's decision to live on campus and the ASU Housing website's role in that decision. Your input will help us create better tools for students at ASU, and help our students make more informed decisions in the future about college housing.

Your participation in this study is completely voluntary. There are no foreseeable risks associated with this project. However, if you feel uncomfortable answering any questions, you can withdraw from the survey at any point. It is very important for us to learn your opinions. This survey should only take 3-5 minutes.

Your survey responses will be strictly confidential and data from this research will be reported only in the aggregate in reports, presentations, or publications. Data will be stored in a password-protected computer. Your information will be coded and will remain confidential. If you have questions at any time about the survey or the procedures, you may contact Carmen D'Angelo at carmen.dangelo@asu.edu or Elisabeth Gee at elisabeth.gee@asu.edu. If you have any questions about your rights as a subject/participant in this study or feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance at 480-965-6788.

Thank you very much for your time and support. Please start with the survey now by clicking on the **Continue** button below.

Start

* The ASU Housing game provided me with information about living on versus off campus that I did not know before today.

◉ Yes

○ No

* The ASU Housing game helped me understand non-financial reasons to live on campus.

◉ Yes

○ No

* Living on campus would (select all that apply)

	Strongly Agree	Agree	Disagree	Strongly Disagree
Be more expensive for me	○	○	○	○
Make it easier for me to see friends	○	○	○	○
Give me easier access to academic support (for example, teachers or tutors)	○	○	○	○
Allow me to have a job that I could work between classes versus a job off campus	○	○	○	○
Not allow me to fulfill my family responsibilities	○	○	○	○
Help me gain more independence	○	○	○	○

* Living off campus would (select all that apply)

	Strongly Agree	Agree	Disagree	Strongly Disagree
Be more expensive for me	○	○	○	○
Make it easier for me to see friends	○	○	○	○
Give me easier access to academic support (for example, teachers or tutors)	○	○	○	○
Allow me to have a job that I could work between classes versus a job off campus	○	○	○	○
Not allow me to fulfill my family responsibilities	○	○	○	○
Help me gain more independence	○	○	○	○

* The Housing game helped me think about the value of:

	Strongly disagree	Disagree	Agree	Strongly Agree
Living on campus	☐	☐	☐	☐
Being near resources and people to that can help me during my first year at ASU	☐	☐	☐	☐
Social, mental and physical wellness while attending ASU	☐	☐	☐	☐
The residential model and value of it connecting me to others in my degree program	☐	☐	☐	☐
Living on campus to help my transition to independence	☐	☐	☐	☐
Considering costs involved with living off campus, such as paying for transportation or time spent commuting	☐	☐	☐	☐
Being close to my friends or peers	☐	☐	☐	☐
Being close to campus	☐	☐	☐	☐

* Many factors can affect your success as a first-year college student. After playing this game, how important do you feel the following are:

	Very Important	Important	Somewhat Important	Not important
Living on campus	☐	☐	☐	☐
Being near resources and people to that can help me during my first year at ASU	☐	☐	☐	☐
Supporting my social, mental and physical wellness while attending ASU	☐	☐	☐	☐
The residential model and its purpose of connecting me to others in my degree program	☐	☐	☐	☐
Transitioning to independence	☐	☐	☐	☐
Being close to my friends or peers	☐	☐	☐	☐

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* What are some things you learned about living on campus by playing this game?

* What are some things you liked about this game?

* What are some suggestions you have to improve this game?

* I would be interested in helping improve this tool for future Sun Devils by attending a zoom-based focus group session, where I would earn a $50 gift card and talk more about campus housing options and the new Housing game.

○ Yes

○ No

[<] | Done

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APPENDIX F

TABLING SESSION INTERVIEW QUESTIONS

Introduction:
Thank you for taking the time to help us today. I know that your participation will help us improve our services for all students at ASU. Now that you all have had a chance to play the housing game on the ASU website I wanted to take a little time to better understand your thoughts on it.

Q1: Before using the housing game,
      Q1a: What did you believe were the benefits of living on campus?

      Q1b: What did you believe were the drawbacks of living on campus?

      Q1c: What information or resources did you use to make you feel that way about living on or off campus? [PROBE: For example, did you talk with family and or friends?]

      Q1b: What additional information or resources do you feel could have helped you understand the benefits and drawbacks better, if any, was missing that could have helped you?

Q2: Before using the housing game, were you aware that ASU had a Housing website? If yes, please describe how much you used the ASU Housing website to help you decide where to live when coming to ASU.
      IF USED THE SITE:
      Q2a: What did you find helpful about the site?

      Q2b: What did you find missing or not helpful about the site?

      Q2c: What was your overall impression?

Q3: What aspects of the new housing game that you just played would you describe as to use?

Q4: What aspects of the new housing game that you just played would you describe as to difficult to use?

Q5: Now let's talk about the new housing tool and your reactions to it. I'm interested in what you learned from the site, how it might affect your feelings about living on campus, and what you thought of the format and presentation information

           Q5a: Let's start by talking about what you learned, if anything from using the tool. What did the tool help you understand about living on and off campus?

Q5b: **[PROBE TO FOLLOW UP ON ANSWERS TO Q5A]**
There are many nonfinancial implications of living on and off campus.
Could you tell me more about how the housing game did or didn't help
you understand these implications? [IF NECESSARY, give examples such
as how close you are to tutoring, teachers, the library, closer to campus
activities, cost of time driving to campus, the ability to work on instead of
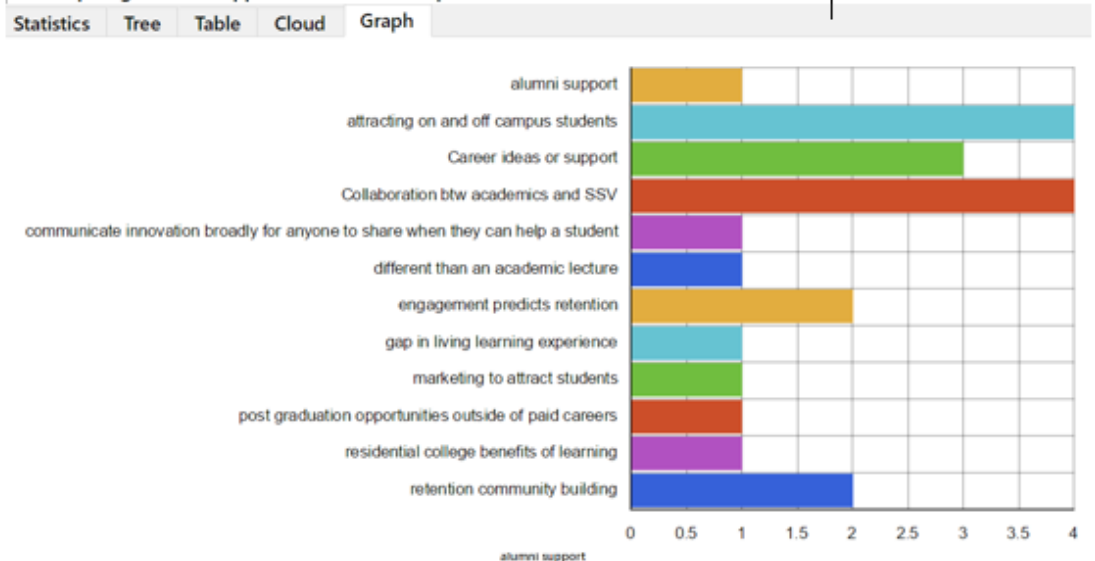off-campus, etc.]

Q5c: Now let's talk about the financial aspects of housing. Could you tell
me more about how the housing game did or didn't help you understand
these implications? [IF NECESSARY, give examples s Such as car
insurance, parking pass costs, deposits on apartments, utility expenses

Q6: Lastly, let's talk about the format of the tool and how information is
presented.
  a. What did you find helpful or appealing about the game format?
  b. What was not helpful? What was your reaction to the tool in general?
  c. What changes would you like to see in the tool that would help make it
  more useful to you as you decide where to live while attending ASU?

APPENDIX G

CODING FRAME

▼All Codes
   ▼Career support and ideas
      alumni support
      Career ideas or support
    Collaboration btw academics and SSV
   ▼Communication
      attracting on and off campus students
      communicate innovation broadly for anyone to share when they can help a student
      marketing to attract students
   ▼engagement and retention
      residential college benefits of learning
      retention community building
    engagement predicts retention
   ▼Innovation ideas
      different than an academic lecture
      gap in living learning experience
      post graduation opportunities outside of paid careers

APPENDIX H

DESCRIPTIVE STATISTICS MEASURING STUDENT PERCEPTION OF HOUSING

OPTIONS

Descriptive Statistics Measuring Student Perception of Housing Options

	Housingchoice*	Strongly agree	Agree	Disagree	Strongly disagree	Total respondents
Be more expensive for me	on	2	4	1	0	7
	off	0	4	1	2	7
Make it easier for me to see friends	on	2	4	1	0	7
	off	1	3	3	0	7
Give me easier access to academic support (for example, teachers or tutors)	on	2	5	0	0	7
	off	1	1	5	0	7
Allow me to have a job that I could work between classes versus a job off campus	on	4	1	1	1	7
	off	2	4	1	1	8
Not allow me to fulfill my family responsibilities	on	2	0	5	0	7
	off	1	1	4	1	7
Help me gain more independence	on	2	5	0	0	7
	off	2	1	4	0	7

*For the column titled "Housing Choice"," on" refers to "on-campus" and "off" refers to "off-campus

APPENDIX I

DESCRIPTIVE STATISTICS MEASURING STUDENT IMPORTANCE OF

FACTORS AFFECTING THEIR FIRST YEAR

Descriptive Statistics factors affecting students' first year

	Very Important	Important	Somewhat Important	Not important	Overall
Living on campus	1	2	3	1	7
Being near resources and people to that can help me during my first year at ASU	1	5	2	0	8
Supporting my social, mental and physical wellness while attending ASU	3	2	2	0	7
The residential model and its purpose of connecting me to others in my degree program	0	4	3	0	7
Transitioning to independence	1	6	0	0	7
Being close to my friends or peers	0	3	3	2	8

APPENDIX J

DESCRIPTIVE STATISTICS MEASURING STUDENT FEEDBACK ON THE

INNOVATION

Descriptive Statistics Measuring Student Feedback on Innovation

	Strongly disagree	Disagree	Agree	Strongly Agree	Overall
Value of living on campus	0	0	7	0	7
Being near resources and people to that can help me during my first year at ASU	0	0	6	1	7
Social, mental and physical wellness while attending ASU	0	2	4	1	7
The residential model and value of it connecting me to others in my degree program	0	1	4	2	7
Living on campus to help my transition to independence	0	1	4	2	7
Considering costs involved with living off campus, such as paying for transportation or time spent commuting	0	3	2	2	7
Being close to my friends or peers	0	1	6	0	7
Being close to campus	0	1	4	2	7

APPENDIX K

INTERVIEW RESPONSES: PREINNOVATION UNDERSTANDING ABOUT

LIVING OPTIONS

Interview responses: preinnovation understanding about living options

What did you believe were the benefits of living on campus?	
Participant 1	Proximity, you don't have to commute, helps with work-life balance
Participant 2	The ability to connect with some people in the same majors
Participant 3	Seeing people of the same major
Participant 4	Being closer to surroundings and people are available to help you.

What did you believe were the drawbacks of living on campus?	
Participant 1	None
Participant 2	You would have to be independent and have no family; it may cause some anxiety and feeling of isolation, create fears of being alone.
Participant 3	Being away from family
Participant 4	I would not be as close to home. If I needed help it could be challenging

APPENDIX L

TABLE SESSION QUESTIONS Q1A–Q1D

Tabling session questions	Participant 1	Participant 2	Participant 3	Participant 4
Q1a: Before playing this game, what did you believe were the benefits of living on campus?	Proximity, you don't have to commute, helps with work life balance	The ability to connect with some people in the same majors.	Seeing people of the same major	Being closer to surroundings and people are available to help you.
Q1b: Before playing this game, what did you believe were the drawbacks of living on campus?	none	You would have to be independent and have no family; it may cause some anxiety and feeling of isolation, create fears of being alone.	Being away from family	I would not be as close to home. If I needed help it could be challenging
Q1c: Before playing the housing game, what information or resources did you use to make you feel that way about living on or off campus?	Personal experiences, sister lived on campus so I asked her questions	I talked to my sister who lived on campus all of her 4 years while attending ASU. I asked about what would I do for food and other resources. I also talked to my parents and my brother about campus life,	I relied on my sister's opinion (she was a former student)	Parents, website, and an advocate in Tempe. Each year a lady brings to juniors and seniors people to talk about college, since my school is so far away from things (like military recruiters, ASU representatives, etc)

Tabling session questions	Participant 1	Participant 2	Participant 3	Participant 4
		talked to school counselors and Gear up coaches. I also used the ASU website to answer questions.		
Q1d: What additional information or resources do you feel could have helped you understand the benefits and drawbacks better, if any, was missing that could have helped you?	none	Make the housing website more accessible, add n FAQ or 3 section of housing, add a finance sheet etc	Put more information on the housing website, adding more details about dorm life	Gold guides, emails- these helped me when deciding where to live. Helps knowing there is family in the area just in case they are needed to help.

APPENDIX M

TABLE SESSION QUESTIONS Q2A–Q2C

Tabling session questions	Participant 1	Participant 2	Participant 3	Participant 4
Q2a: Before using the housing game, were you aware that ASU had a housing website? If yes what did you find helpful about the site?	It was very direct	Links on the site were helpful	The videos	Yes, all was informational, easy to follow step by step
Q2b: If you were aware that ASU had a housing website, what did you find missing or not helpful about the site?	There was a self-questionnaire- I was unable to edit it	I got confused with information on assigning roommates, and they didn't have deadlines	Nothing	Nothing
Q2c: If you were aware that ASU had a housing website, what was your overall impression?	Good, organized	Pretty good, showed living preferences. Maybe add allergies and more categories for selection/more options	Good	Good, self-explanatory, helped make my decision

APPENDIX N

TABLE SESSION QUESTIONS Q3–Q5C

Tabling session questions	Participant 1	Participant 2	Participant 3	Participant 4
Q3: What aspects of the housing game you just played would you describe as easy to use?	Pictures	Pictures, gave good visuals and images	Easy to use, Pictures were good	Easy, showed the reality of living on or off campus; showed reality vs expectations
Q4: What aspects would you describe as difficult to use?	None	Give a third picture, like not either or, maybe use a scale to show percent that you agree with the image as well.	None	None
Q5a: Let's start first by talking about what you learned, if anything, from using the tool. What did the tool help you understand about living on and off campus?	Two sides of living on campus, and being by myself vs with friends	I can connect with teachers online, in person, and have better access to study information so that I can talk to teachers to ask questions about classes. I can be closer to food when you need it, access to digital money, gym and pool use, shuttle to travel to other campuses.	I learned about experiences, socializing	Saw images of groups of students working together. on campus, coming together vs me by myself; that I can count on peers and not be alone; Jobs are easier because off campus they are not as flexible, they don't work with you

Tabling session questions	Participant 1	Participant 2	Participant 3	Participant 4
Q5b: There are many nonfinancial implications of living on and off campus. Could you tell me more about how the housing game did or didn't help you understand these implications?	More excited now	You can walk to most places by living on campus; take a shuttle for transportation, cafeteria is close.	None	None
Q5c: How did the housing game help you understand these implications?	Kind of needs more budget	Parking issues, or if you don't have a car.	None	Didn't really help

APPENDIX O

TABLE SESSION QUESTIONS Q6A–Q6C

Tabling session questions	Participant 1	Participant 2	Participant 3	Participant 4
Q6a: Lastly, let's talk about the format of the tool and how information was presented. What did you find helpful or appealing about the game?	All of it	Gave you two options and visuals. Simple, not complicated	layout was friendly	I liked the pictures
Q6b: What was not helpful? What was your reaction to the tool in general?	Nothing	It was all helpful. I really liked it- it was different, never done something like that before, I enjoyed it	Nothing was not helpful. It helped me think about connecting	One spelling error
Q6c: What changes would you like to see in the tool that would help make it more useful to you as you decide where to live while attending ASU?	Nothing	Scales, and that third visual option	Nothing	None, it was pretty good