

UBC Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

Exploring the Role of Greenspaces for Retention and Recruitment at UBC

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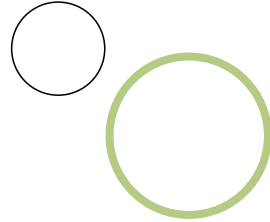


50 SHADES OF GREEN:

EXPLORING THE ROLE OF GREENSPACES FOR RETENTION AND RECRUITMENT AT UBC

PLAN 522 – QUALITATIVE DATA COLLECTION AND ANALYSIS
SCHOOL OF COMMUNITY AND REGIONAL PLANNING
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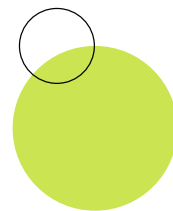
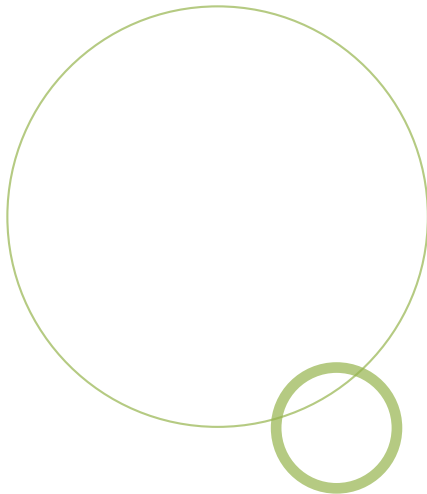
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EXECUTIVE SUMMARY

AN OVERVIEW OF THE PROJECT

Introduction

This study, conducted for UBC's Social Ecological Economic Development Studies program (SEEDS), explores how campus greenspace influences student recruitment and retention at the university.

Purpose of Client Engagement

We were engaged by SEEDS to explore the role that campus greenspace plays in the recruitment and retention of students at UBC. Our client also wanted to understand how UBC students define and evaluate different campus greenspaces.

Research Methodology

Our research consisted of a series of focus groups and interviews with UBC students, during which we explored their reasons for coming to and staying at the university, as well as their evaluations of various campus greenspaces.

Findings and Discussion

We identified seven categories of factors that influence university-student recruitment and retention: place, promotion, prominence, prospectus, people, price, and program. Of these, we found that factors in the 'place' category were the most significant in student recruitment and retention. Further, we found that the quality of campus greenspace is a more significant factor in student retention than in student recruitment. Finally, we found that UBC students value campus greenspaces and recognize the important role they play as recreation spaces, in social connection, and in their physical and mental health and wellbeing.

Recommendations

We have six recommendations aimed at guiding future campus planning initiatives in the realms of greenspace and biodiversity:

- Create a broader diversity of campus greenspaces
- Use greenspace to deliver mental health and wellness goals
- Preserve and enhance views and connections to regional parks
- Use greenspaces to enhance social activity and gathering opportunities
- Enhance the educational potential of greenspaces
- Enhance student awareness of available greenspaces



LAND ACKNOWLEDGMENT

We begin by acknowledging that the University of British Columbia - and the activities of the students, researchers, and staff within - is situated on the traditional, ancestral, and unceded territory of the xwməθ-kwəy̓əm (Musqueam) people. The Musqueam people have lived and relied on this land, and its abundant natural resources, since time immemorial. They remain the keepers and stewards of the lands and waters that sustain them.



ACKNOWLEDGMENTS

This research project took place with approval from the Behavioral Research Ethics Board at UBC as per Research Ethics Certificate H13-02781.

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ACRONYMS & FIGURES

ACRONYMS

ADHD	Attention Deficit Hyperactivity Disorder
CBIRD	Campus Biodiversity Initiative: Research and Demonstration
GBAP	Green Building Action Plan
SCARP	School of Community and Regional Planning
SEEDS	Social Ecological Economic Development Studies
UBC	University of British Columbia

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1 INTRODUCTION



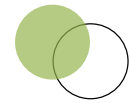
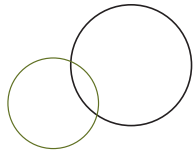
Situated at the tip of Vancouver's Point Grey Peninsula, amid the verdant hemlock forests of Pacific Spirit Regional Park, UBC's Point Grey Campus offers panoramic views of the majestic North Shore Mountains and access to some of Vancouver's most picturesque beaches. The rugged natural beauty of its surrounding environment is a defining part of UBC's image and reputation, and the backdrop against which campus life unfolds. Home to over 65,000 students, UBC's 400-hectare campus comprises world-class research facilities, student housing, community and recreation amenities, and a wide array of natural and open spaces—including the UBC Botanical, Rose, and Nitobe Japanese gardens, as well as a research farm and a variety of other public greenspaces.

Recognizing the importance of its natural assets, UBC has established a number of objectives in the realms of community building, sustainability planning, and research excellence that focus on the provision and stewardship of campus greenspaces. UBC's Vancouver Campus Plan (2010), identifies having "a beautiful campus that reflects its natural west coast setting and sense of place" and achieving "the next level of performance in sustainability" (p.5) as core objectives. Similarly, the university's 20-Year Sustainability Strategy (2020) sets out a vision for advancing sustainability values related to social and environmental wellbeing. These plans and strategies overlap and are interconnected with a number of other campus planning initiatives, including the UBC Wellbeing

Framework and an emerging Biodiversity Strategy.

UBC's natural assets contribute to the social and environmental wellbeing of the campus and its community, and the mental and physical wellbeing of students, faculty, and staff. The Point Grey campus incorporates a variety of public greenspaces, reflecting an ongoing recognition of the importance of such spaces to the health and vitality of the campus and its community. Although the intrinsic value of these greenspaces is recognized by those who learn, work, and live at UBC, their value vis-à-vis student recruitment and retention has yet to be rigorously assessed.

A significant and growing body of research has identified numerous social and environmental benefits of urban greenspace. Greenspaces can contribute to a sense of place and community (Weinstein, Przyblyski & Ryan, 2009). Greenspace vegetation can also play an important role in reducing urban heat island effects and improving urban air quality (Norton, 2015). Further, greenspaces have been shown to support and enhance urban biodiversity by providing habitats for pollinators and other wildlife, and by contributing to climate-change resilience (Demuzere et al., 2014; Le Roux et al., 2014). Finally, greenspaces have been shown to improve mental and physical health and wellbeing (Berman, Jonides & Kaplan, 2009; Berman et al., 2012; James, Banay, Hart & Laden, 2015).



At the same time, a number of studies have looked at the various factors that influence student university-selection decisions, with place-based factors such as the natural environment having been found to play an important role in student recruitment and retention (Saadatian, Tahir & Dola, 2009; Savard, Clergeau & Mennechez, 2000).

This study seeks to bridge these two bodies of research by analyzing the role that campus greenspaces play in the recruitment and retention of students at UBC. For the purposes of the study, we define greenspace as a subset of open space in the urban environment that includes “urban vegetation, including parks, gardens, yards, urban forests and urban farms” (Taylor & Hachuli, 2017, p.29).

Ultimately, this study is intended to inform decision-making around sustainable campus design and biodiversity planning at UBC.

PURPOSE OF CLIENT ENGAGEMENT

This project was undertaken in partnership with UBC’s Social Ecological

Economic Development Studies’ (SEEDS) Sustainability Program on behalf of Campus Community Planning, following the SEEDS student/faculty/community partner model (Figure 1). This partnership model “creates applied research and interdisciplinary partnerships between students, faculty, staff, and community partners to advance sustainability ideas, policies, and practices and create societal impacts” (UBC Campus and Community Planning, 2020, p.1).

Our research team consists of 11 graduate students from the School of Community and Regional Planning (SCARP), and this study is part of the required *PLAN 522 Qualitative Data Collection and Analysis* course. Research took place between January and March of 2020.

By using the campus as a “living laboratory”, this study aims to advance UBC’s understanding of how the campus’s natural environment impacts student decisions to work, learn, and live at the university. Advancing campus community and sustainability objectives for urban biodiversity, and supporting UBC’s emerging Urban Forest Management Plan and Biodiversity Strategy, were both key drivers of this work.

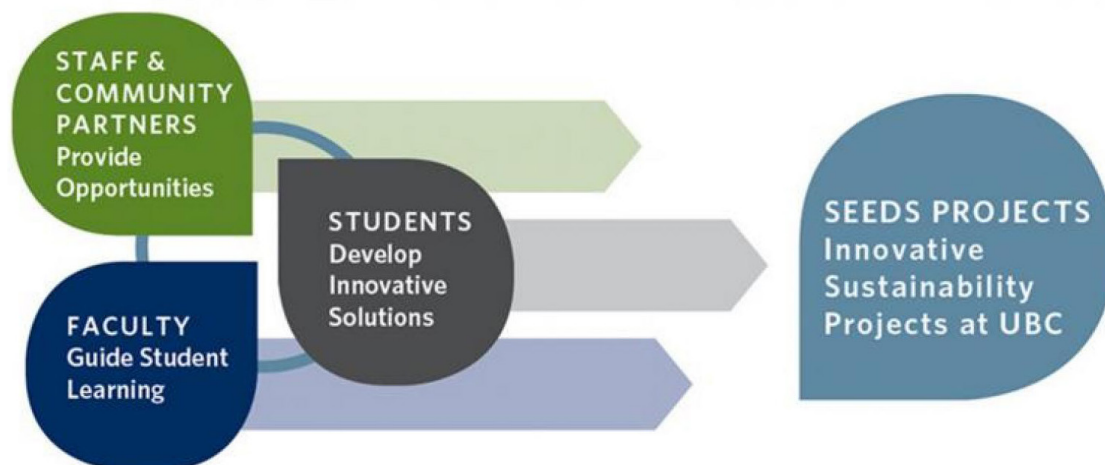


FIGURE 1. SEEDS SUSTAINABILITY PROGRAM STUDENT/FACULTY/COMMUNITY PARTNER MODEL (UNIVERSITY OF BRITISH COLUMBIA SUSTAINABILITY, 2019).



RESEARCH GOAL, OBJECTIVES, & REPORT ORGANIZATION

THIS SECTION WILL PROVIDE AN OVERVIEW OF OUR RESEARCH GOAL, OBJECTIVES, AND QUESTIONS

Research Goal:

To understand where UBC students place biodiversity among the factors they value about campus, and how it affected their recruitment and retention to UBC.

Research Objectives:

In order to describe if and how greenspace affects campus recruitment and retention, we aim to:

- Understand what students value about campus
- Gauge to what extent greenspace fits into broader campus values
- Understand if and how greenspace influences the decision to live, work, and study at UBC
- Explore how greenspace values have changed since attending UBC (i.e., recruitment versus retention)

Our research was guided by the following research questions:

Primary Research Question:

What values inform students' decisions to come to and stay at UBC?

Secondary Research Questions:

- To what degree is greenspace prioritized in student decision-making processes?
- What differences are observed between the criteria for student recruitment on the one hand, and retention on the other?
- How do UBC students, staff, and faculty characterize and define greenspace on campus?

This report is the culmination of our research, and is presented in the following sections: the first section provides a summary of relevant policy documents and literature; the second section presents our research methodology; the third section is a discussion of our key findings. Finally, in our conclusion we offer recommendations for future research directions and planning policies.

2 POLICY CONTEXT

This research is informed by and intended to advance a number of UBC strategies, initiatives, and plans. While it focuses specifically on campus biodiversity and greenspace, it is important to understand the interconnected and holistic nature of campus sustainability planning. Figure 2 serves to demonstrate the multitude of sustainability plans at UBC, and begins to detail their relationship.

UBC Vancouver Campus Plan

As mentioned above, the Vancouver Campus Plan (2010) aims to create “a beautiful campus that reflects its natural west coast setting and sense of place” and that “achieves the next level of performance in sustainability” (p.5). This research supports retaining, maintaining, and enhancing such a sense of place.

As this study reveals, student values surrounding campus greenspace intersect and connect with themes of nature and biodiversity; campus community and vibrancy; and mental health and wellbeing. In this section, we seek to provide additional context as to the policy environment underpinning this research, by identifying important strategies, initiatives, and programs and pulling out the relevant targets and objectives relevant to the outcomes of this work. The intention is to provide the reader with a snapshot of the broader policy context and a go-to document for identifying connecting plans and policies when seeking to develop a business case for greenspace on campus.

In addition, we hope that our findings will be useful to these respective planning organizations.

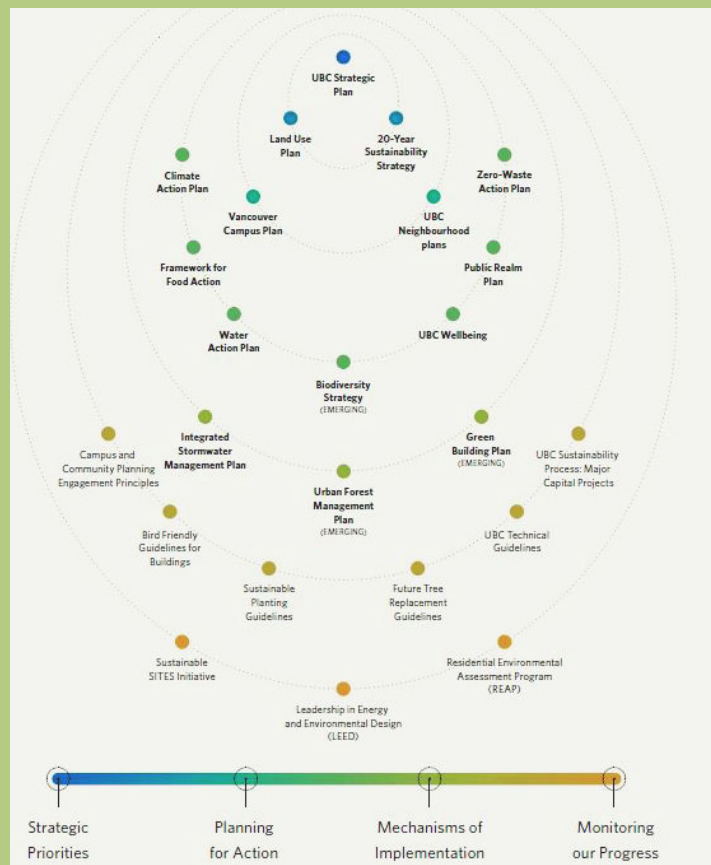
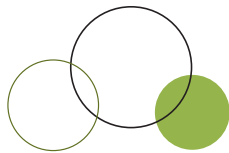


FIGURE 2. UBC'S "HOLONARCHY" (PARTS OF AN INTERCONNECTED WHOLE) OF SUSTAINABILITY PLANS AND INITIATIVE (CAMPUS AND COMMUNITY PLANNING, 2017).



UBC Vancouver Campus 20-Year Sustainability Strategy

The UBC Campus 20-Year Sustainability Strategy (2014) aims to embed sustainability across the university throughout teaching, learning, research, partnerships, operations, and infrastructure by 2035. This research was driven through a partnership for enhancing sustainability research and learning on campus, and the outcomes provide further impetus for campus planning with greenspaces in mind.

UBC Climate Action Plan

UBC's Climate Action Plan identifies a target to reduce campus GHG emissions by 100% by 2050. An update to this plan is currently underway, to align with UBC's recent declaration of a Climate Emergency (University of British Columbia, 2020). Greenspaces are shown not only to have a positive impact on local heat island effects and other environmental benefits such as carbon sequestration, but also to have an impact on students' mental health and wellbeing, as demonstrated by this study. Though outside the scope of this study, there is ample opportunity to further explore the relationship between greenspaces and climate grief.

Campus Biodiversity Initiative : Research and Demonstration (CBIRD)

The Campus Biodiversity Initiative supports ideas, research, and actions that advance biodiversity policies and implementation, and a positive and nurturing relationship between the natural and built environment.

To further this vision, the initiative seeks to inform policy and practices that enhances biodiversity through research, education, campus, and broader community engagement, and demonstration.

The initiative outlines a number of objectives, including:

- Cultivating biodiversity stewards by increasing public awareness and understanding of biodiversity issues and solutions by engaging, developing, and sustaining a network of stakeholders through opportunities for connection (i.e., community events), education (i.e., citizen science, applied research projects), and consultation (i.e., surveys, public outreach).
- Advancing policies and practices which address and respond to key biodiversity issues
- Using the Campus as a Living Laboratory by leveraging the SEEDS Sustainability Program to facilitate connections between students, faculty, operational staff, and community partners; and by advancing student research projects that address five strategic priority areas: baselining, demonstrating, monitoring and evaluating, communicating, and exploring tools and mechanisms to support biodiversity on the Vancouver campus. (Campus and Community Planning, 2017).

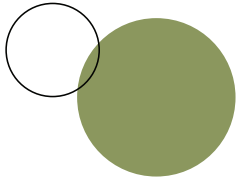
This study was driven by CBIRD to advance key policies and practices in the emerging Biodiversity Strategy.

UBC Wellbeing Framework

The UBC Wellbeing Framework prioritizes several "Areas for Action," (University of British Columbia, n.d.) including:

- Mental Health & Resilience
- Social Connection
- Built & Natural Environments

As will be discussed in this report, mental health and wellbeing emerge as key benefits of experiencing and accessing greenspaces on campus for students. Sustainability planning should be connected with planning for student wellbeing.



UBC Public Realm Plan for the Vancouver Campus

The UBC Public Realm Plan for the Vancouver Campus aims to create a network of outdoor public spaces that:

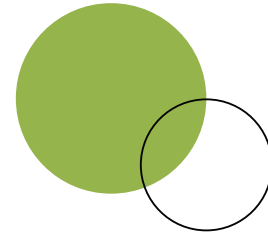
- Animates, invigorates, and brings life to campus
- Enhances the educational experience with outdoor informal learning
- Promotes the sharing of ideas, creative expressions, and interaction across disciplines
- Supports and nurtures the physical and mental health of our students, faculty, and staff
- Instills pride and a strong sense of place, showcasing UBC's culture to visitors from around the world
- Is economically sustainable and well-used and supported by the community (Campus and Community Planning 2009).

This project demonstrates that there is a great appreciation for diverse types of campus greenspaces across the student body. The results may help inform various public realm planning efforts at the UBC Point Grey Campus

SEEDS Sustainability Project

Delivered by UBC's Campus and Community Planning Department, the SEEDS Sustainability Program directly supports UBC's efforts to advance sustainability and contribute to international commitments. Over the next 5 years, the SEEDS mission will be achieved through a focus on student-led research and collaborations that support five major objectives:

- Accelerate climate action
- Maintain & enhance urban biodiversity
- Alleviate food insecurity



- Create circular economies
- Foster wellbeing and inclusive, place-based communities (UBC Campus and Community Planning, 2020)

This research is an example of a student-led project that supports SEEDS objectives of maintaining and enhancing urban biodiversity, and fostering well being and inclusive, place-based communities.

Green Building Action Plan

The Green Building Action Plan (GBAP) was approved by UBC's Board of Governors in September 2018 (University of British Columbia, 2018). The GBAP vision is for UBC's buildings to make net positive contributions to human and natural systems by 2035. This plan reflects the first time biodiversity was approved as a priority by the Board of Directors. Figure 3 demonstrates the eight program areas of the GBAP, and demonstrates the integrated nature of broader campus sustainability and greenspace planning.

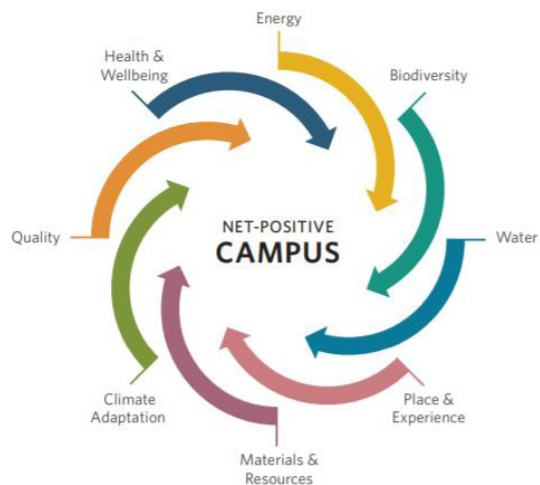


FIGURE 3. THE EIGHT KEY PROGRAM AREAS OF THE GBAP (UNIVERSITY OF BRITISH COLUMBIA, 2018).



3 LITERATURE REVIEW

This review surveys the current understanding of the role that campus greenspaces play in the recruitment and retention of students. The existing literature has identified factors that contribute to recruitment and retention, and has, to some extent, explored university greenspace and biodiversity initiatives. However, little is known about the degree to which greenspace influences student recruitment and retention on university campuses. The available literature, published over the last three decades, focuses on three closely related topics: factors that influence the recruitment and retention of university students, strategies to improve prospective student perceptions of universities, and campus biodiversity and greenspaces, and their potential relationship to recruitment and retention.

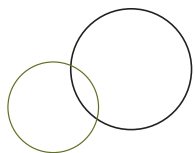
FACTORS CONTRIBUTING TO RECRUITMENT AND RETENTION OF STUDENTS

A general knowledge of post-secondary recruitment and retention factors may inform a specific understanding of the role of campus greenspaces in students' university-selection processes. Studies by Malaney (1985) and Kallio (1995) responded to deteriorating undergraduate enrollment observed in the United States during the 1980s. To better equip

universities with the knowledge to address this decline, these studies evaluated recruitment strategies and factors which contributed to the university-selection processes of graduate students. Malaney (1985) stressed the importance of strategic and adaptive responses to the market. Kallio (1995) found that the six most prevalent factors influencing university-selection processes were: residency status; characteristics of the academic environment of the institution; work related concerns; spouse considerations; financial aid; and the social environment of campus life.

Elliot and Healy (2001) looked at the factors that influence student recruitment and retention using a statistical analysis of a survey completed by 1,805 students. Their primary research question was: what impact do different dimensions of educational experience have on student overall satisfaction? Two key insights are evident from the study. First, the factors that attract students to a university are related to but distinct from factors that influence a student's decision to stay at a university. Second, Elliot and Healy (2001) distinguished between three types of satisfaction: student importance, satisfaction, and educational experience.

Mazzarol & Soutar (2002) emphasized that there are cultural and geographical factors that influence students' university-selection. Factors influencing international students to study abroad may differ from those influencing students seeking to study within their own country, or those who choose to remain in their home



city. Through a review of research studies conducted in Indonesia, Taiwan, China, and India, Mazzarol & Soutar (2002) examined various “push” and “pull” factors that influence students to study abroad. ‘Push’ factors were described as forces within a home country that ‘push’ students to go abroad, whereas ‘pull’ factors influence a student’s selection of a host country and institution for continued studies. This offers a useful framework for differentiating between the various factors at play in different contexts.

Research by Wang and Davidson (2008) indicated university choice for international students was based on factors beyond academic program offerings. They identified Australia’s “natural scenery/attractions and agreeable environment/climate” as a significant comparative advantage. Students’ perceptions of these factors were informed by tourism information materials, as well as online information about the locations. Consideration of climate and the natural environment of Vancouver and UBC, as presented in tourism promotion materials, could be a significant draw for international students. These findings illustrate how integral the perception of a university is to recruitment, and how this positive perception may be reinforced by the presence of campus greenspaces.

STRATEGIES TO IMPROVE PROSPECTIVE STUDENT PERCEPTIONS

There is significant competition among universities, requiring them to develop effective strategies that improve the perception of the university to prospective students. Malaney (1985) stressed the importance of strategic, adaptive responses to the market in order to

ensure the survival of the organization. This study emphasized that developing numerous strategies is essential for a post-secondary institution to effectively compete with other universities for the recruitment and retention of students. Offering opportunities for relaxation, meditation, and enjoyment of nature within an academic campus may set UBC apart from competitors and alleviate the pressure of a single recruitment strategy.

Palacio, Meneses, & Perez (2002) explored how marketing tools affect a person’s perception of an institution or corporation. Through a survey of university students, Palacio, Meneses & Perez (2002) examined the relationship between both the cognitive (i.e., types of facilities, range of courses, acceptance rate, university reputation) and affective (i.e., pleasantness, mood of university) aspects of a university and their role as a precedent for student satisfaction. They found that the image of the university is influenced by both factors, however the affective aspects (i.e., how a place makes you feel) were significantly more important than the cognitive aspects. This suggests that if spaces on campus, such as greenspaces, can bring students happiness and peace, those students are more likely to have a greater level of satisfaction with their university.

As Maringe (2006) discovered in their study, promotion and advertisement spending do not necessarily mean better recruitment. This study grouped factors into seven categories, namely place, promotion, prominence, prospectus, people, price, and program for analysis, which offers a useful framework for grouping and analyzing recruitment and retention data. Ramey (2008) discussed that universities were ultimately selling a brand or potential experience to prospective students. With new generational values, universities must adapt the presentation of their brand to current information channels like social



media. UBC's brand of a post-secondary institution committed to environmental sustainability, through the marketing of campus greenspaces, may contribute to positive perceptions by prospective students.

Through participant website analysis, Behrend et al. (2009) found that the environmental message and stance of a company increased the perceived reputation of that company by individuals job hunting, regardless of environmental stance of the prospective applicant. Behrend et al. (2009) studied the role of pro-environmental recruiting was shown to have a positive effect on both prospective applicants and company reputation. For UBC, this suggests that actively promoting the campus's natural assets, including greenspaces, may increase the university's reputation, while also increasing the number of prospective students.

CAMPUS BIODIVERSITY, GREENSPACES, AND THE POTENTIAL RELATIONSHIP WITH RECRUITMENT AND RETENTION

Savard et al. (2000) discussed "biodiversity" and how this term is related to concepts such as spatial scale, species identity, species values, fragmentation, and habitat. Different individuals may associate "biodiversity" with different definitions in terms of scale and species. The complexity of this term may dilute what this concept is truly meant to define; the variability of biotic species in a given area. Thus the use of the phrase "greenspaces" will be used in place of "biodiversity" for the duration

of the project. Savard et al. (2000) also emphasizes efforts at different levels of management needed to increase biodiversity and sustainability initiatives (Savard et al., 2000). This argument places our project as only one step in the promotion of biodiversity at UBC, furthering the understanding of the human-nature relationship on campus.

Saadatian, Salleh, Tahir, & Dola (2009) concluded that all the institutions they studied have recognized the importance of sustainability, and had different approaches, but none of the universities have achieved an ideal status.

Finlay and Massey's (2012) paper argued that the "eco-campus model" should be used as a framework to support universities in successful sustainable activities. The "eco-campus model" provides principles that address post-secondary institutions' ecological footprints and develops sustainable community practices. Finlay and Massey's findings discuss the social implications of sustainability. This provides a case that greenspaces as sustainability initiatives may also provide spaces for students to discuss these implications, fostering social cohesion on campus. Haderlie (1987) highlights that campus recreation programs and facilities are important because they help students grow holistically, integrating physical, social, intellectual, and spiritual health. Students who participate in leisure activities generally have better mental health, self-esteem, and community belonging. When students' wellbeing and satisfaction levels are met, they are more likely to be retained by the university.

The literature surveyed above informed the methodological and analytical approaches employed in our study, which will be discussed in the following section.

4 METHODOLOGY

In our research we employed a qualitative mixed-methods approach in order to determine why students decide to come to and stay at UBC. While SEEDS had originally asked us to conduct a survey of UBC students, staff, and faculty, we ultimately decided that, given time constraints and the relative ease of recruiting students compared to faculty and staff, we would limit our study to students alone.

After reviewing the relevant academic literature, we were able to refine our methodological approach based on established best practices. Ultimately, our approach incorporated both focus groups and in-depth interviews with individual participants, through which we employed a number of visual data collection methods.

We decided to adopt a combination of visual and textual data-collection methods, so as to best account for

the subjective values and aesthetic preferences of individual study participants. Figure 4 provides a visual representation of our data-collection and analysis methodologies.

RESEARCH PARTICIPANT RECRUITMENT

Per our partnership model, SEEDS led the participant recruitment effort. Participants were recruited through social media, in-class presentations, and word of mouth. Employing a stratified random sampling method, we attempted to partition participants into subgroups based on two criteria: first, by level of education (i.e., undergraduate, master's, and PhD students); and second, by country of origin, (i.e., Canadian and international students, respectively). The decision to divide participants into groups based

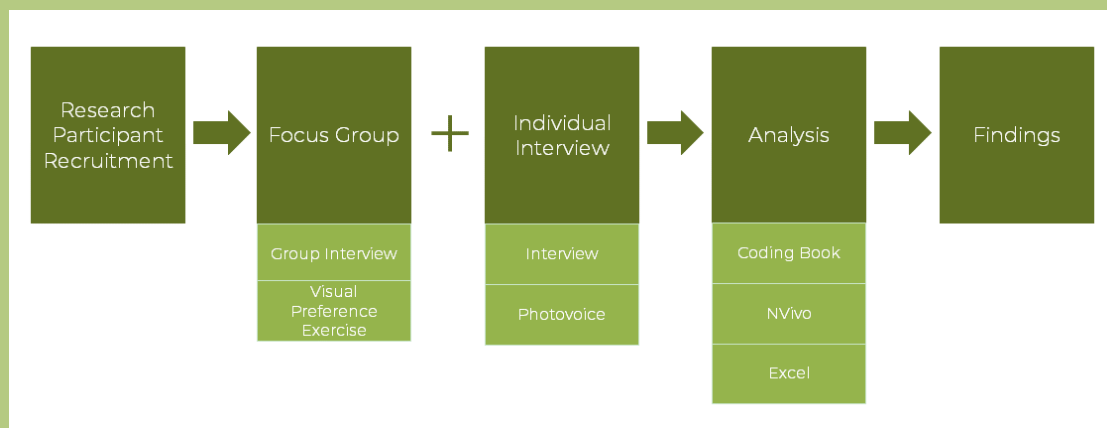
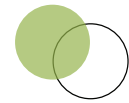
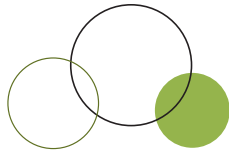


FIGURE 4. DATA-COLLECTION AND ANALYSIS METHODOLOGIES



on their respective levels of education was informed by the literature, which suggested that retention and recruitment factors may vary among these different student types. The intent was to ensure commonality between students and thereby promote fruitful conversation. However, due to time constraints, and in order to maximize the number of participants, the division of students by level of education and country of origin was ultimately imperfect. In total, 16 participants were recruited for our focus groups, representing a variety of faculties and all education levels. Our sample skewed slightly towards graduate students, students who use the Him/He pronouns, and international students as shown in Figure 5.

FOCUS GROUP WITH VISUAL PREFERENCE EXERCISE

Each of the three hour-long focus groups consisted of four main parts: (1) Introduction and ice breaking activities; (2) Recruitment-based questions; (3) Retention-based questions and; (4) a visual-preference exercise (refer to Appendix 1 for full discussion guide). A key consideration in the design of our focus groups was a desire to avoid “priming” participants by introducing the term

‘greenspace’ too early in discussion. In order to avoid priming participants, and thereby potentially influencing their responses, the terms ‘greenspace’ and ‘outdoor space’ were avoided in our initial lines of questioning, and were only explicitly introduced during the visual-preference exercise.

We began each focus group by asking each participant to list the three most important factors in their decision to come to UBC. This was followed by a group discussion of the various factors that contributed to participants’ day-to-day campus experiences. In the next section, we introduced the Visual-Preference Exercise, in which ten images were selected by our team to represent a range of outdoor spaces on campus, including manicured greenspaces, natural areas, gardens, tree-lined boulevards, fountains, and plazas (see Appendix 2-Exercise Photos).

The photos we used were of a consistent quality and taken during the same season to minimize photo-selection bias. For the exercise, all photos were placed in a row along a wall (numbered 1–10, to ensure consistency across all focus groups). The photos remained hidden during the first three sections of each focus group, and were only revealed at the outset of the visual-preference exercise to avoid distracting or priming the participants. We then asked the participants to select the image they liked most and the photo

PARTICIPANT DEMOGRAPHICS

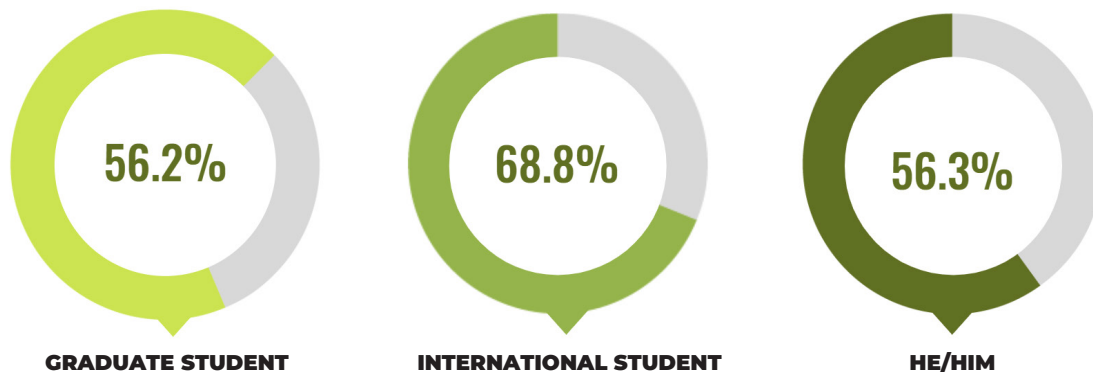
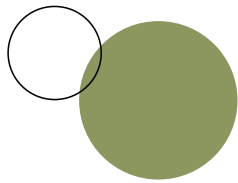


FIGURE 5. KEY DEMOGRAPHICS FROM OUR FOCUS GROUP PARTICIPANTS.



they disliked the most. They placed a different sticky note on the corresponding photos with a short written explanation as to why they chose that photo. Figures 6 and 7 illustrate this process. This approach enabled participants to visualize various types of campus greenspaces and assign them meaning and value. Having participants place the stickies directly on the photos provided an opportunity to easily collect and analyze the data across all three focus groups.

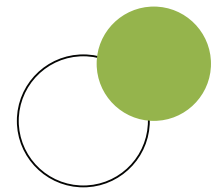
During each focus group, one researcher was responsible for taking notes and transcribing the discussion. Notetakers assigned each participant a unique identification number which was used to connect participant comments to demographic profiles.



FIGURE 6. FOCUS GROUP 1 PARTICIPANTS SITTING AROUND A TABLE.



FIGURE 7. VISUAL PREFERENCES EXERCISE PHOTOS WITH STICKIES INDICATING MOST LIKED AND DISLIKED CAMPUS LOCATIONS

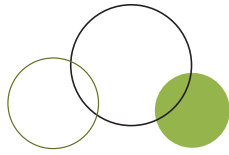


INTERVIEW WITH PARTICIPANT PHOTOVOICE

Following each focus group, interested participants were asked to take part in a semi-structured interview (see Appendix 32 for interview guide). In total, we recruited five participants for individual interviews. These interviews built on discussions initiated during the focus groups, and gave interviewers an opportunity to dive further into themes and comments that emerged during those discussions. Additionally, participants took part in a 'photovoice' exercise.

Photovoice is a qualitative research method that allows participants in a study to express their points of view or represent their communities through photography. In the case of our study, participants were each asked to bring a photo of their favourite outdoor space on campus, which was then used in their interview as a springboard for discussion. Photovoice is an empowering research tool that enables the participants to communicate their knowledge about greenspaces, and to reflect their values through images produced or selected by themselves (Wang & Burris, 1997, p. 376).

If a participant was particularly drawn to a given greenspace, an interviewer led them through a series of questions exploring what it was that attracted the participant to that greenspace. If a participant was uninterested in greenspaces, they were asked about how buildings and indoor spaces might influence their decision to stay at or leave UBC, and if they thought outdoor spaces could be put to better use. Interviewers were free to take the conversation in whatever direction they deemed necessary in order to understand how a participant evaluated campus greenspace.



ANALYTICAL FRAMEWORK

In our analysis, we employed the so-called “7P” framework developed by Maringe (2006) that organizes factors that influence student university-selection decisions into seven broad categories: place, prominence, prospectus, people, promotion, price, and program (Figure 8).

Each of these categories was further divided into a number of sub-categories. These broad categories and their nested sub-categories then became the basis for our codebook. As we began to review our data, it emerged that the ‘place’ factor was much more nuanced than we had initially thought, particularly in discussions around how participants felt about greenspace. Therefore, we spent time adjusting and refining the nested hierarchy of factors contributing to ‘place’ so as to better capture and reflect the rich data we collected.

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We then uploaded our focus group and interview transcripts to the NVivo qualitative data analysis software program, through which we utilized our codebook to explore patterns from the discussions and draw out common themes.

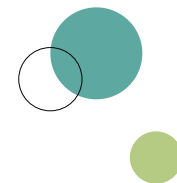
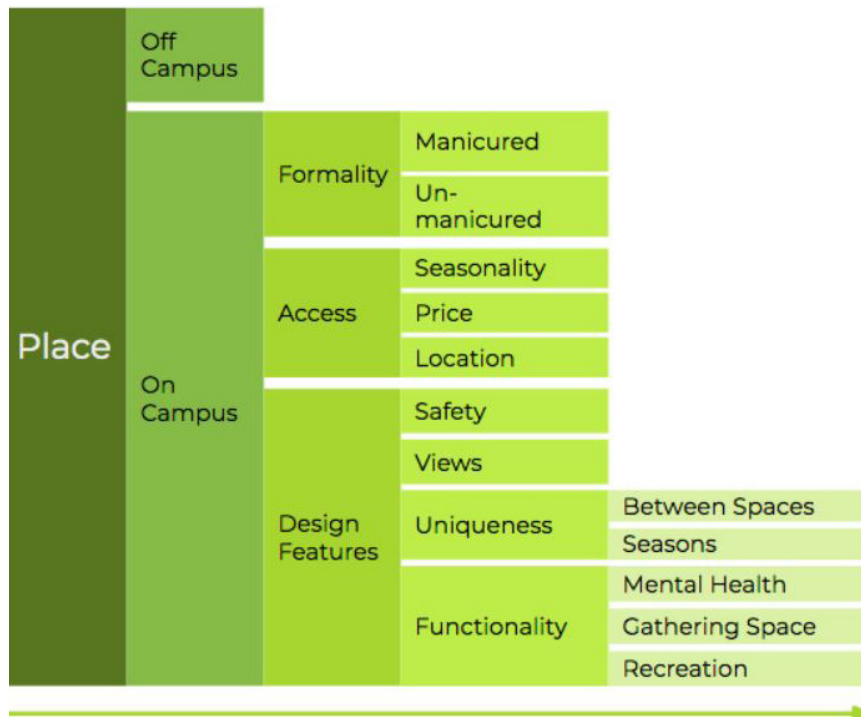


FIGURE 9. SIMPLIFIED NESTED CODE SYSTEM FOR ‘PLACE’

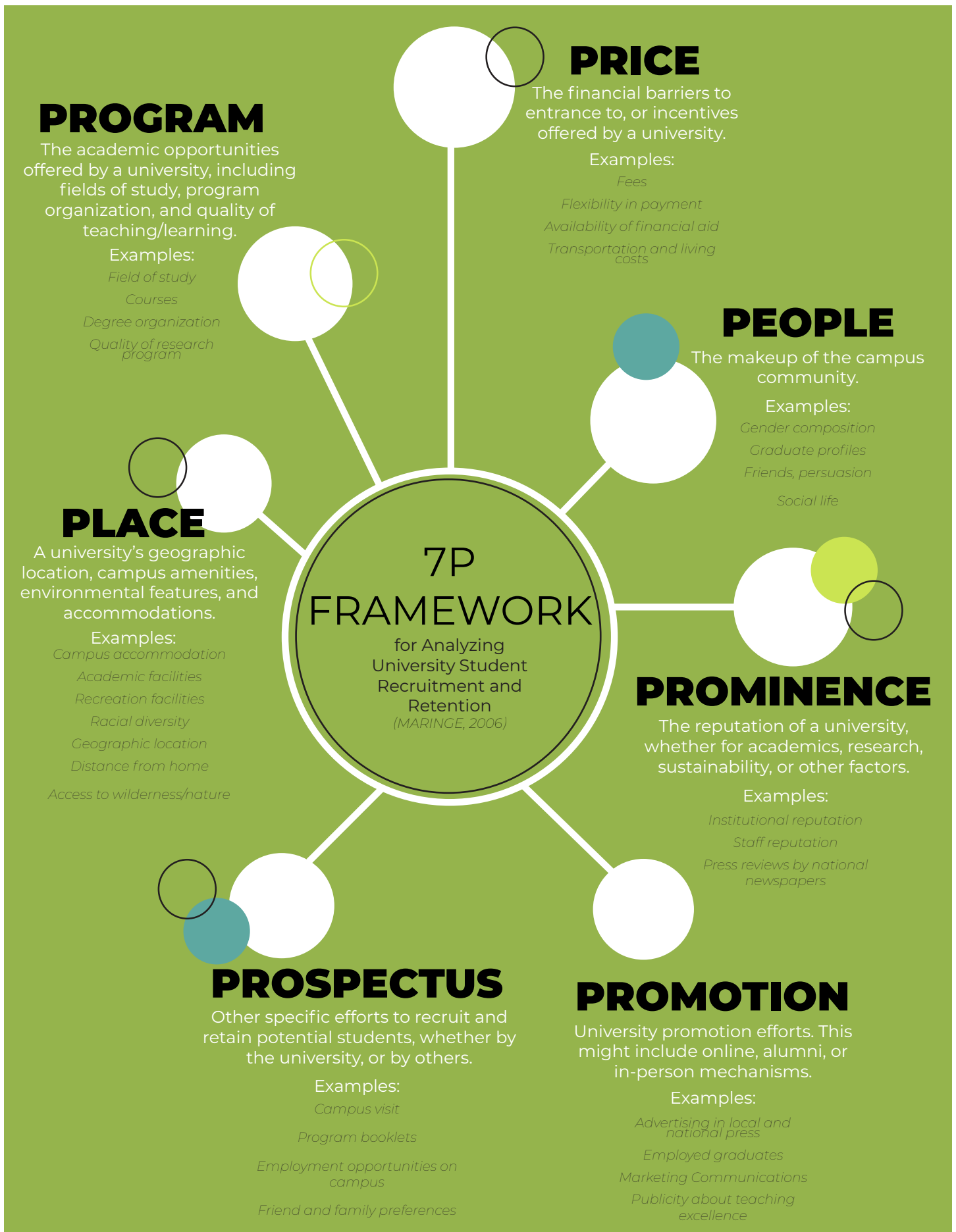


FIGURE 8. THE 7PS (MARINGE, 2006) FOR ANALYZING UNIVERSITY-STUDENT RECRUITMENT AND RETENTION

5 FINDINGS & DISCUSSION

The application of the 7P framework proved useful in our data analysis, in which several key patterns emerged. The two word clouds presented in Figure 10 were generated to reflect the frequency with which each code came up in our focus group and interview discussions. These word clouds convey the factors that mattered most to study participants. We found that factors grouped together

RECRUITMENT AND RETENTION

FACTORS FOR RECRUITMENT

The factors that were found to be most important for recruitment were 'place',

followed by 'program' and 'prominence'. Seventeen participants mentioned that place was an important factor, with many specifically referencing the importance of UBC's geographic location. This factor alone took on many meanings for participants, including: Canada and Vancouver's

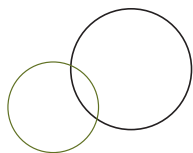
reputation, size, and population density; Vancouver's climate and temperate winters; proximity to family relatives; and geographic and environmental features of the region. For instance, one participant noted the proximity of UBC to the ocean and mountains, observing: "I lived near the mountains in India, and I wanted to live near them again."

Other aspects of 'place' that influenced recruitment and retention included access



FIGURE 10. WORD CLOUDS GENERATED USING THE CODES FROM BOTH FOCUS GROUP (LEFT) AND INTERVIEW (RIGHT) TRANSCRIPTS

under the code 'place' were the most important in reference to both recruitment and retention. However, in the context of recruitment, place factors tended to be connected specifically to Vancouver's geographic location and climate. In contrast, the place factors that tended to influence retention were more likely to include greenspaces and other environmental characteristics of the Point Grey campus.



to recreational opportunities, such as mountain sports, as well as greenspaces, such as the UBC's botanical gardens and beaches. Moreover, we found that place was a particularly important factor influencing the recruitment of international students, compared to domestic students. Notably, however, once international students are on campus, place tends to matter less as a retention factor.

'Program' was another frequently cited factor influencing student recruitment, with 14 describing its importance specifically in terms of program fit, advisor relationships, opportunities for postgraduate study, and degree organization. Other important characteristics of 'program' included the quality of research programs, field of study, available courses, and majors. A civil engineering student shared that:

UBC is leading the research [in my field] in Canada . . . [I] wanted to do work with [a] professor [at UBC]. (Respondent C4, Focus Group, February 14, 2020)

'Prominence' also emerged as an important factor for many participants. It was typically defined through institutional reputation and staff reputation. We also found that 'prominence' was equally important to both international and domestic students.

The most important sub-factors of 'place' that influenced university-selection were factors beyond the UBC's influence, such as Vancouver's climate and geography. However, greenspace on campus can be the deciding factor between schools with similar 'program' and 'prominence' offerings. As one participant shared:

I got accepted at another University at Texas A&M but decided to come here for Vancouver and its outdoor activities. [The] campus is unique

with rich botanical gardens and green areas; ... [I] used Google Maps [street view] when making decisions; if schools are similar, better to be in [a] place that is more beautiful. (Respondent C7, Focus Group, February 14, 2020)

FACTORS FOR RETENTION

In order to identify the principal factors that influence student retention, we asked participants to write down factors that contributed to their overall experience on the UBC campus.

As with recruitment, 'place' emerged as the most important retention factor. In recruitment discussions, place was referenced most in terms of a preference for Vancouver's geographic location or proximity to recreation activities, whereas the 'place' responses specific to retention were more related to campus outdoor space and mental health.

It is within the context of retention that greenspace emerged as a central theme. However, greenspace was found to be characterized differently by the various participants. Participants associated greenspace with places for mental health or recuperation; access to wilderness/nature on campus; and outdoor/open spaces, and discussed personal preferences for level of manicured landscaping features. This suggests that students draw different benefits from various types of greenspaces, and that there are distinct preferences for the design and function of greenspaces across the student body. Mental health in particular was a common theme associated with greenspaces, with many participants noting campus greenspaces as spaces of relaxation or escape from academic stress.

Participants also demonstrated different preferences for greenspace as they relate campus aesthetics.



Racial/cultural diversity also emerged as a place-based retention factor, with participants noting the value in being exposed to different cultures and people from all over the world.

Other 'place' factors that emerged, to a lesser extent, were facilities (academic, buildings); distance from home; campus life and vibrancy; and cultural events (both on campus and in Vancouver).

'People' was the second most mentioned factor for retention. This came up more frequently with international students than domestic students. 'People' included social life, gender composition, alumni, and personal contacts. Relationships with professors and supervisors were also highlighted, along with friendships formed with fellow students.

There was limited discussion of 'prospectus' factors (i.e., career preparation and campus visits) and 'price' factors (fees, availability of financial aid) as they relate to retention. 'Promotion' factors did not emerge at all during the discussions.

GREENSPACES

FAVOURITE AND LEAST FAVOURITE SPACES

For the visual preference exercise, participants reviewed photos of a selection of outdoor spaces on the UBC Point Grey Campus, including greenspaces like gardens and greenways, and non-greenspaces like plazas and courtyards. Through the analysis of participant comments attached to each photo (both for the 'most liked' and 'least liked' options) we can draw a few conclusions as to why students value certain types of outdoor spaces on campus.

The overall favourite outdoor space during the exercise was the Rose Garden (see Figure 11), with 33% of participants selecting it as their favourite. Many

participants spoke about the aesthetics of the garden, the beauty of the roses, and how much they enjoyed the view of the mountains. For instance, one participant stated,

"[I feel] relaxed when I see the sea and when combined with mountains and roses and green areas, it gives a nice, mixed scene." (Respondent C7, Focus Group, February 14, 2020)



FIGURE 11. UBC ROSE GARDEN USED IN VISUAL PREFERENCE EXERCISE (UBC CONFERENCES AND ACCOMMODATION, N.D.)

Others enjoyed it as a lunch break spot, or as a place to sit and relax. The Rose Garden, however, is not necessarily liked across the student body. Two participants selected the garden as their least favourite of the provided photos, though their critiques were mildly expressed.

One wished it was bigger and that more places had the Rose Garden's ocean view. The other felt the landscaping could be improved, and expressed that they found it less welcoming for sitting as they would have hoped. These comments suggest possibilities for improvement of the space.

Buchanan Courtyard (see Figure 12) was the least favourite outdoor space, with 25% of participants selecting it as such. Most of the critiques centered around the



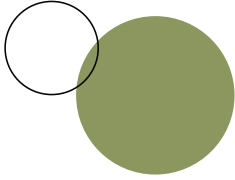


FIGURE 12. PHOTO OF BUCHANAN COURTYARD USED IN VISUAL PREFERENCE EXERCISE (PUBLIC, N.D.)

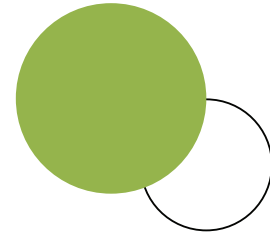
overly-paved nature of the site, finding it too boxular and dominated by concrete. Several students even labeled the space as “depressing”. Others described it as a stressful place, associating it with the classes they had in the building.

Opinions on the remaining photos of campus open spaces were diverse and sometimes conflicting. For example, some students shared an affinity for the Main Mall for its tree-lined corridors and open green areas. One participant shared,

“My favourite part about UBC is all the greenspace throughout, whenever I walk down [the] main mall, with the greenspace, openness and the view of the ocean at the end, I feel happy and relaxed.” (Respondent A2, Focus Group, February 11, 2020)

Other students found the grass areas as an inefficient use of space, with one participant suggesting that “the lawn could be replaced with biodiversity.”

Another space that offered differing views was the Martha Piper Plaza fountain, at the intersection of the Main Mall and University Boulevard. Some associated the fountain with a positive reminder of their accomplishment of becoming a UBC student. Another described it as an uncomfortable location because of its



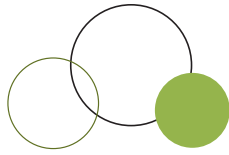
placement at a busy crossroads. As stated by one participant:

“[The fountain area is] not a place I find I would stay. [It is at the] crossroads. I can't envision myself sitting at the fountain, with immense change. I feel compelled to leave.” (Respondent C5, Focus Group, February 14, 2020)

Participants also mentioned several distinct places they had an affinity to that were not included as options in the visual preference exercise, including the Flag Pole Plaza at the end of Main Mall and the Echo Circle at Wyman Plaza (also along Main Mall).

Overall, most participants highly favoured areas that featured greenspaces, compared to non-green outdoor spaces. Different demographic groups also expressed distinctive preferences, especially between domestic and international students. International students were more likely to dislike spaces that were overcrowded or had high amounts of traffic. They also tended to prefer manicured and structured spaces with sophisticated design and facilities for seating. For example, international students showed a common inclination towards the Rose Garden and the Piper Fountain. Domestic students were more concerned with a space's functionality, such as the ability to gather informally and enjoy activities such as frisbee. For domestic students, open grassy areas tended to be labeled as more enjoyable. This can be inferred from several domestic students who found the Library Garden and Main Mall as providing these types of open grassy areas.

Graduate and undergraduate students generally shared similar preferences for greenspaces. The most notable way graduate students differed from undergraduate students was their greater affinity for good views and aesthetics of greenspaces.



CHARACTERISTICS IMPORTANT FOR A SUCCESSFUL GREENSPACE

To understand how students characterized greenspaces on campus, four key themes emerged from our study: access and location on campus, design and formality, features, and functionality. These four themes emerged across our focus groups, interviews, and visual preference surveys. We explored these themes in recognition of the vast impact these spaces, and the intricacies related to them, can have on the physical, social, intellectual, and spiritual health of students (Haderlie, 1987).

1. ACCESS AND LOCATION ON CAMPUS

Greenspaces on the edge of campus appear to be less well known and less frequented, including the area around the First Nations Longhouse and the UBC Farm. The Library Garden was more visible for participants, but some commented on its inaccessibility from potential points of entry such as the lower levels of Koerner Library. Access to certain greenspaces also felt limiting to several participants who made note of places that required entry through a designated point or were walled off, such as the Nitobe Garden.

This suggests an opportunity for UBC to improve communication with students about the range of greenspaces on campus, and to assist in breaking down perceived barriers of access to some greenspaces. For example, UBC students gain free admission to some enclosed greenspaces, such as the Nitobe and Botanical Gardens, with presentation of a valid student identification (UBC Botanical Garden, 2020), though many participants did not seem to be aware of this.

2. DESIGN AND FORMALITY

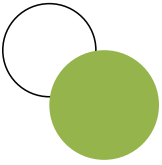
Many discussions were centered around preferences regarding the level of formality and manicured design of greenspaces. In fact, there were many differences of opinions on this subject, with most, but not all, participants tending to prefer more unmanicured or “natural-looking” designs. This was most prevalent in discussions surrounding the Rose Garden, a highly-manicured and structured space. It was the most-liked outdoor space in our visual preference activity, yet more participants explicitly stated that they preferred less manicured spaces, possibly implying that features such as its stunning views were more important in their decision to rank the Rose Garden as a favourite location. As one participant expressed,

“I would never use the Rose Garden because of the element of formality. Even Nitobe. I would use the garden outside the Asian Centre before I would use Nitobe.”
(Respondent C1, Focus Group, February 14, 2020)

Another participant declared,

“It would be great to see more greenspace on the less manicured side.” (Respondent A1, Interview, February 11, 2020)

They also noted a preference for more forested areas and open, natural spaces such as Pacific Spirit Park on campus. As evident in these differences in opinions, a variety of preferences for different types of forms and designs exist among the student body at UBC. This finding may be of importance in future campus planning efforts in the realm of open spaces and biodiversity, whereby investments in campus greenspace should reflect a diversity of greenspace options to meet the diverse needs and definitions of greenspace from the student body.



3. FEATURES

Across the various greenspace features that were discussed during our focus groups and interviews, 'views' emerged as the most dominant feature appreciated by participants. Many participants not only expressed how much they enjoyed having views of beautiful settings, but also hoped to see more vantage points across campus. Vista points were brought up in relation to the Rose Garden most frequently. As one participant put it,

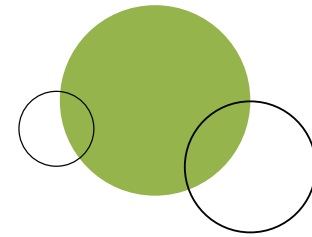
"What I like is the view!... The mountains are really amazing when it is not cloudy." (Respondent B4, Interview, February 12, 2020)

Other viewpoints were also mentioned, including views of greenspaces from within indoor areas, such as the view from the Aviary climbing wall in the Nest as was expressed by one participant:

"At the UBC Aviary, you can look out the back windows and see the sunset from the fourth floor of the Nest! It's beautiful!" (Respondent C5, Focus Group, February 14, 2020)

Some students expressed negative attitudes towards views that overlooked or centred school buildings, such as the Buchanan Courtyard. For one student, views that did not overlook school buildings, but greenspaces rather, meant an ability to forget that one was on campus.

Retaining existing viewpoints on campus should therefore remain an important principle for campus community planning. Furthermore, there may be opportunities to improve on certain amenities or urban design features that maximize the access and use of these spaces for enjoyment of views. However, caution should be taken in striking the right balance between access and maintaining the 'specialness' of a space.



4. FUNCTIONALITY

Lastly, the functionality of a greenspace was an important characteristic for many students. Seating availability emerged as a central theme, with some students preferring areas that had big open fields to relax in. These open spaces were found to have many functional uses. As one participant reflected,

"There used to be a big open field [in the Totem Park area]. I would grab my readings, a big blanket and just go hang out there. There would be other students that would do the same. It was really relaxing." (Respondent A2, Interview, February 11, 2020)

Additionally,

"UBC used to have more greenspace for things like frisbee, and quidditch. There was a big open park that students used for slacklining. A lot of those spaces have been lost. Loss of that greenspace I think impacts campus culture and activities." (Respondent A2, Interview, February 11, 2020)

This sentiment was shared by several other students who mourned the loss of these types of open spaces or yearned for more of them. As one participant noted,

"Campus lacks areas like a common quad [or] hang out spaces." (Respondent I1, Interview, February 13, 2020)

However, not everyone shared this sentiment. As this participant explained,

"The law building has a big lawn. Anywhere with a lawn, I think that's a bad use of space. It could be something else." (Respondent I1, Interview, February 13, 2020)



Also of note, greenspaces with high human traffic were generally disliked. Some students also hoped to see more connectivity between indoor and outdoor spaces. This tied into some students' desires for more outdoor education opportunities on campus, such as interpretative signage and use of greenspaces as teaching spaces or living laboratories.

This finding supports the need for a diversity of greenspaces on campus with flexible designs that allow visitors to engage in the space in their own way, to suit the various needs of students. However, the strong sentiments regarding 'open-type' greenspaces for free and leisurely recreation and social activities may support investment in these types of greenspaces in future campus planning initiatives. The importance of connecting sustainability objectives and social cohesion on campus is supported by Finlay and Massey's (2012) "eco-campus model."

EMERGING THEMES: HEALTH AND WELLNESS LINKED TO GREENSPACES

In addition to the characteristics of greenspaces discussed above, the link between greenspace and mental health was a major topic that emerged from focus groups and interviews. Many participants expressed the importance of greenspaces on campus for their mental health. Some focused on how time spent in greenspaces helped them deal with school-related stress.

As one participant explained,

"The way I think about greenspace is through the mental health aspect. When I'm looking for greenspace, I want to forget I'm on

campus. [It is] an important part of de-stressing." (Respondent C1, Focus Group, February 14, 2020)

Another participant added,

"[It is] pretty important to have those [green]spaces. I wouldn't want to go to a University that is all inside, for a positive mental attitude." (Respondent C5, Focus Group, February 14, 2020)

Other participants highlighted how a green campus can help counter the negative impacts of dense urban life. One participant shared,

"[I] don't want to stay in a concrete jungle." (Respondent C4, Focus Group, February 14, 2020)

Even views of greenspace from inside contribute to better mental health and wellbeing. As one participant expressed,

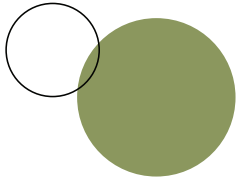
"I need to see that there is life outside the study room."

Another participant appreciated the architecture of UBC, pointing out,

"You can see outside. That is nice. At least if you can see [greenspaces], you can feel a little bit better." (Respondent B2, Focus Group, February 12, 2020)

The mental health benefits of greenspace that students have experienced are also well supported by literature. Time spent in urban greenspace has been found to improve symptoms of anxiety, depression, ADHD, memory and stress (Berman et al., 2009; Berman et al., 2012; Honold et al., 2015; Chawla, 2015; Kou and Taylor, 2004).

Given that greenspace can and does play such a key part in student mental health and wellbeing, we recommend that greenspaces be designed to maximize these benefits, supported by the



significance that affect plays in increasing students' satisfaction with their university (Palacio et al, 2002) Furthermore, greenspace planning and campus strategies for health and wellness should be mutually reinforcing, and the emerging Biodiversity Strategy should emphasize these benefits in building a business case. This will assist with delivering on multiple University objectives with a single investment.

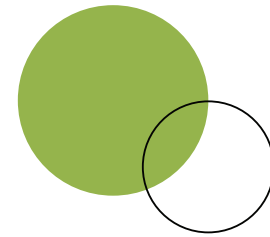
RECOMMENDATIONS

Based on the findings of this research study, we propose the following six recommendations for future campus and community planning efforts in the realm of greenspaces and urban biodiversity:

1. SEEK TO IMPLEMENT A VARIETY OF TYPES OF GREENSPACE AROUND CAMPUS. This will assist in connecting the broader student community to greenspaces, respecting the diversity of benefits that different types of greenspaces provide students.

2. USE GREENSPACE AS A TOOL FOR DELIVERING ON MENTAL HEALTH AND WELLNESS GOALS. Greater coordination with the UBC Wellbeing Strategy through the development of the Biodiversity Strategy should be pursued. Planning efforts should also recognize the multiple and overlapping benefits achieved through the preservation, restoration, and maintenance of greenspace in urban areas, such as on the UBC Vancouver campus. The benefits of greenspaces may also intersect with the concept of 'climate grief', which is of great interest to UBC given the recent declaration of a Climate Emergency. This relationship warrants further research.

3. PRESERVE AND ENHANCE VIEWS AND CONNECTIONS TO REGIONAL GREEN ASSETS (I.E., MOUNTAINS, OCEAN, AND REGIONAL PARKS).



The campus should maintain existing campus vistas, such as views from the Rose Garden, and seek to activate these spaces through investment in improved seating infrastructure and other amenities or urban design features that make these spaces more inviting to a wide variety of people, abilities, and preferences. Efforts should also be made to improve connectivity to regional greenspaces such as Pacific Spirit Park to bridge the connection between students' nature experiences on and off campus.

4. USE GREEN AND OPEN SPACES TO ENHANCE SOCIAL ACTIVITY AND GATHERING OPPORTUNITIES.

This includes seeking opportunities for improved use of existing open spaces on campus, and ensuring social activity and gathering spaces remain a priority for future campus greenspace planning.

5. ENHANCE THE EDUCATIONAL POTENTIAL OF GREENSPACES, THROUGH INTERPRETIVE SIGNAGE AND USE OF CAMPUS NATURAL ASSETS AS A LIVING LABORATORY FOR COURSES.

UBC boasts an incredible array and diversity of greenspace, yet many students remain unaware of these spaces or the accessibility of these spaces. There is ample opportunity to improve education and awareness of UBC's existing natural assets through signage; greenspace maps and wayfinding; and encouraging use of greenspaces for learning in course curriculums.

6. ENHANCE STUDENT AWARENESS OF AVAILABLE GREENSPACES, AND FREE STUDENT ACCESS TO GARDENS WITH ADMISSION.

Promoting the accessibility of various campus greenspaces among students, such as free entrance (e.g., with a UBC student card) to spaces like the Nitobe Garden, may reduce barriers and encourage students to visit and make use of existing campus greenspaces.



6 CONCLUSIONS



Our team has identified three key themes relating to our research on UBC recruitment and retention factors for students and characterizations of greenspaces on campus:

- Place-based factors play a significant role in both student recruitment and retention.
- Campus greenspace is a more important factor in student retention than in student recruitment.
- Campus greenspaces are of high value to students for a variety of reasons, especially for relaxation and stress relief.

We recommend that campus community planning initiatives should consider creating a wider variety of greenspaces to meet a diversity of student preferences. We also recommend increasing support and investment in the provision and maintenance of campus greenspaces, in order to, among other things, support student mental health and wellbeing.

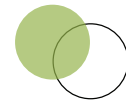
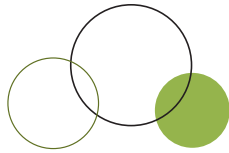
LIMITATIONS

While our study has produced a number of valuable findings, it is important to highlight some of the limitations of our research. First, the sample size of this project was relatively small and therefore caution should be taken in generalizing these results across the broader campus community. Second, the scope of the project was further limited by its relatively short time frame. This meant that we

could not consider campus staff and faculty in our research, and that we were limited in terms of student recruitment. Third, the use of existing and recognizable campus spaces for the visual preference exercise may have skewed some of the results of our findings; students may have tended to select photos of spaces with which they were more familiar. This detracted from discussions of lesser-known or smaller greenspaces on campus, and did not necessarily get at greenspaces that are more integrated into the overall campus fabric. Finally, our request in recruitment messaging that participants bring a photo of their favourite outdoor campus spaces may have introduced bias into our results by priming participants to consider outdoor spaces prior to coming to the focus group. However, careful steps were taken in the flow of information and use of language during the focus groups themselves in order to minimize further priming or bias.

RESEARCH TEAM TAKEAWAYS

In the course of this study, we have become acutely aware of the iterative nature of qualitative research and both the benefits and challenges of working as a large team with interdisciplinary backgrounds. Although it was a relatively ambitious undertaking, especially given its limited timeframe, we are proud of the study and its potential contribution to future campus planning policies and initiatives in the realms of greenspaces




and biodiversity. This project has given us invaluable research experience and will continue to inform our practices in our careers as planners.


FUTURE RESEARCH

To build on the findings of this study, and to continue to develop a more nuanced understanding of the importance of campus greenspace, we propose the following recommendations for future research:

- Given the limited scope of this study, there may be value in extending this research approach to include campus staff and faculty. This could provide a better understanding of the broader campus community's values around greenspaces.
- Building on our findings on the positive correlation between student mental health and greenspace, we recommend further research be undertaken to explore potential connections between campus greenspace and climate grief. This work could help to inform UBC's Climate Action Plan.
- To move beyond the more well-known greenspaces on campus, it would be interesting to research how people get around on campus, from both a mode-share and spatial mapping perspective. This could be utilized as a platform to explore the various types of greenspaces used by students, staff, and faculty at UBC. An approach of this nature would support moving away from discussions about more well-known spaces, and connecting more with the smaller spaces one might encounter or experience on a daily basis.



7 APPENDICES



APPENDIX 1:
FOCUS GROUP & INTERVIEW
DISCUSSION GUIDE

APPENDIX 2:
EXERCISE PHOTOS

APPENDIX 3:
DATA CODING BOOK

Focus Group & Interview Guide

Goal: We want to understand where UBC students, faculty, and staff place biodiversity in their overall campus values.

Objective: To be able to describe if and how biodiversity affects campus recruitment and retention, we aim to:

- Understand what students, staff, and faculty value about campus;
- Gauge to what extent biodiversity fits into broader campus values;
- Understand if and how biodiversity influences decision to live, work, and study at UBC;
- Explore how biodiversity values have changed since attending UBC (i.e., recruitment versus retention)

Primary Research Questions

1. What values inform a student's decision to attend and remain at UBC?

Secondary Research Question

2. To what degree are greenspaces prioritized in the decision-making process?
3. What differences are observed between the criteria for recruitment and retention?
4. How do UBC students characterize and define greenspaces on campus?

Required Materials

Printed demographic surveys	Printed 10 to 12 photos of outdoor spaces**	Name tags	Presentation board to pin up photos
Blue Tac or Painting Tape	Recording device	Moveable Table and Chairs	Multi-colored Pens and Paper
Black markers	Two colors of sticky notes		

*we will provide

SECTION 1: WARM UP [10 minutes]

Have short demographic survey on table for participants to fill out when they arrive in the room, along with papers for exercises 2 & 3. Make sure each package is numbered along with the number for the workshop

[FACILITATOR]: Thank you for participating in this focus group. We are a group of Masters Students in the School of Community and Regional Planning, and as part of a Qualitative Research Methods Class, we have partnered with the UBC SEEDS Sustainability Program to undertake a research project. We're

PLAN 522 - Biodiversity

Lexi, Sarah, Stephanie, Cassidy, Pablo, Spencer, Anika, Helen, Tori, Dawn, Yette

interested in understanding what factors may have influenced your decision to come to UBC, and what you enjoy about campus.

The focus group should take about 1.5 hours, and to thank you for your time and participation we have a \$5 gift card for each of you, which you will receive at the end of the session. If you haven't yet, please take a few minutes to fill in the survey on your chair.

[Also remind them about consent to take their photos by being a part of the study.]

1. **[FACILITATOR]:** I'd like to start us off with a warm-up/icebreaker, and hopefully this will help us better get to know each other around the table. MAP OF THE WORLD exercise - form clusters to answer these questions:

- a. How many people here are Undergraduates? Graduate students? *[Have them organize into two sides of the room]*
 - b. Organize yourselves in a line from the shortest to longest time you have been at UBC. (How many of you are in your first year at UBC? Second or Third? Fourth? More than four?)
 - c. Where did you live before you started school at UBC? *[Have one student be a point of reference and point North, and then the rest will sort themselves out regionally. Then quickly ask them to say where the location they chose is.]*
- *RAISE YOUR HAND EXERCISE*
- d. How many people are International students? Originally from Vancouver/BC? From outside B.C. in Canada?
 - e. What department are you in?

2. When you think of UBC, what words come to mind? What are your impressions?

SECTION 2: CAMPUS RECRUITMENT VALUES [10 minutes]

1. **[FACILITATOR]:** On the table in front of you, you will see a piece of paper and a marker. I want you to think back to the time when you were making a decision about which university to attend. This time in your life may have been a busy and overwhelming time for you. Think back on that time, and that decision. Maybe you talked to your friends and family. Maybe you thought about it by yourself. Now write for a few minutes and see if you can identify all the reasons why you chose UBC. *[Pause while they write.]*

Now circle the **top three** important reasons you think **MOST** contributed to your decision to come to UBC.

- a. *[Give participants 5 minutes to do exercise...Then 5 minutes for report out.]*
 - b. **[FACILITATOR]:** Let's go around the circle. Can you please share with us the list you wrote down and why you made those three choices?
2. **[FACILITATOR]:** Is there anything that anyone else wrote that resonates with you, or you feel was also a strong motivator for you to choose UBC?

SECTION 3: CAMPUS RETENTION VALUES [15 minutes]

1. [FACILITATOR]: Now that you have spent time at UBC as a student, I'm curious to know about what contributes to your overall campus experience. Flip over your paper and write down for a few minutes the reasons why you chose to stay at UBC.

[Give participants 5 minutes to do the exercise.]

Now circle the **three reasons** you think MOST contribute to your experience at UBC.

a. [Give participants 2-3 minutes to do the exercise.]

b. [FACILITATOR]: Let's go around the circle. Can you please share with us the list you wrote down and why you made your three choices?

i. [Be sure to prod – WHY?]

2. [FACILITATOR]: Is there anything that anyone else wrote that resonates with you, or you feel also plays a role in your UBC experience?

3. [IF SOMEONE MENTIONS THEME AROUND GREENSPACES]

a. [FACILITATOR] Let's explore this theme a bit more. What specifically about outdoor spaces/natural areas/greenspaces [*whatever word(s) triggered this questioning*] contribute to your day-to-day experience?

4. [IF NO-ONE MENTIONS THEME AROUND GREENSPACES]

a. [FACILITATOR] I noticed that in all your top choices and in the subsequent discussion, outdoor spaces/natural areas/greenspaces didn't come up at all. Any thoughts as to why this might be?

****IF TIME IS LIMITED, SKIP TO SECTION 4** (ASK QUESTIONS IN INTERVIEW INSTEAD)**

5. [FACILITATOR]: I'm curious whether there's anything that would improve your overall experience at UBC.

a. Is there anything you wish you had known about UBC in advance when you were making your decision to choose a University?

i. [PROD]: How do you wish you had learned about this? Email? Tour? Website?

b. Is there anything that you don't like about campus, or that you think is missing to improve your experience here?

c. Is there anything that you would like to see more of or further strengthened to enhance your experience at UBC?

SECTION 4: PHOTO RANKING ACTIVITY [25 minutes]

1. [FACILITATOR]: When you think of your favorite outdoor spaces on campus, what comes to mind for you?

PHOTO EXERCISE

Set up: Put campus photos up in numerical order on a single wall. Make sure to photograph the arrangement.

1. [FACILITATOR]: To help us dig into this question a bit more, we're going to do a fun interactive activity. These photos are pictures of different outdoor spaces around campus. We kindly ask if you could take your xxx colored sticky note and stand in front of the place on campus that you like best or would prefer to visit/spend time in the most. On the sticky note, write down why you chose that place. This can include any emotions/feelings the place evokes for you. Once you have done so, please place the sticky just below the photograph.

[Give participants 5 minutes to do the exercise.]

a. Prodding questions:

- i. Why did you choose that place?
- ii. Is this a place you visit often?

[Spend 5-7 minutes discussing.]

2. Next, we ask that you take the other set of colored sticky notes (different color) and stand in front of the place on campus that you like least or would be least inclined to visit/spend time in. On the sticky note, write down why you chose that place. You can think about what emotions or feelings you have about it.

[Give participants 5 minutes to do the exercise.]

a. Prodding questions:

- i. Why did you choose that place?
- ii. Is this a place you frequent?
- iii. Is this a place you try to avoid?

[Spend 5-7 minutes discussing.]

3. [FACILITATOR]: To wrap up, we would like to revisit a few of the themes we touched on today to make sure you are able to share any thoughts you have not been able to share yet or have just come to mind.

- a. What else would you like to share with us about your decision to study at UBC?
- b. Any final comments about what makes your experience on campus a positive or negative experience?
- c. Any final comments about outdoor spaces on campus? What do you wish you could see more of? What about it do you like or dislike?

Thank you very much for your participation and great insight today. We have one last thing to ask - if anyone is willing to offer an additional half hour of their time we would love to dig deeper into a few of the things we discussed today. If you are willing, we have another \$5 gift card for you.

SECTION 5: INDIVIDUAL INTERVIEWS [30 minutes]

Participants have been asked to bring a photo of their favourite 'outdoor space' on campus. In the individual interview stage we will explore the aspects of this photo that they value, as well as dig deeper into any interesting themes that came up in the focus group.

[IF PARTICIPANT IS DRAWN TO GREENSPACES]

1. What do you see or like about this picture?
2. What happens or does not happen in this place?
3. You mentioned in the focus group that you really value _____ on campus. In what ways do you primarily use this area? Is it for studying, chatting, do you just enjoy the ambiance?
4. What would ruin this place for you? (Noise, less greenery, more infrastructure...)
5. Can you think of anywhere on campus you would like to see more of these types of places?

[IF PARTICIPANT IS NOT DRAWN TO GREENSPACES]

1. You said that the natural/outdoor areas at UBC do not factor into the reasons you stay at this university. Do you feel the same way about other places such as buildings or indoor spaces like libraries and study areas?
2. Do you feel that the natural/outdoor places on campus could be put to better use? Would additional parking or recreational areas have a bigger impact on your decision to stay at UBC?
3. Is there anything UBC could do to increase your usage or enjoyment of natural/outdoor places on campus?

[IF PARTICIPANT BRINGS PHOTO OF OUTDOOR SPACE, FURTHER QUESTIONS]

1. How does this photo relate to your experience as a student here? What activities do you like to do here?
2. How do you or would you use the place in the photo that you have brought? How has this place impacted your experience at UBC?
3. Is this a place you would show a friend who was interested in applying to UBC?
4. Do you wish you had known about places like this on campus when you were making your decision on which school to attend? What are some ways you would have preferred to learn about this when making your decision (e.g., social media, website, campus tours)?



APPENDIX 2: EXERCISE PHOTOS - EXERCISE PHOTO 1. NITOBÉ GARDEN (BELLAMY, 2010)



APPENDIX 2: EXERCISE PHOTOS - EXERCISE PHOTO 2. MAIN MALL (GREAT RUNS, N.D.)



APPENDIX 2: EXERCISE PHOTOS - EXERCISE PHOTO 3. AQUATIC CENTER(HEATHERBRAE BUILDERS, 2016)



APPENDIX 2: EXERCISE PHOTOS - EXERCISE PHOTO 4. FIRST NATIONS LONGHOUSE (NITEP, N.D.)



APPENDIX 2: EXERCISE PHOTOS - EXERCISE PHOTO 5. LIBRARY GARDEN (UBC DEVELOPMENT AND ALUMNI ENGAGEMENT, N.D.)



APPENDIX 2: EXERCISE PHOTOS - EXERCISE PHOTO 6. AMS "NEST" PLAZA (UBC AMS "NEST" PLAZA, N.D.)



APPENDIX 2: EXERCISE PHOTOS - EXERCISE PHOTO 7. UBC FARM (UBC FARM, N.D.)



APPENDIX 2: EXERCISE PHOTOS - EXERCISE PHOTO 8. MARTHA PIPER CIRCLE (VANCOUVER FOUNTAINS, N.D.)



APPENDIX 2: EXERCISE PHOTOS - EXERCISE PHOTO 9. BUCHANAN COURTYARD (PUBLIC, N.D.)



APPENDIX 2: EXERCISE PHOTOS - EXERCISE PHOTO 10. ROSE GARDEN (UBC CONFERENCES AND ACCOMMODATION, N.D.)

PLAN 522 Codebook

Categories based on Maringe's "University and Course Choice: Implications for Positioning, Recruitment and Marketing."


Category	Code	Subcode Category	Subcodes
People	Alumni and personal contacts		
	Friends, persuasion		
	Gender composition		
	Graduate profiles		
	Social life		
	Tutors credentials		
	Academic facilities		
	Access to healthy food		
	Access to recreation opportunities		
	Campus accommodation		
Campus layout			
Campus life, vibrancy			
Campus size			
Class sizes			
Degree credits			

Place			
	Distance from home		
	Geographic location		
	Outdoor Space on Campus	Functionality	Gathering/Rec/Transitory Places for mental health or recuperation
		Access	(Seasonal, Financial, & Physical accessibility)
			Access to wilderness or nature (on campus)
		Formality/Type	Flowers Grassy Areas
			Learning in the outdoors
			Manicured landscaping
			Outdoor open spaces
			Seasons
			Trees or forests
			Un-manicured landscaping or natural look
			Wildlife
		Design Features	Views
			Uniqueness (spaces and seasonality)
			Campus esthetics
			Campus Safety
	Leisure - Recreation facilities		
	Library resources		

Place	Racial or cultural diversity		
	Residential requirements		
	Student services		
	Transportation		
Price	Availability of financial aid		
	Cost of living		
	Distance from home		
	Effort needed to qualify		
	Fees		
	Flexibility in payment		
	Funding		
	Opportunities sacrificed		
	Transportation		
Programme Factors	Advisor relationship		
	Course structure		
	Courses		
	Degree organisation		
	Field of study		
	Majors		
	Opportunity for post-graduate study		
	Program fit		

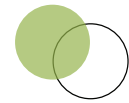
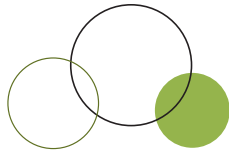
Programme Factors			
	Quality of research program		
	Student support programs		
Prominence			
	Institutional reputation		
	Institutional websites		
	League tables		
	Press reviews by national newspapers		
	Staff reputation		
	Sustainability reputation		
Promotion			
	Advertising in local and national press		
	Electronic media		
	Employed graduates		
	Marketing communications		
	Publicity about academic research		
	Publicity about teaching excellence		
Prospectus			
	Campus visit		
	Career preparation		
	Employment opportunities on campus		

Prospectus				
	Parents or friends preference			
	Programme booklets			
	University prospectus			

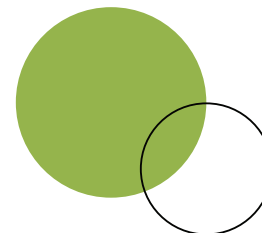
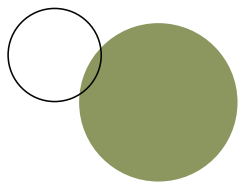


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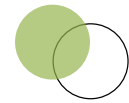
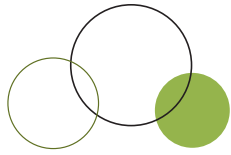




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