

UBC Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

Outdoor Public Spaces for Teaching: An Analysis of UBC

Brjen Rito, Bentley Tse, Christa Yeung

University of British Columbia

GEOG 371

Themes: Community, Land

December 2018

Disclaimer: "UBC SEEDS Sustainability Program provides students with the opportunity to share the findings of their studies, as well as their opinions, conclusions and recommendations with the UBC community. The reader should bear in mind that this is a student research project/report and is not an official document of UBC. Furthermore, readers should bear in mind that these reports may not reflect the current status of activities at UBC. We urge you to contact the research persons mentioned in a report or the SEEDS Sustainability Program representative about the current status of the subject matter of a project/report".

Table of Contents

Executive Summary	2
1. Introduction	3
1.1 Statement of Problem	5
2. Literature Review	7
3. Methodology	14
3.1 Interviews	14
3.2 Content Analysis	17
4. Analysis	19
4.1 Key Themes: Intangible	20
4.2 Key Themes: Physical	21
5. Recommendations for Outdoor Spaces	24
6. Recommendations for Future Research	26
Acknowledgements	28
References	29
Appendix A. Interview Schedule	32
Appendix B. Coding Sheet	33
Appendix C. Email Form Interview	35
Appendix D. Field Notes	36
Appendix E. Map of Outdoor Public Space Teaching Locations	42

Executive Summary

The increasing population of student, staff, and faculty members at universities has placed pressure on planners to densify campuses often at the sacrifice of many outdoor public spaces on campus grounds. Outdoor public spaces serve many purposes, including leisure, and space for social gathering. Studies have been done on the role of outdoor public spaces in teaching, however few studies focus on post-secondary education. Our study looks at the pedagogical role of the University of British Columbia (UBC) Vancouver Campus' outdoor public spaces and seeks to identify the features and characteristics that make them effective for course-based teaching.

Our primary research method was to conduct semi-structured interviews with UBC professors. We obtained our interviewee contacts through a snowball recruitment method, eventually contacting and recruiting twelve instructors across several academic disciplines. Due to time constraints, our study reflects responses from seven professors. Four professors were interviewed in person, two were interviewed through email, and one provided teaching material that we analysed through content analysis. Gathering the data from the interviews, we analyzed responses grouped by general categories to find key themes, paying particular attention to what made different public outdoor spaces effective or ineffective in teaching.

Through our analysis, we found that professors viewed spaces with social, historical, or place-based importance as the most important spaces for teaching. These spaces provided accessible, valuable examples of curriculum concepts and theories for professors to teach to students. Examples of these types of spaces include the Musqueam Pole at the eastern entrance

of campus which serves as a reminder of UBC's relation with the Musqueam people. Second, we found that informality of space was important for creating effective outdoor teaching space. Outdoor public spaces that were informal fostered better discussion atmosphere between the professor and the students, as well as between students themselves. The informality of outdoor space served as a good contrast to the rigid classroom environment.

In terms of physical characteristics of spaces, professors found that proximity to classroom was important. Public outdoor spaces that were more than five minutes away from the classroom were seen as not feasible spaces for teaching. In terms of infrastructure and furniture in outdoor public spaces, professors recommended that seating would be helpful for longer sessions and small rain shelters could be valuable for note-taking. However, too much furniture and infrastructure development could take away from the informality of the space that professors desire in these outdoor teaching spaces.

In conclusion, we believe that outdoor public spaces at UBC are important teaching spaces for professors. We found over 30 outdoor public spaces and green spaces that were identified by professors as important teaching spaces across campus. Through our semi-structured interviews, we found that professors value the intangible aspects of outdoor spaces, and thus any upgrade and development on infrastructure to these outdoor public spaces and green spaces must be done sensitively to protect and highlight this. As such, universities like UBC should be prioritizing the protection of outdoor public spaces over densification.

1. Introduction

With the growing population of students at UBC, there has been rapid densification and increased construction of residential and institutional buildings on the academic campus within

the last decade. This densification sacrifices many outdoor public spaces, open green spaces, and mature trees on campus every year as new developments arise on campus. 2008 to 2012 saw the construction of The Nest which replaced spaces along university boulevard in order to construct a new indoor space “for students to gather, eat, study, and socialize” (Welcome To The Nest, n.d). The construction of Orchard Commons from 2014 to 2016 replaced major green space along Agronomy Road in order to satisfy the need for more on campus student housing. Most recently, a new 11,000 square foot Arts Student Centre received UBC Board of Governor approval to be constructed in the oak Bosque, a major green space on the north campus, and could considerably transform this outdoor public space (Campus and Community Planning, n.d). What effects could this loss of green space have on the university community? Outdoor public spaces and green spaces in particular, are an integral part of faculty and student’s daily interactions with the university, and are also increasingly becoming extensions for classroom learning. How and where densification occurs, and what informs the choice for and against densification could pose major impacts on the teaching and learning functions for UBC faculty and students.

1.1 Statement of Problem

Despite this overwhelming importance of green spaces at UBC and other university campuses, the impacts and uses of outdoor public spaces for course-based teaching and learning is an understudied topic. Within the UBC Vancouver Campus, our study investigates how outdoor public spaces serve as important informal learning spaces for postsecondary education instructors. For the purpose of our study, we define Informal learning spaces as any space outside the regular classroom that instructors can teach in and students can use to learn. Through this inquiry, we map locations of outdoor public spaces at UBC which are being used for teaching, and examine the types of activities and pedagogical effectiveness for delivering course subject matter and enabling student learning. By building an understanding of the features and environmental characteristics in public outdoor spaces that are used by instructors, our study provides recommendations to improve the design of UBC's public realm for teaching and learning. For the purpose of this study, we align our definition of outdoor public spaces on the academic campus with the UBC Public Realm Plan, which define outdoor public spaces as “outdoor spaces between buildings shared by the university community of students, faculty, staff, alumni and the broader community... comprised of everything from courtyards, pathways and student displays, to street furniture and public art.” (UBC Campus and Community Planning, 2009, p. 4).”

The 2014 UBC Vancouver Campus Plan maintains that the campus is an “educational resource” and that planning and managing open spaces to facilitate teaching, education, and research is an important strategic focus for the university (UBC Campus and Community Planning, 2014, p. 9). Our study contributes to this strategic focus by assessing the current instructional uses of outdoor public spaces and fills in an important knowledge gap that can help

bridge the campus planning and design intentions with instructors' needs. As the first UBC study to understand this issue, we hope to catalyse greater awareness and dialogue of the teaching and learning value of public outdoor spaces so that planning for existing and future spaces can better facilitate teaching and learning.

2. Literature Review

Teaching and learning at post-secondary institutions in the 21st century is rapidly evolving and is no longer confined to the traditional lecture hall or classroom. This is the subject of a growing body of higher education literature examining the development of “informal learning spaces” as a pedagogical approach and design strategy. At present time, there is no finite definition or consensus on what makes up an informal learning space, however, in the most broad sense, Brown (2003) argues that they can be any space outside of the classroom used for learning. Drawing on a wide range of literature, Walton & Mathews (2017) elaborate that informal learning spaces are also generally non-discipline specific, spaces outside of the classroom where students and teachers can engage in individual or collaborative course-related activities such as reading, assignments, and group projects. Our research adopts both definitions, and aims to contribute to understandings of outdoor public spaces at UBC as informal learning spaces.

Some commonly discussed examples of informal learning spaces on campuses are open lounges and libraries as they allow for flexibility in individual or group uses, and promote creative learner-centred pedagogies, in which students take an active role in collaborating with each other to engage with and deliver the course subject matter often without instructors (Martin & Broadly, 2017). At the core of constructing quality indoor informal learning spaces in post-secondary institutions is the acknowledgement by architects and designers that such spaces are not only designed to accommodate a variety of student learning needs, but that they must be able to adapt and evolve as learning is a “social process requiring active engagement” with others and the built environment (Cunningham & Walton qtd. In Walton & Mathews, 2017, p. 4; Doshi, Kumar, & Whitmer, 2014; Martin & Broadly, 2017). In all, this growing body of research on the

use and design of indoor informal learning spaces illustrates how post-secondary learning occurs everywhere and anywhere beyond the classroom. Still, there has yet to be substantial research on how outdoor public spaces and green spaces on campus are also used as sites for informal teaching and learning.

Green spaces are a vital component of post-secondary campuses, and research on students' interactions with campus green space has demonstrated a multitude of benefits including reducing stress and mental fatigue, restoring attention between classes (Liprini & Coetzee, 2017). Green spaces can also promote social contact and reduce loneliness, as one study of student perceptions and uses of green spaces at the Liverpool Hope University, England, found that students enjoyed meeting and socializing with friends in landscaped areas adjacent to classrooms (Speake, Edmondson, & Nawaz, 2013). In relation to informal learning, these open and relaxing qualities of nature can also translate to an environment that supports more engaged learning (Walter, 2013). Using the case study of adult learning in an Aboriginal community garden in Vancouver, Walter (2013) describes how outdoor education can strengthen reflection and promote individual and collective dialogue that fosters holistic understandings of course topics.

While there is a robust body of literature examining the teaching uses (Bentsen, Schipperijn, & Jensen, 2013) and efficacy for meeting learning outcomes of outdoor learning (Ives & Obenchain, 2006; James & Williams, 2017) for primary and middle school students, it is unlikely that these studies will translate into the post-secondary teaching and learning context.

For example, much of the outdoor education literature for primary and middle school curriculums are framed through the importance of physical activity, safety and the liabilities that teachers face, and pressure to raise standardized testing scores (Bentsen et al., 2013; Ives &

Obenchain, 2006; James & Williams, 2017). Our study has significant implications on the education and university planning and landscape architecture fields. Through a better understanding of the relationship between teaching and learning and outdoor public spaces, our research can inform the design of future public outdoor and green spaces on campus and strengthen UBC's teaching, learning, and research environments.

Spaces, the performance of space, and the performativity of space are important bodies of literature in the realm of urban and geographical studies. Geographers view space as constantly changing, malleable, and is constantly shaped and being shaped by external social, political, cultural, and economic relations (Gregory, 2009, p. 709). This is Soja's idea of the socio-spatial dialectic where people shape the space they live in and are simultaneously shaped by the space. Space is thus a social product created by those living within it, but people are also constructions of space (Soja, 1980, p. 209-210). This socio-spatial dialectic is present in all spaces, including informal learning spaces and outdoor public spaces. Understanding this socio-spatial dialectic is important to understanding how informal learning spaces are developed and the way space changes to accommodate or facilitate teaching and learning. Further understandings of space and its creation of meaning and power can be seen in the spatialization of the performance and literature on performativity.

Performativity is the process of producing social subjects through performance; performances being the codes of conduct that people follow to govern their behaviour (Gregory, 2009, p. 525-527). Pratt (2004) spatializes Judith Butler's work on performativity, specifically the performativity of gender in her book *Working Feminism*. Pratt describes Butler's theory of performativity as being rooted in the ability to rework the conventions that we are enabled by, while understanding our inability to exist outside discursive conventions (Pratt, 2004, p. 20).

Pratt suggests that norms can be undermined by performances, and that individuals are the product of multiple discourses. These aspatial ways of thinking, Pratt argues, can be spatialized by understanding “that discourses emerge as situated practices in particular places; they are inherently geographical” (2004, p. 20). Performances can therefore be seen as spatially situated; different spaces create different meaning, and space is given meaning by the people that perform in it.

The performance of space is always in conversation with power, specifically the ability for space to include or exclude groups and the power dynamics that enable certain activities to be performed like teaching and learning. The Dictionary of Human Geography argues that “power animates all spatial practices, and that power is always spatialized” (Gregory, 2009, p. 576). The spatialization of power can be seen in Said’s (1994) book on Orientalism where he discusses how spatializing Orientalism, specifically the Orient, presents a space of difference, difference between “our” space and “their”. Understanding power in space is important, particularly for our focus on informal learning spaces and what makes effective outdoor public spaces for teaching. “The possibility of... running a class or seminar in which people can learn... depends upon the deployment of power:... of students and teachers doing work as agreed...” (Gregory, 2009, p. 575), and creating a space that facilitates this power dynamic will be important in creating effective outdoor public spaces for teaching . The performance of power must be present in space, and understanding how power can be used to facilitate teaching and learning and avoid creating spaces of difference will be important in highlighting effective informal learning spaces.

Current literature on spaces, the performance of space and the performativity of space does not address spaces of education, specifically postsecondary education spaces such as

colleges or universities. Our research aims to develop and understanding of performance and performativity of outdoor public space for informal learning. Our focus with regards to the performativity of space is on how the performance of teaching and learning by instructors and students is spatialized in outdoor public spaces, and what the value of this performance has on postsecondary education. We will further study the performativity of outdoor learning spaces, focusing on the characteristics that allow outdoor spaces to become space for learning through performance. Understanding how learning spaces are performed or facilitate performance, and the socio-spatial dialectic of spaces will be key to understanding what effective outdoor informal learning spaces are.

Public spaces in cities are major topics in geography and sociology literature. While the term public spaces has been defined a multitude of times, Ray Hutchison states that “public spaces are produced by, and continually reproduce, a set concrete social and spatial relations particular to a given city, metropolitan region, or larger society” (2016, p.2). Within this definition, it is important to highlight that the public or private ownership of public spaces embeds particular social and spatial relations within cities that affect the frequency of visits (Karacor, 2012). In their study, Karacor argues that the total amount of visitors of the space increases when under private ownership because the perception of quality in management and security is seen greater than that of a publicly owned space.

Traditionally there is a strict division between what is defined as public and private, however, the Nissen (2008) challenges this division and instead proposes how public spaces have a “hybrid character” that presents both private and public features. The ‘hybrid character’ of public spaces offer the usability and accessibility features of an outdoor public space while still

maintaining the increased functionality, privacy and security of a private space (Nissen, 2008). For UBC, the issue of privatization of public spaces is not necessarily a concern because the spaces provided are intended for the use of the community of students, faculty, and affiliates. Instead, the issue leading to the decline of public spaces is not privatization but densification. In Arnberger's (2012) case study on Vienna, they found that urban regeneration has provided an attractive recreation area for the city, and urban densification around the green space has appeared to have reduced its recreational quality. In particular, interviewees stated that densification has led to overcrowding of their public park and reduced the frequency and duration of their visits, or even caused them to avoid the area entirely (Arnberger, 2012).

However, the effects and uses of public spaces on the smaller scale of a university campus has not been specifically researched. This is an important distinction for our study, as the uses and functions of public spaces within the scale of a city are much different from smaller communities such as the outdoor public and green spaces on UBC's campus. While our research aims to understand the qualities in outdoor public spaces that positively affect learning, we build upon the research of three previous UBC SEEDS projects. These three previous UBC SEEDS projects all focus on public space on the university campus. The first SEEDS project led by Professor Leonora Angeles, in a PLAN 515 class "survey[s] existing outdoor public spaces on the UBC Vancouver campus, by conducting interviews, and making detailed observations about the uses and numbers of users in each space" (Angeles, 2015). The second project highlights the "impact of *accessibility* and its role in the use of outdoor space" (Mendoza, 2016, p.2). Lastly, the third SEEDS project creates an interactive map that shows idyllic qualities for a public space on campus (Fang, 2016). Overall, the SEEDS projects highlight the different potentials and underused qualities of UBC's outdoor public spaces. The current literature on public spaces in

cities and the SEEDS projects on UBC's public space both illuminate the social relations and various uses of public spaces. However, in our study of UBC's campus, we will focus on the specific relationship between instructor's teaching uses and how they shape outdoor public spaces for student learning.

3. Methodology

As our research aims to identify which qualities of outdoor public space serve informal learning pedagogies for instructors, our primary research method included semi-structured interviews with UBC professors. Through individual interviews, we were able to gather a detailed and rich understanding of the teaching motivations, activities, and tangible and intangible qualities that professors used in their classes. While a total of twelve instructors across several academic disciplines were recruited for interviews, due to time constraints, our study only reflects responses from seven professors, conducted through in-person interviews, email form interviews, and one content analysis of teaching materials.

3.1 Interviews

Our initial search for instructor participants to share their experiences of teaching in outdoor public spaces included five professors across the disciplines of Education, Geography (Faculty of Arts), Food, Nutrition, and Health (Faculty of Land and Food Systems), Forestry and Conservation Science (Faculty of Forestry), and Urban Forestry (Faculty of Forestry) recommended by our SEEDS partners. All participants were emailed and if they declined to interview, they were encouraged to recommend other instructors who had previous experience with or shown interest in teaching in outdoor public spaces. As we learned early on that there was no central program or pedagogical initiative connecting campus outdoor learning, this method of snowball recruitment allowed us to access a network of instructors who had a demonstrated knowledge of teaching in outdoor public spaces.

Each interview was approximately thirty minutes to one hour long, and followed a casual conversational format with two researchers, one to primarily ask questions guided by an interview schedule, and another to take notes on important discussion points and locations of

teaching (See Appendix E). We found that having two interviewers present ensured a balance of engaged listening and comprehensive note-taking. This semi-structured interview format was ideal for our study, as it allowed us to reword and clarify questions as well as delve deeper into particular discussions or anecdotes. For example, once we began interviews, we found that professors had different definitions for “informal” and “public” spaces, and asking them about this distinction informed us on how they perceived the built environment in relation to structured classroom environments and outdoor spaces. Due to time constraints, we were only able to interview four professors, Dr. Amy Metcalfe from the Faculty of Education, Dr. Siobhan McPhee from the Department of Geography, Dr. Sara Barron from the Urban Forestry program, and Dr. Cynthia Girling from the Landscape Architecture program (School of Architecture and Landscape Architecture), however, each interview provided a rich account of the effectiveness and challenges of different courses where learning in outdoor public spaces occurred.

After each interview, researchers would debrief on the major themes discussed by professors, what we intuitively found to stand out the most, and what did the professor seem particularly passionate or excited to discuss? As well as whether greater patterns across the locations and effective qualities to outdoor public spaces were emerging. Post-interview debriefs also gave us an opportunity to reflect on our interview schedule questions and evaluate whether they could be rephrased for clarity or if additional questions could be added. For example, while our original set of questions only asks instructors to name particular infrastructure and environmental conditions that are conducive to teaching, we later found that asking instructors additional conceptual questions such as: “Imagine a spectrum of formal to informal spaces. Which do you think is better for teaching?” gathered a more nuanced and comprehensive understanding of their needs for infrastructure and site furniture.

Unfortunately, due to time constraints, not all interviews could be conducted in person, and we conducted two email interviews, with Education professors Dr. Hartley Banack and Dr. Robert VanWynsberghe, using a structured interview form based on our interview schedule (See Appendix C. for email form interview). While the interview form is still mostly open-ended, questions were reworded to be precise, able to be read in one line, and example responses were also included to help professors recall outdoor teaching experiences where relevant. Even so, the responses contrasted with in-person interviews as they lacked a detailed discussion of the course activities, effective qualities and features or challenges of teaching in outdoor public spaces. This could be due to a variety of reasons including the nature of an email form interview being an unsuitable medium to distill complex, multivarious teaching experiences into a few lines of text. As well, while in-person interviews were scheduled in a neutral and comfortable setting in professors' offices, and we received their full attention for at least thirty minutes with opportunities to clarify and expand on questions, email respondents could have been occupied with other duties and unable to give full attention to the interview when writing their answers. Still, these email form responses were valuable in compiling a list of outdoor public spaces on campus used for teaching and verifying common themes.

Once all in-person and email interview responses were collected, we first documented the teaching sites using Google MyMaps (see Appendix E, Fig. 1) and categorized them by the faculty of instructors. Next, responses were compiled in a crude listing of the main categories of answers to compare them against each other (See Appendix B). For example, answers to "why do you use outdoor public spaces for learning?" were sorted into a general group of "social/historical importance of the space" and "suitable learning atmosphere". As we only

interviewed seven professors and their answers were quite diverse, we found that it was not necessary to create more specific codes to sort and quantify types of responses.

3.2 Content Analysis

Our study period was fairly short given the time required to schedule and conduct interviews, and because of this, we were unable to interview one of the instructors and opted to perform a content analysis of the teaching materials they shared with us. Geography professor Dr. Michelle Daigle provided us with an assignment outline, the qeq̓ən: Musqueam House Posts walking tour guide which is available for free by the Morris and Helen Belkin Art Gallery, and the article “From where we stand: unsettling geographical knowledges in the classroom” she published with co-instructor Dr. Juanita Sundberg which reflects on the experience of incorporating decolonial pedagogies to the classroom (Daigle & Sundberg, 2017). The context of UBC, which is situated on unceded, ancestral, traditional territory of the Musqueam people, is critical to learning in outdoor public spaces. As such, while the academic paper that we performed content analysis with did not specifically discuss the experience of teaching the walking tour, we found that it was necessary to include the land-based learning, meaning curriculum and pedagogy which engages in conversations with Indigenous knowledge of the land in a “physical, social and spiritual sense”, used in the course to our study’s scope of teaching in outdoor public spaces (Wildcat et al., 2014, p. II). Codes for our content analysis were developed based on our interview schedule questions and then analyzed through organizational prompts. For example, if “teaching” or “pedagogy” was mentioned, we then examined how was it described in relation to Indigenous knowledge of the land. Content analysis as a research methodology is best used to discover hidden patterns in secondary data, and thus helped us analyze the pedagogical and conceptual relevance of teaching outdoors. However,

unlike an interview, we were only able to analyze what was present in the text, and as such, were unable to discern important logistical details about teaching in the actual space such as the infrastructure needs or challenges of outdoor public spaces.

4. Analysis



Fig. 1. Outdoor Public Space - Content Cloud

Figure 1 shows the common words and phrases used when professors were prompted through our interview to discuss outdoor public spaces for teaching. From these common words and phrases, we created general categories for recurring themes and factors that we considered important (Appendix B). These categories highlighted how professors used outdoor learning spaces for teaching, what teaching activities took place, and the intangible and physical factors that they found effective for teaching. We then compiled a map of locations to show which sites on campus are used by which faculty (Appendix E).

Through our various interviews, we found that professor had varying approaches to outdoor teaching based on the discipline and class focus. For example, Geography and Higher Education Program classes varied between lectures, outdoor discussions or walking tours. Dr. Cynthia Girling, a Landscape Architecture professor, emphasized the importance of the physical aspect of outdoor spaces for site evaluation assignments. While Faculty of Forestry professor Dr. Sara Barron used outdoor spaces not only as an open environment for teaching, but also as an outdoor lab in which they studied environmental topics directly for tree identification. The one

common teaching activity used by all professors interviewed was discussion groups.

Understanding the reasons why discussion groups were the primary outdoor teaching activity, and understanding how other approaches to outdoor teaching such as lectures were used, play an important role in understanding the key themes derived from our codes.

We separated the key themes of our interview responses into two parts, the intangibles and the physical. The intangible themes include social characteristics of outdoor public spaces that professors found important for teaching. With examples including the importance of social context to the space, the level of informality of the space, and the learning atmosphere created by outdoor spaces. The physical themes include the specific physical features, infrastructure and furniture in outdoor public spaces that professors found important for teaching such as seating, lighting, and rain cover.

4.1 Key Themes: Intangible

Through our analysis of the interviews, we found three key intangible themes that were addressed by the professors: first is the social, historical, place-based importance of the space, second is the informality of the space, third is the learning atmosphere. Each play an important role in what professors respondents consider as effective outdoor public space for teaching.

The first intangible theme is the social, historical, place-based importance of the space. This was mentioned by professors in the Geography and Higher Education disciplines as they made explicit connections to the context of the space in teaching activities. For example, professors would visit the Musqueam Post for walking tours or as a spot in a scavenger hunt assignment, because of the crucial history and stories of the Musqueam land which exemplified particular class content. Multiple professors highlighted that a space without social, historical, or contextual importance would not be used as a space for public teaching even if the space was

developed specifically with the intention of hosting classes. For example, the newly constructed Orchard Commons building provides an open green space, public seating for large groups, and is easily accessible. However, professors noted that the space is not used for outdoor teaching very often due to its lack of place-based importance.

The second intangible theme is the informality of space. There was collective agreement amongst professors interviewed that this encouraged more effective outdoor public spaces for teaching. If an indoor classroom serves as the formal learning space, outdoor public spaces, which are open, and allow for more flexible uses, fosters more engaging learning. Outdoor public spaces should be created for more than just teaching, but a space that has too many functions may limit the effectiveness for teaching. This is also inherently true in reverse, if an outdoor public space is too centered around teaching, it may detract from the sites informality and its ability to be used for other purposes.

Thirdly, professors noted the importance of the learning atmosphere created by outdoor public spaces. While the indoor classroom, is bound in rigid, covert rules of when and with who students and instructors are expected to listen and speak to. Each professor stated that they preferred the use of the outdoors for certain activities because it allowed their students to be immersed in learning and gain a sense of ownership and freedom over their own education. The informality of the outdoor space provides students with the opportunity to engage in informal and casual conversation with peers or professors, and in turn, even encourages more free thinking and physical movement.

4.2 Key Themes: Physical

Three key physical themes were identified through our analysis of the interviews. First is the proximity of the space to the classroom. The second is the impact of environment and

weather conditions on the space. Third is the infrastructure and furniture present in the space. Similar to the intangible themes, these physical features and characteristics also play a role in determining whether professors see the space as effecting outdoor public space for teaching.

Firstly, the proximity of the classroom was identified by professors as a crucial factor in determining which outdoor spaces were used due to limited class time. Professors stated that if the site is not accessible within a 5 minute walk then they may consider not having an outdoor lesson at all. The professor need to account for travel time for the students, back and forth between sites, and also the possible classes they may have to get to after. For these reasons, most professors choose to have on campus outdoor public sites that is noticeably closer to their faculty building, or where the indoor class partakes.

The second physical theme we looked at is environmental and weather conditions. When asked on their preference or attitude towards teaching a lesson in an outdoor public space, most professors responded that environmental and weather factors were more of a nuisance than a problem. They adopt the ideology of classes occurring “rain or shine”, that is, no matter what the weather permits, class will still happen. However an important seasonal factor to consider is the amount of daylight available in the day due to the season. Professors stated that they were limited by the prevalence of light sources and mentioned the issue of transportation between sites in the dark as a safety concern. To avoid these obstacles, most professors schedule their outdoor classes in early months of the semester. Lastly, while the classes remain ‘rain or shine’, professors have expressed concern over the type of ground surface at the sites. Outside of the effects of learning, they preferred if the ground types were dryer and less muddy on rainy days.

The final theme we looked at was infrastructure and furniture. When asked if they had any recommendations to improve outdoor public spaces for teaching or what they wished to have

in existing or future sites, public seating was mentioned by most professors. The availability of seating allowed students to rest during longer class sessions or to write notes. However, professors noted that adding too much infrastructure and public furniture would add too much structure to the space, threatening the informality of the space. Lastly, an issue addressed by some professors is the buildings surrounding the open public spaces. Although not applicable to all outdoor spaces, those that are adjacent to buildings have been identified as generating discomfort to the users of the outdoor space. As Dr. Sara Barron described, with buildings looming over a space, the amount of windows and doors facing towards the space gives off the feeling of being observed.

5. Recommendations for Outdoor Spaces

Our analysis reveals several key intangible and tangible features and characteristics of effective outdoor public spaces for teaching. These features and characteristics should be taken into consideration when weighing the opportunities to densify or preserve outdoor public spaces on the UBC campus. Based on the findings from our interviews, we outline a number of actionable recommendations based on the key features and characteristics of effective outdoor public spaces for teaching.

Firstly and arguably most important, is the need to acknowledge and protect public outdoor spaces of social, historical, and place-based importance. These spaces are existing spaces that have been shaped by historical events or hold specific social, cultural, and place-based importance. An example is the Musqueam Pole at the eastern entrance of campus. This site serves as a reminder of the UBC community's relationship with the Musqueam people and contextualized the university in unceded Musqueam territory. Professors use these spaces to teach directly about the history of the space, the knowledge connected to the space, as well as to show the real life significance of concepts learned originally in a classroom setting. We recommend UBC planners, designers, and architects to acknowledge and highlight these existing places of social and historical importance through appropriate signage and maintenance of the space. Signage serves as an indicator for professors and students to see where these places exist across campus. Some of these places of social and historical importance are currently being neglected. Places such as the class trees of 1919-1930 behind the geography building, as pointed out by Dr. Amy Metcalfe during her interview, are relatively unknown and are not maintained as well as they should be. Having signage and proper maintenance of places to highlight the

important stories that they tell like the 1919-1930 class trees is crucial to creating more effective outdoor public spaces for teaching.

Secondly, we recommend that infrastructure such as seating and rain cover should be added to public outdoor spaces, however the implementation of this infrastructure must be non intrusive to the existing space and the protection of the existing landscape should still be of higher priority. Through our study, we found that flexible, movable seating would be desired for longer outdoor lecture style classes, and rain cover is desired for note taking during labs or discussions. However, infrastructure should be sensitively implemented, and planners should be wary when infrastructure begins to intrudes on the natural features of the space.

Finally, we recommend that the protection of existing outdoor public spaces, both the physical and the intangible features, should be prioritized over producing new spaces or adding excessive infrastructure. The physical protection of existing spaces includes the protection and maintenance of trees, plant life, soil, and other natural features of these outdoor spaces. Furthermore, the protection of these natural features can in turn, protect the social aspects of the space. Professors identified the informality of the outdoor public space as a vital component they look for, and protecting existing spaces from over development would preserve this open and informal atmosphere for teaching. Maintaining the informality of the space is crucial for a successful outdoor public space for teaching and thus we recommend that any upgrade and development of infrastructure to these outdoor public spaces and green spaces must be done sensitively.

6. Recommendations for Future Research

Based on the time limitations of our study, there is still much to be explored, and we recommend several areas for future research on the topic of outdoor learning spaces. First, future research can be conducted focusing on more Indigenous studies and land-based learning perspectives. As our research finds that the social, historical, and place-based importance of outdoor space is a vital component of effective outdoor learning and teaching spaces, more interviews with Indigenous studies professors and instructors can further knowledge in this field.

Secondly, while our study was limited by the range of professors and faculties that we interviewed, we recommend that future studies reach out to a greater diversity of disciplines and faculties. Our study covered three professors from the Faculty of Education, two from the Geography department, and one each from the Faculty of Forestry and School of Architecture and Landscape Architecture. Further research should expand interviews to more faculties such as the Faculty of Land and Food Systems, the Faculty of Science, and Sauder School of Business to get a more representative sample of UBC professors. The professors that we interviewed for our study generally came from faculties that had obvious, direct ties with outdoor spaces. For example, professors from Forestry would teach about the trees and plants on campus. Having a study focused on a larger range of faculties and professors, particularly those who do not directly study outdoor elements in their curriculum, will expand our understanding of whether the certain characteristics and features of effective outdoor public spaces that we have identified pertain only to a select few professors and faculties, or whether those characteristics and features are valuable universally.

Third, our study focused on professors as the main teachers in outdoor public space, however, we recommend that future research investigate how other instructors, specifically

teaching assistants (TAs) use outdoor public spaces. From our study, we found that discussions and lab sessions were the main activities that professors engaged students in when using outdoor public spaces for teaching. At UBC, most TAs facilitate discussion and lab sessions for professors, and future research focusing on TAs and their use of outdoor spaces for teaching can add a new perspective to how outdoor public spaces are used for teaching and whether they differ from what we found from professors.

Finally, we recommend further research be done focusing on students' learning in outdoor public spaces. While our study focuses on what makes outdoor public spaces effective for teaching, we cannot confirm whether this translates to effective learning for students. Based on our current study on the effective qualities of outdoor public spaces for teaching, future research could conduct interviews or surveys with students to understand whether the features and characteristics identified by professors match up with student learning perceptions and outcomes.

Acknowledgements

This project was made possible through the help of our research partner, Dean Gregory, Landscape Architect, who first brought the issue of densification on campus to our attention, and our SEEDS coordinator David Gill who supplied interviewee recommendations and much support on our report format. We would also like to thank Dr. Geraldine Pratt, our course instructor, and Teaching Assistant Juliane Collard, for their valuable feedback and suggestions to improve our research methodology design, report writing, and sharing the expertise from their own experience with conducting research studies.

References

- Arnberger, A. (2012). Urban densification and recreational quality of public urban green spaces - A viennese case study. *Sustainability*, 4(4), 703-720.
doi:10.3390/su4040703
- Bentsen P., Schipperijn J., & Jensen F.S. (2013) Green Space as Classroom: Outdoor School Teachers' Use, Preferences and Ecostrategies, *Landscape Research*, 38:5, 561-575,
DOI: 10.1080/01426397.2012.690860
- Bodnar, J. (2015). Reclaiming public space. *Urban Studies*, 52(12), 2090-2104.
doi:10.1177/0042098015583626
- Brown, M. (2005). Learning Spaces. In Oblinger, D., Oblinger, J. L., & Lippincott, J. K (Eds.), *Educating the net generation* (174-194). Boulder, Colorado: EDUCAUSE.
- Cunningham, M. and Walton. G. 2016. Informal learning spaces (ILS) in university libraries and their campuses: A Loughborough University case study. *New Library World*, 117(1/2), 49-62.
- Daigle, M., & Sundberg, J. (2017). From where we stand: Unsettling geographical knowledges in the classroom. *Transactions of the Institute of British Geographers*, 42(3), 338-341.
doi:10.1111/tran.12201
- Doshi, A., Kumar, S., & Whitmer, S. (2014). Does space matter? assessing the undergraduate "lived experience" to enhance learning. *Planning for Higher Education*, 43(1), 1.
- Gregory, D. (2009;2011;). *The dictionary of human geography* (5th;5. Aufl.; ed.). Malden, MA: Blackwell.
- Ives, B., & Obenchain, K. (2006). Experiential education in the classroom and academic outcomes: For those who want it all. *Journal of Experiential Education*, 29(2), 61.

- James, J. K., & Williams, T. (2017). School-based experiential outdoor education: A neglected necessity. *Journal of Experiential Education*, 40(1), 58-71.
doi:10.1177/1053825916676190
- Karacor, E.K. (2016) Public vs. Private: The Evaluation of Different Space Types in Terms of Publicness Dimension. *European Journal of Sustainable Development*, Vol.5, (3).
pg. 51 - 58.
- Liprini, R. M., & Coetzee, N. (2017). The relationship between students' perceptions of the university of Pretoria's on-campus green spaces and attention restoration. *Human Geographies: Journal of Studies and Research in Human Geography*, 11(2), 155-167.
doi:10.5719/hgeo.2017.112
- Martin, R. & Broadly, T. (2017). Building new informal learning spaces: Mini case studies. In Walton, G. & Matthews, G. (Eds.). *Exploring informal learning space in the university: Its place in the digital world* (75-90). New York: Routledge
- Nissen, S. (2008). Urban Transformation From Public and Private Space to Spaces of Hybrid Character. *Sociologický Časopis / Czech Sociological Review*, 44(6), 1129-1149.
- Pratt, G. (2004). *Working feminism*. Philadelphia: Temple University Press.
- Said, E. W. (1994). *Orientalism* (25th anniversary ed.). New York: Vintage Books.
- Salama, A. M. (2009). Design intentions and user responses: Assessing outdoor spaces of Qatar university campus. *Open House International*, 34(1), 82-93.
- Soja, E. W. (1989). *Postmodern geographies: The reassertion of space in critical social theory*. London;New York;: Verso.
- Speake, J., Edmondson, S., & Nawaz, H. (2013). everyday encounters with nature: Students' perceptions and use of university campus green spaces. *Human Geographies*, 7(1),

21-31. doi:10.5719/hgeo.2013.71.21

UBC Campus and Community Planning. Planning Updates for U Boulevard Area. *The University of British Columbia*. Retrieved from:

<https://planning.ubc.ca/vancouver/projects-consultations/consultations-engagement/b-sque-design-vision-and-u-boulevard-area-updates/planning-updates-u-boulevard-area>

UBC Campus and Community Planning. (2009). UBC Public Realm Plan for the Vancouver Campus. University of British Columbia. Retrieved from:

https://planning.ubc.ca/sites/planning.ubc.ca/files/documents/planning-services/policies-plans/PublicRealmPlanFinal_0.pdf

UBC Campus and Community Planning. (2014). The University of British Columbia: Vancouver Campus Plan. University of British Columbia. Retrieved from:

https://planning.ubc.ca/sites/planning.ubc.ca/files/documents/planning-services/policies-plans/VCPUpdate2014_Part1.pdf

Walter, P. (2013). *Greening the net generation: Outdoor adult learning in the digital age*.

Los Angeles: SAGE Publications. doi:10.1177/1045159513499551

Walton, G. & Matthews, G. (2017). *Exploring informal learning space in the university: Its place in the digital world*. New York: Routledge.

Welcome To The Nest. (n.d.). Retrieved November 26, 2018, from

<https://www.ams.ubc.ca/the-nest/>

Wildcat, M., McDonald, M., Irlbacher-Fox, S., Coulthard, G. (2014). Learning from the land: Indigenous land based pedagogy and decolonization. *Decolonization: Indigeneity, Education & Society*, 3(3), I-XV

Appendix A. Interview Schedule

GEOG 371

Public Spaces for Learning Interview Schedule

Interview Introduction:

This study is a partnership with SEEDS. Dean Gregory, Landscape Architect for UBC Campus and Community Planning is our partner.

With the growing population of students at UBC, there has been rather rapid densification and increased construction of residential and institutional buildings on the academic campus within the last decade. These buildings have replaced many green spaces and public outdoor spaces on campus. What effects could this loss of green space have on the university community? Our research project is focused on how outdoor public spaces at UBC can serve as important sites for learning and teaching in courses.

Remind to sign consent form

Questions

1. Do you use outdoor public spaces or green spaces for teaching?
 - a. Yes - see 2.
 - b. No - see 3.
2. Why do you **use** outdoor public spaces or green spaces for teaching?
 - a. Proceed to 4.
3. Why do you **not** use outdoor public spaces or green spaces for teaching?
 - a. **Ask to Expand**
4. Pinpoint outdoor public spaces or green spaces you have used for teaching on this UBC campus map. (If they do a walking route, map it out)
 - a. What class did you teach there?
 - b. What type of teaching did you do there? (ex. Lecture, discussion group, assignment, walking tour)
 - c. Show Google Maps for reference if needed.
5. What environmental features, infrastructure or site characteristics were used for teaching? (ex. Seating is available for students, lighting is good for teaching, rain cover available, noise level is good for speaking etc.)
6. Was teaching in an outdoor public space or green space effective?
 - a. Yes - see 7.
 - b. No - see 8.
7. Why was teaching in an outdoor public space or green space effective?
8. Why was teaching in an outdoor public space or green space **not** effective?
 - a. Proceed to 9.
9. What challenges do you face when teaching in outdoor public spaces or green spaces?
10. What would make teaching in an outdoor public space or green space more effective?
11. What type of infrastructure or site furniture would support your use of outdoor public space or green space for teaching?
12. Imagine a spectrum of formal and informal teaching spaces - which do you think is better for teaching?
13. Is there anything else you would like to share that would be relevant to our study.
14. Do you have another professors in mind that we could interview for our research project?

Appendix B. Coding Sheet

Questions	General Categories	Instructor	Response
Why do you use outdoor public spaces or green spaces for teaching?	Social/Historical/Place-based importance of the space		
	Suitable learning environment		
What class did you teach there?			
What type of teaching did you do there?	Lecture		
	Discussion		
	Assignment		
	Lab		
What environmental features, infrastructure or site characteristics were used for teaching?	Environmental conditions		
	Infrastructure/furniture		
What challenges do you face when teaching in outdoor public spaces or green spaces?	Environmental conditions		
	Infrastructure/furniture		
	Logistical conditions		
What type of infrastructure or site furniture would support your use of outdoor public space or green space for teaching?	Rain cover or canopy		
	Furniture (ex. seating)		
	Signage		
Imagine a spectrum of formal and informal teaching spaces - which do you think is better for teaching?	Prefer informal		
	Prefer formal		

Appendix C. Email Form Interview

Research Strategies in Human Geography (GEOG 371) Public Spaces for Learning Study Interview

With the growing population of students at UBC, there has been rather rapid densification and increased construction of residential and institutional buildings on the academic campus within the last decade. These buildings have replaced many green spaces and public outdoor spaces on campus. What effects could this loss of green space have on the university community? **Our research project focuses on this issue and investigates how outdoor public spaces at UBC can serve as important sites for learning and teaching in courses.**

Before you continue, please ensure you have read the attached consent form and agree to participating in this interview.

1. Do you use outdoor public spaces or green spaces at UBC for teaching? (Yes/No)
 - a. If **YES**, why do you use outdoor public spaces or green spaces at UBC for teaching? (Ex. Gives students fresh air, outdoor space includes important subject matter to class topics)
 - b. If **NO**, why do you **NOT** use outdoor public spaces or green spaces at UBC for teaching? Please proceed to Question 5.

2. Please fill in the following table to describe the course, teaching activity, and location of the outdoor learning experience. If you did an outdoor walking tour, please specify which locations you stopped at.

For reference, here is a map of UBC:

<https://drive.google.com/open?id=15uVANJwtNsEgxniEfQv638rWbAZqkfc&usp=sharing>

Course Name	Teaching Activity	Outdoor location at UBC
EXAMPLE: GEOG 371 Research	Small discussion group. To reflect on	Picnic table and student garden plots in front of Geography building

Strategies in Human Geography	the uses of community gardens.	

3. What environmental features, infrastructure or site characteristics were used for teaching? (ex. Wooden benches were available for students, rain cover from nearby building was available, noise level in area was good for speaking)

4. Was teaching in an outdoor public space or green space effective? (Yes/No)
 - a. If **YES**, why was teaching in an outdoor public space or green space effective?

 - b. If **NO**, why was teaching in an outdoor public space or green space **not** effective?

5. What would make teaching in an outdoor public space or green space more effective? (ex. More rain cover, availability of online resources on which outdoor public spaces can be used for teaching)

6. What type of infrastructure or site furniture would you like to have in outdoor public space or green space for teaching? (ex. More benches, better lighting)

7. Is there anything else you would like to share that would be relevant to our study? If you have any links or pictures from your outdoor learning experience you may add them here.

8. Please list any other professors who you think would be interested in this topic and available for an interview.

Appendix D. Field Notes

Amy Metcalfe Interview Field Notes

Yes use outdoor space

- Topic of study in higher education
 - Easier to teach outside sometimes
 - Historical change, studying

Which spaces do you use

- Musqueam pole
 - Situated knowledge
 - Bookstore → water fountain
- Pole as welcoming to UBC and Musqueam territory
- Communications situated knowledge
- Learning about change, (ie. bus loop change)

Recommended Spaces

- Open lawns right outside classroom door
 - But some spaces too busy
 - Too bright because concrete reflecting
- Patch of grass outdoor
- Proximity to classroom important
- Class trees, first tree: neglected space dumpsters
- Nitobe gardens
- THinking differently in higher education, you need to learn in different spaces
 - Buildings close you off, identify with assumption (ie. Math in math building)
 - Interdisciplinary space
 - flexibility
 - Seasonality

Effective

- Students like moving, considerate for students after class
- Outdoor space complementary to lecture in classroom

Seeing theoretical concepts in the built environment

Ineffective

- Gets dark, needs light
- Outdoor shelter with lighting
- Need to potentially reserve
- Need drier floors/grass areas
- Dry seats

Suggestion

- Temporary shelters for small discussion (~20-30 student capacity)
- Look at historical spaces that had certain infrastructure removed
- Institutional or botanical historical sites could be further developed
 - Ie. WWII turret near MOA, contrast with Nitobe Garden
 - Peace education, juxtaposition of spaces
 - Site of learning/understanding
- Institution/spaces give knowledge
- Student activism stories left untold
- AR?
- Teaching history of the spaces
- On this spot app, walk around with camera, capture before and after of certain spaces
 - Money issue in developing app
 - Place based learning

Cynthia Girling Interview Field Notes

Landscape Architecture

- Design outdoor spaces
- Observational purposes, subject of study

Spaces

- Large range
- Evaluate ecosystem services
 - Totem forest, patient park, beauty museum meadow, main mall, community garden
- Site evaluation, tour with landscapes architect
- Use campus as subject of research

Features

- Seating #1 priority
 - Ie. ponderosa seating for “lecture”
- Rain cover low priority (ie. side of buildings)

Effective

- Practical

Wish could take to thunderbird but no seating

- More spaces like ponderosa
- Variety of spaces

Formal outdoor classroom = bad idea

Tree for shade

Courtyard of MacMillan is currently wasted space

- Could be improved

Multiple Spaces

- Multi-purpose

Change of venue for student

Map of outdoor learning spaces

- Live interactive map

20-24 = max for outdoor space

Douglas Justice (possible contact)

Sara Baron Interview Field Notes

Urban Forestry (180 students)

- 4 classes (5 now)
- On campus
 - Tree ID (look at species of trees, maintenance of specimens important)

Future plan class: Urban forest design, site analysis (forestry → main mall → university boulevard elm tree, nitobe garden)

- Health and wellbeing: compare green spaces (Part of previous class: UFOR 200)
- Capstone studio
- International Students summer course
- Tree ID classes (2)

Diversity of species of trees, spaces, local species

No quiet green space

- Looking for places that aren't heavily used
- Look for space to huddle

Site analysis, some reflective writing, future: drawing exercise

Summer issues: shade is needed

Considerations

- Noise, proximity to classroom
- Types of green space matter
 - Totem forest, Rhododendrons woods

Need for tree canopy

Effectiveness

- Sensory stimulation
- Richer and more casual discussion
- Good break from classroom
- Discuss experiences

Formality is barrier to access

Barriers to access of space

- Road crossing
- Longer session look for seating
- Conflicts with other
- Sensitivity (hopeful garden) (fishbowl effect)

Informal important:

- Formal = exclusive
- Open, not belonging to building
 - Ie. MacMillan courtyard

Orchard Amphitheatre

- Uncomfortable, uninviting

What to have:

- Protect what we have
- Signage
- Historical teachings
- Caring for sites
- Appreciation of trees

Protect Arbutus tree

- Two forests!!!

- Need to learn about rare trees
- Usability of spaces
- Design for usability - for informal student interactions
- Rob guy
- Rhododendrons Forest

Appendix E. Map of Outdoor Public Space Teaching Locations

For interactive Google MyMaps version see:

<https://drive.google.com/open?id=15uVANJwtNsEgxnEfQv638rWbAZqkfr&usp=sharing>

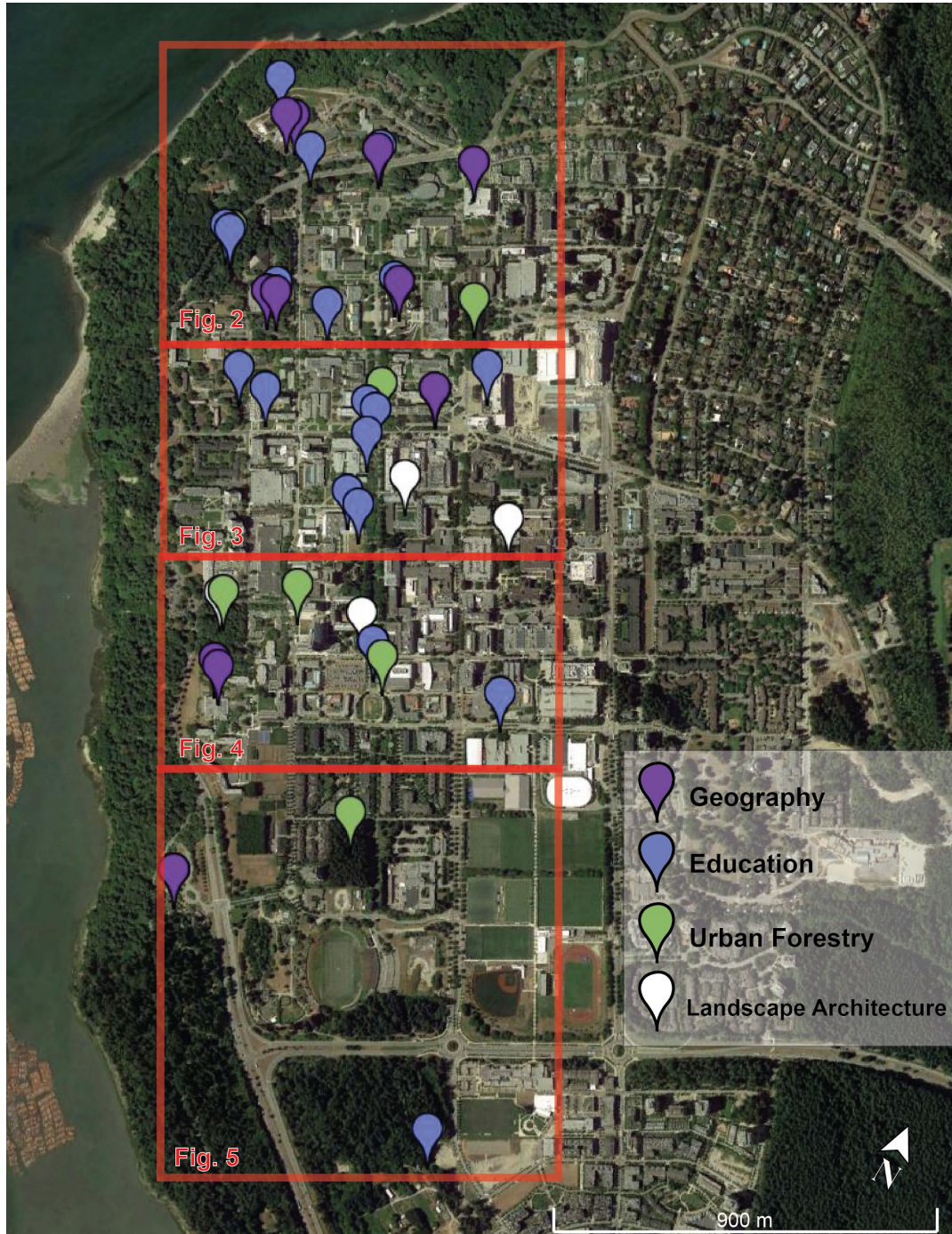


Fig. 2 Map of all outdoor public space teaching locations.

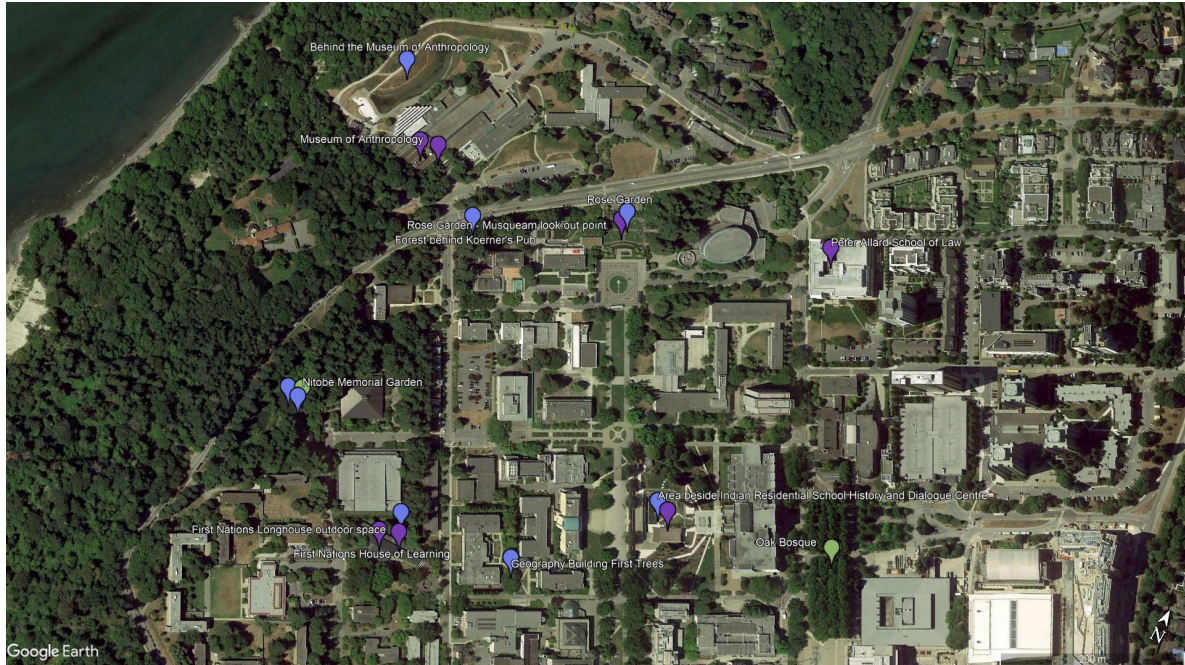


Fig. 3 Map of outdoor public space teaching locations. North campus



Fig. 4 Map of outdoor public space teaching locations. Central campus.



Fig. 5 Map of outdoor public space teaching locations. Southern campus.



Fig. 6 Map of outdoor public space teaching locations. South campus, Stadium neighbourhood.