The Evaluation of Student Use of the Sidney Smith East Learning Commons at the University of Toronto St. George Campus

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Introduction

Our client, Dr. Terri Peters, assigned us the project of determining how students use the East Learning Commons room in the Sidney Smith building, at the University of Toronto, St. George campus. This project was initiated to inform a redesign of the space as part of an overall building renovation. Our research was comprised of observation of student behaviour as well as direct student input. The completion of this project enabled us to understand the primary physical actions permitted by the room – socializing, laptop use, eating and sleeping. This research also enabled us to visualize potential student actions in the room and consider how the space could be improved. Through our research process, we developed an understanding of how the room is relevant to individuals and groups of student use as centrally located, and adaptable to a range of activities.

In completing this research project, we concluded that the space, as it currently exists, allows for individual and group use, and has areas where students prefer to do certain activities such as talking, eating, sleeping and using their laptops. Students mainly used the space as it was open, had seating and tables, and allowed students to talk and socialize. They would change the space by improving on what is already there such as adding more furniture, electrical outlets and more variety in spatial choice. Research could continue to review student usage and engage them.

The Scope

The scope of our research project was grounded in the Living Lab relationship of students, academics, professionals, and how our client directed our research to determine what students are doing in the space and where as defined by the EUAC (Waheed, 2017). As part of this project, we acted directly on the needs of our client, in relation to what the students needed, and offer this research to a real-life project within the University of Toronto.

We took advantage of The Living Lab three core principles- as real sustainability challenges, stakeholder partnerships and formal participation We were given the opportunity to carry out a hands-on practice within the curriculum of a university that allowed us to apply and get professional skills, while applying a classroom guided exercise to a 'real world' relevant project – i.e. evaluate a room for student present and future use. According to EAUC guidelines, we were part of three groups engaging to do this project – we, as students, were to further our education; the academics were to teach and conduct research; and the professionals were to assist education and research activities through administration and operational support. We were directly engaged in relationships between these groups; however, we did not deal directly with 'external stakeholders' as say community partners outside of the university. Within that institutional framework, we were also involved in the Living Lab aspects of interdisciplinary groups of various backgrounds and academic disciplines. We were an group of five students – three undergraduate students in architecture design and environmental studies, one undergraduate in urban studies and environmental studies, and one graduate student social justice education and the university's environment collaborative program. All of these different disciplines resulted in varying skills and insights.

At its core, the research project was about advancing sustainability, as our Client defined social sustainability as a facet of sustainability. She defined social sustainability as a space that supports social connectedness as basic to social sustainability. Social sustainability is people, 'connecting' as talking and socializing. The space in which this occurs has to be 'adaptable and 'flexible, and thus allowing the 'freedom for 'creativity and 'spontaneity'. She also spoke to a space being connected to the outside, in particular "daylight" and "access to nature" (personal communication, 2017).

Furthermore, the scope of this project was also dictated by the design of the space – a selection of prominent student activities, and the time frame of one semester. Dr. Peters asked us to not only observe and compare the physical actions of eating, sleeping, talking, and laptop use, and

where these occurred comparatively in the room, but also obtain student input on the same actions in the areas of the room, insight about how the space enables them to do what they want and suggestions for how the space could be improved.

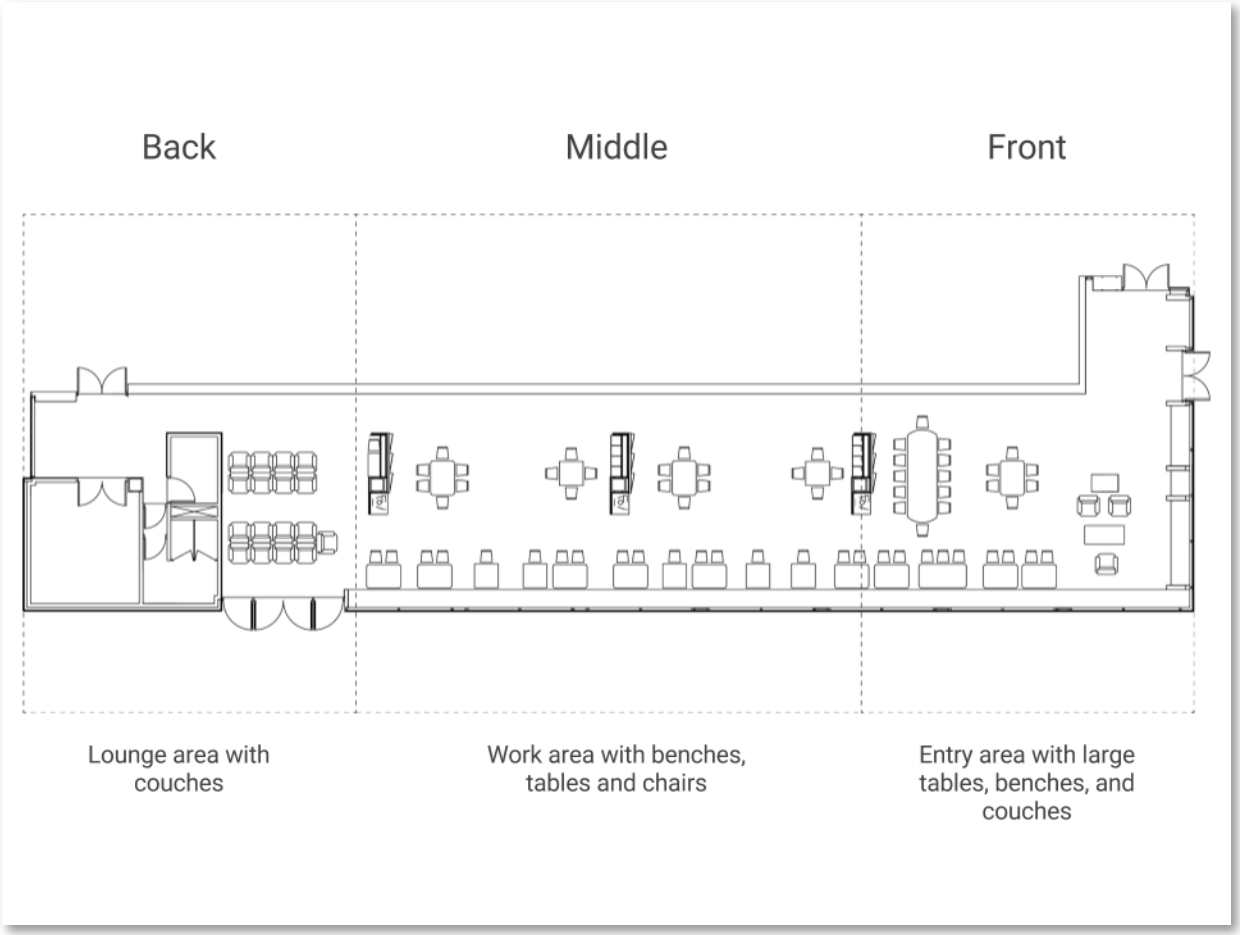
Where is the East Learning Commons?

The highlighted red box is the Sidney Smith Building as seen in a Google Satellite image of the University of Toronto St. George Campus. It is on the west side of St. George Street, between Harbord and Willcocks streets. Here we show the space situated within the neighbourhood, the campus and the urban setting.

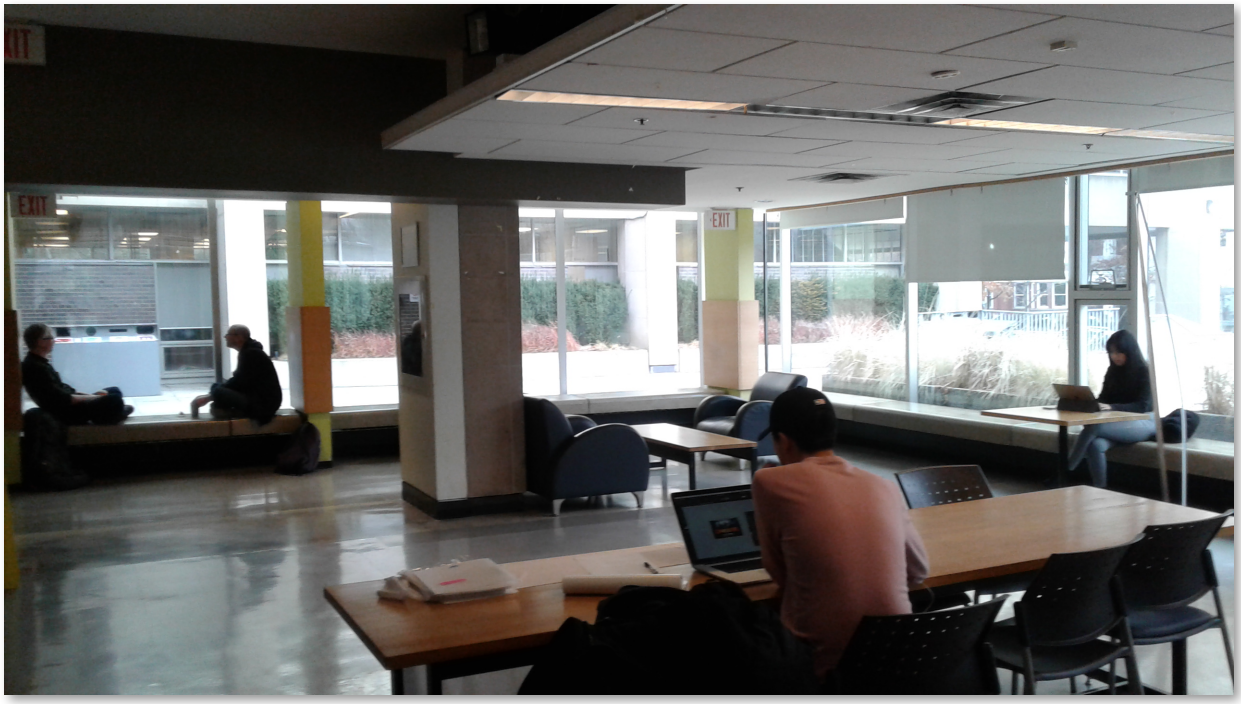
This is a room map of the main floor of Sidney Smith Hall. The highlighted area on the right is the East Learning Commons.

This is the front of Sidney Smith Hall on the west side of St. George Street. Along this length of the street students have access to libraries, residences, food trucks, urban furniture and street trees. The Commons is the room with floor-to-ceiling windows with blinds that allow for natural light. In front of the windows is an outdoor patio with a metal interlaced canopy over tables, chairs and artificial turf.

For the purpose of doing research, we divided the room up into three parts: front, middle and back. Each area was unique in its offerings of furnishings, spatial orientation and proximity to doors.



This is the front of the Commons near the north entrance. It has built in benches along the windows, both with and without tables. The space also has large tables and chairs, armchairs with small low tables and electrical outlets along the window. On the front column by the armchair, was a sign asking students not to move the furniture.



This is the Middle of the Commons. The space is divided up by three wall dividers and has benches with tables, center areas with tables and chairs, and electrical outlets along the window and on the dividing walls. Note the center area is lacking furniture.


ST. MICHAEL'S

This is the back of the Commons near the south entrance. It has four rows of armchairs and one small table and two chairs at an electrical outlet.

Objectives

1) **What are the students currently doing in the space and where?**

Our first objective was to determine the occurrences of our selected activities – eating, sleeping, talking and using laptops – whether they were carried out alone or in a group, and where these activities occurred in the space as defined by the existing furniture. This objective was intended to show us which aspects of the space and types of furniture are currently being used to facilitate certain activities –and was to be done visually and through interaction with the students.

2) **Are there overlaps or discrepancies between observed behaviour and student responses about their use of the space?**

Our second objective was to determine if there were any overlaps or discrepancies between the two methods. If there were discrepancies, we referred to them as a "performance gap." This gap informed us of what we observed was what students actually wanted to do.

3) **What is already working in the space and what can be improved?**

Our final objective was to allow students to speak to how the space enabled their actions and how would they improve on it. These questions would tell us how and why they used the space, and how they would change it if they could. We might then be able to discover what the room offered, failed to offer or could be improved upon.

Methods

As advised by our Client, we conducted our research using a two-pronged approach – behaviour mapping and a student survey. We began our research with behaviour mapping. This method was done to record what students did and where they sat in the space. We followed that with a student survey that had two components to it – a multiple choice section and a open-ended question section. These multiple-choice questions of the student survey informed us what students wanted to do and where they wanted to sit in the space. Both of these methods helped inform our first objective. By comparing the data of both methods, we were able to address our second objective of identifying whether there was a performance gap. Our third objective was informed by the open-ended questions of the student survey which allowed us to determine how the space is already working and what can be improved on.

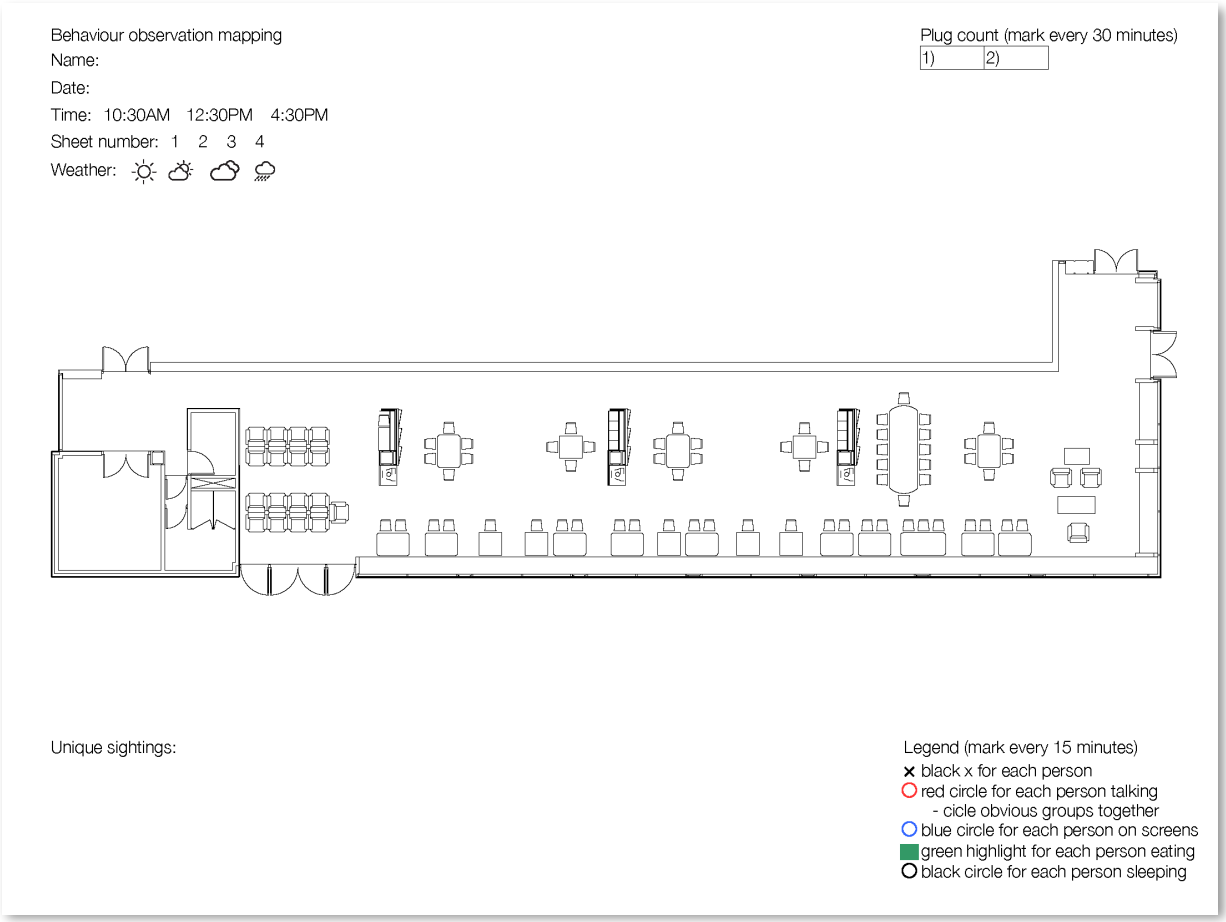
In each of these methods, it is important to note that we counted the number of activities rather than the number of students. If students were doing several activities at once, or said to do more than one thing in the space, we would count the students multiple times.

We then took the number of activities for each category and calculated them as percentages of the total. This allowed us to see the preferred range of activities done by students and where these activities took place in the space. By doing this for both methods, we were able to compare the data more easily in determining if there was a performance gap. Once the research was done we were able to reflect on why these discrepancies occurred – was it the abilities of the room's design to allow for certain activities in certain areas, or did students adapt the room to their needs?

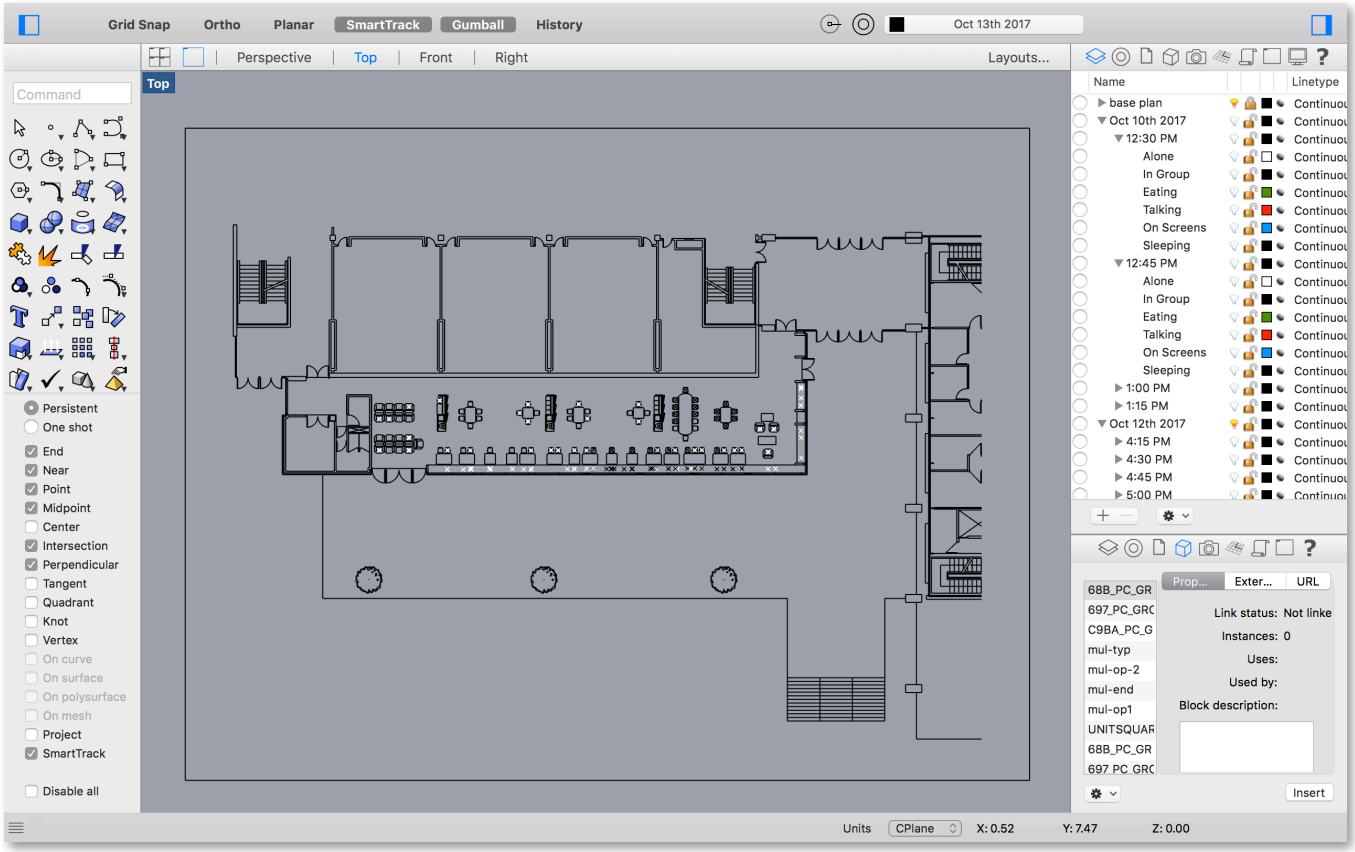
Behaviour Mapping

Our first method was an on-site behaviour mapping of a pre-determined series of actions marked onto a floor plan. It allowed us to carry out our objective of what occurred and where through observation. The activities of talking, eating, laptop use and sleep also gave us a picture of socializing in the room, and how the furnishings assisted use.

Our behaviour mapping research was carried out as a six-day review, each session being one hour and at three different times a day – 10:30 am, 12:30 pm, and 4:30 pm. Actions were marked on a floor plan with different colours to show where they took place and what kind of furniture was used. We also marked on our maps whether people were sitting alone or together, the type of weather that day, the number of electrical outlets in use as well as any unique sightings such as club gatherings.



This is the map that we had used for our behaviour mapping sessions. We had to add in the furniture ourselves so that we could correctly map where students were sitting in the space.



We then took all 24 marked up floor plans and input them into a CAD program called Rhino. This allowed us to compare specific activities on different days and at different times. In total, we had 144 layers to compare.

We kept much of our behaviour mapping data on a map as our Client wanted to keep the data spatial. However, as we wanted more insight as to the quantitative data of the actions observed, we also counted the number of times each activity occurred in which space and inputted the numbers into an Excel sheet. This allowed us to find percentages which would help us more easily compare to those of our student survey.

Student Survey

The student survey was done two weeks following the behaviour study. It took place over one week, three times which each session lasting about one hour. To ensure we had a wide range of input, we completed 46 surveys. We tried to perform our survey during the same time range of daytime usage as the behaviour mapping sessions so we surveyed students during our three chosen behaviour mapping periods – 10:30 AM, 12:30 PM, and 4:30 Pm. Our Client advised us to use a survey method of questions the students could do easily and do it in a short period of time. We asked a total five questions – three multiple choice and two open ended questions.

The multiple-choice questions allowed for comparisons to the behaviour mapping as tallied input. The questions were as followed:

a) **Do you come to this space alone or together?**
   - This question was a yes or no question. It allowed us to compare individuals or groups in the behaviour mapping and gave us a clearer idea of how many came to work in groups. Observing a group wasn't always clear.

b) **How do you use the space?**
   - The multiple-choice answers were identical to the actions observed in our behaviour mapping. These answers allowed us to compare the survey answers to the same set of actions observed in the behavior mapping and helped inform us of a performance gap.

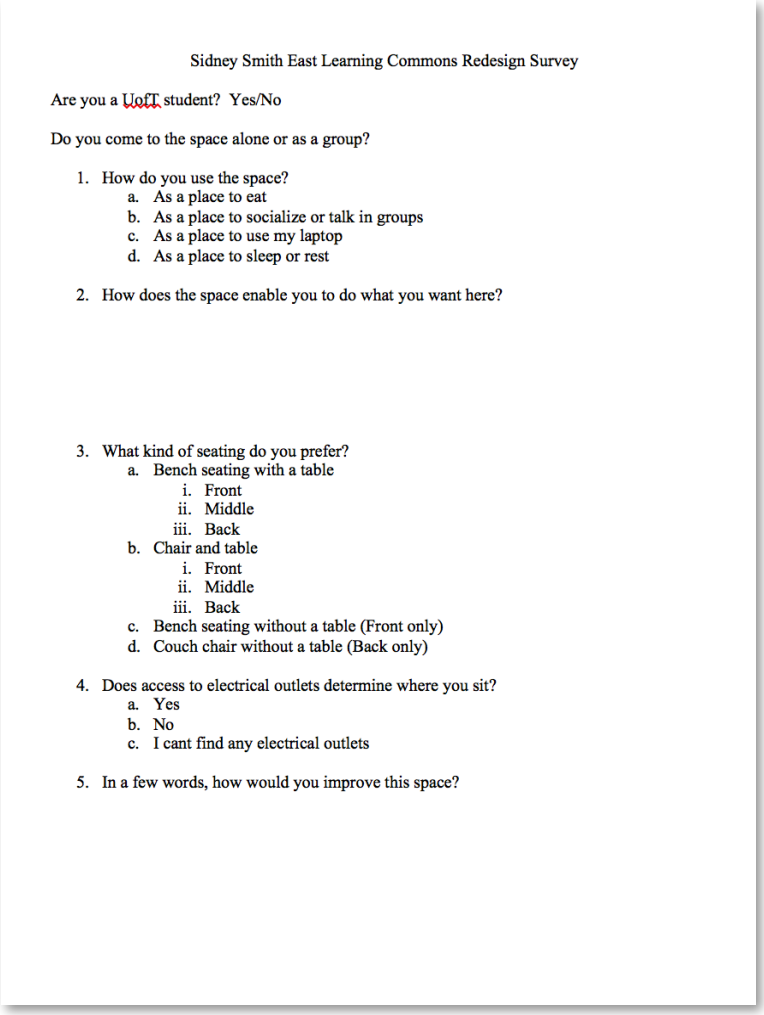
c) **What kinds of seating do you prefer and where in the space do you sit?**
   - The multiple-choice answers referred to the current seating options in the room such as bench seating with a table, bench seating without a table, chairs and tables, and couches without tables. This question informed us of where students want to sit and allowed us to compare the same designated areas in the space as the behaviour mapping.

d) **Does access to electrical outlets influence where you sit?**
   - This yes/no questions helped us understand if outlets guided where students sat and allowed us to compared laptop activities in the behaviour mapping to the survey.

The open-ended questions helped us determine in detail what aspects of the space helped facilitate student actions and how they would change the space. The open-ended questions were as followed:

a) **How does this space enable you to do what you want here?**
   - This question allowed us to determine how the space is already working

b) **In a few words, how would you improve the space?**
   - This question helped us generate suggestions for a redesign of the space



Sidney Smith East Learning Commons Redesign Survey

Are you a UofT student? Yes/No

Do you come to the space alone or as a group?

1. How do you use the space?
   a. As a place to eat
   b. As a place to socialize or talk in groups
   c. As a place to use my laptop
   d. As a place to sleep or rest

2. How does the space enable you to do what you want here?

3. What kind of seating do you prefer?
   a. Bench seating with a table
      i. Front
      ii. Middle
      iii. Back
   b. Chair and table
      i. Front
      ii. Middle
      iii. Back
   c. Bench seating without a table (Front only)
   d. Couch chair without a table (Back only)

4. Does access to electrical outlets determine where you sit?
   a. Yes
   b. No
   c. I cant find any electrical outlets

5. In a few words, how would you improve this space?

Just as we did for the quantitative data of our behaviour mapping, we counted the number of activities in each category and input them into an Excel sheet which allowed us to find percentages that can later be compared with one another in our analysis. As for our qualitative

data, we went through the data and coded each answer to a specific category. This allowed us to interpret the responses more precisely.

Main Findings

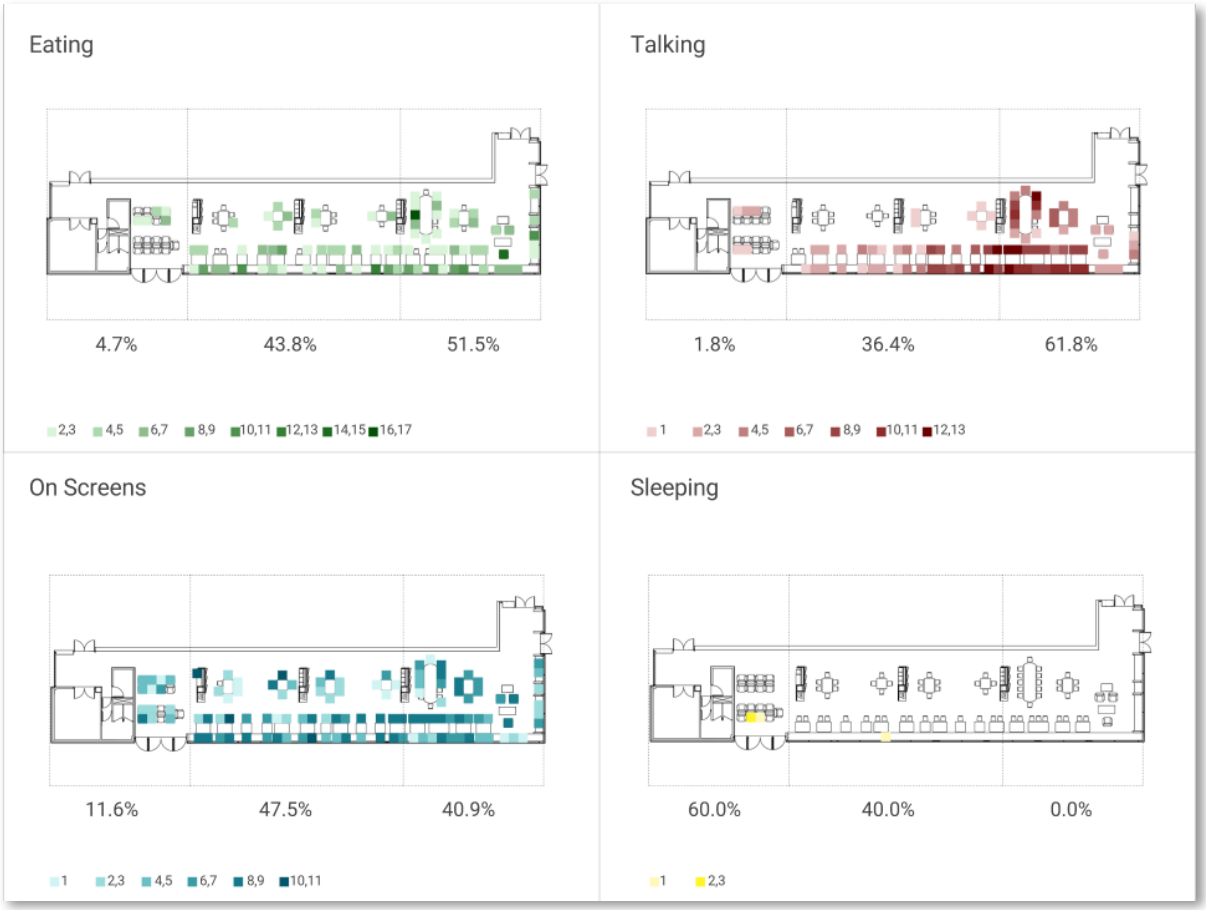
Generally, we saw that students used and preferred certain areas to do certain activities. By comparing our two methods of study, we were able to determine that there was a performance gap in that the behaviour mapping and the survey did not show the same activities and areas as similarly favoured. Although there was not a huge different in the two main activities of talking and using laptops, there were discrepancies in eating, sleeping, and which areas students sat in. We could further speculate as to why we saw these discrepancies in our data. The open-ended survey questions did allow us to expand on what features of the space are preferred and should be improved on.

First Research Finding: Behaviour Mapping and Survey Results

The data collected from both methods showed that students used and prefer to use certain areas of the space for certain activities. This preference showed how the students adapted to the room and how they adapted it to suit their needs

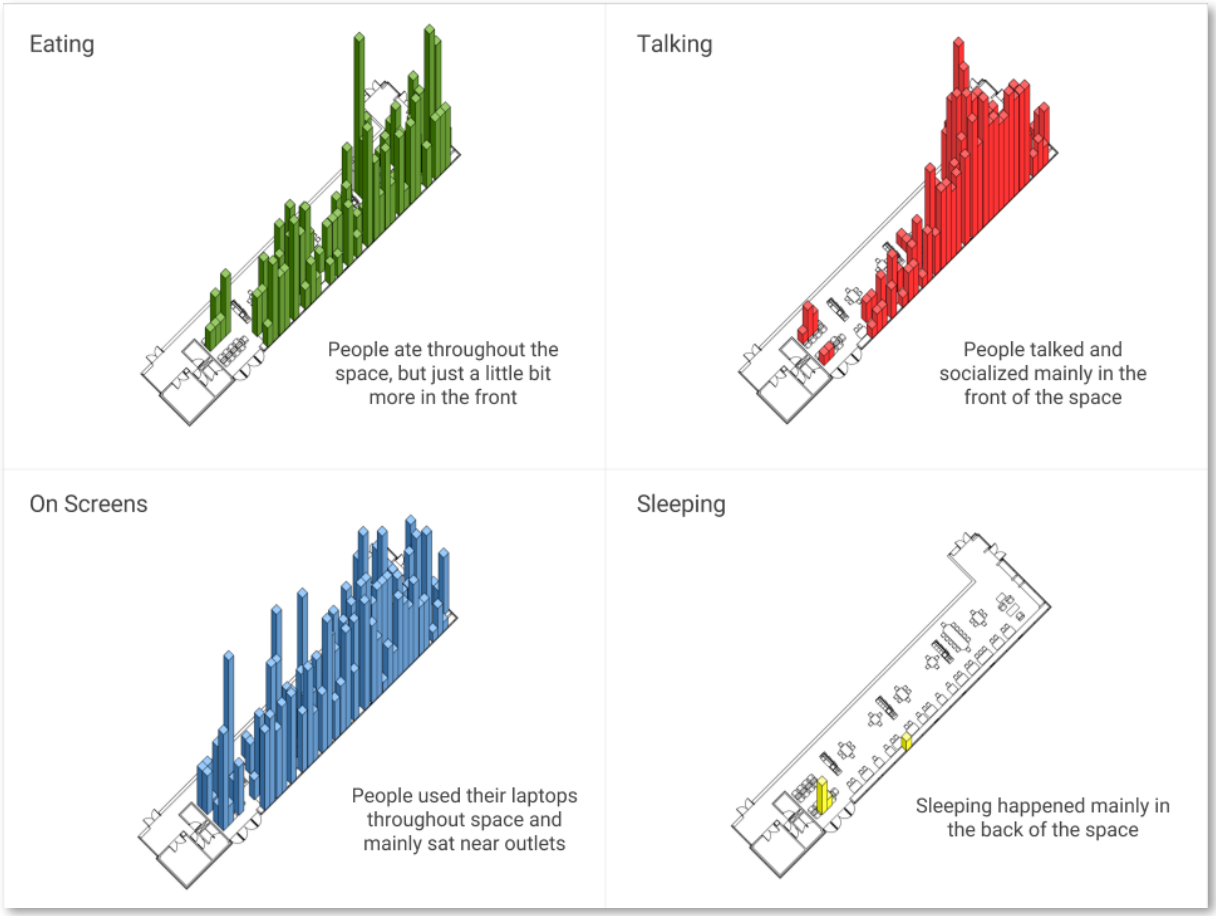
Behaviour Mapping Data

The behaviour mapping data shows that the order of preference for activities is: laptop use, talking, eating and then sleeping. The order of preference of areas where students sat is: front, middle and then back. These observations were shaped by the adaptation of the room generally being used for large group socializing at the front.



This graph shows how many times an activity has been carried out in each area of this space. The

more the activity has been carried, the darker the representative colour is on the specific seat. The percentages show the amounts in which those activities in relation to the other areas of the space.



In order to see patterns more clearly, we took the 2D maps and turned them into 3D graphs. This graph shows the same activities in relation to how often they occurred on a specific seat in the space and is represented in the height of the columns.

Overall, both maps show that:

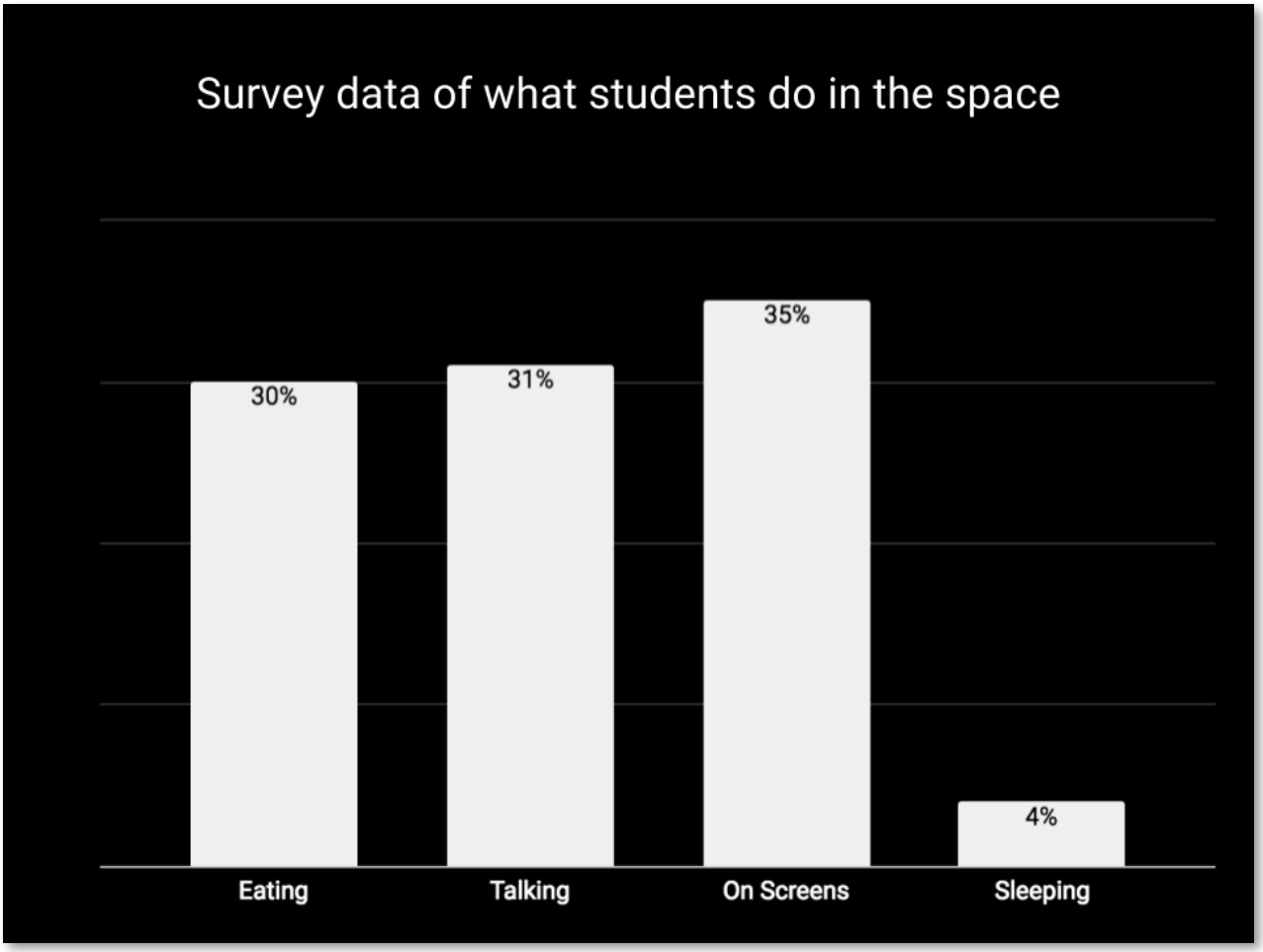
- Socializing took place throughout the space but mainly in the front of the room
- Laptop use was distributed throughout the space with the middle and front being more concentrated
- Eating took place mostly in the front and middle
- Sleeping place mainly at the back of the space

To analyze these findings, we can draw upon our own experience of the space. Socializing took place more in the front of the space because large student clubs usually set up combined tables early in the morning and stayed until the supper hour. Laptop use was relevant to most people; however, we can observe three tall columns in the middle and the back of the space in the on screens diagram. This may be because these three seats are located right beside the divider walls which have electrical outlets. Students sat by these walls despite there being garbage cans by them. Eating occurred mostly near the front. This may be because this area is near the Second Cup in the Sidney Smith Lobby as well as to the front entrance where there are food trucks. Sleeping occurred mainly in the back of the space where there are four rows of comfy armchairs. This area was almost the furthest from the main entrance into the East Learning Commons and was the quietest area. Student use of the space in relation to the environment such as the windows was not specifically recorded; however, some students did move tables to the bench areas in order to sit by the windows.

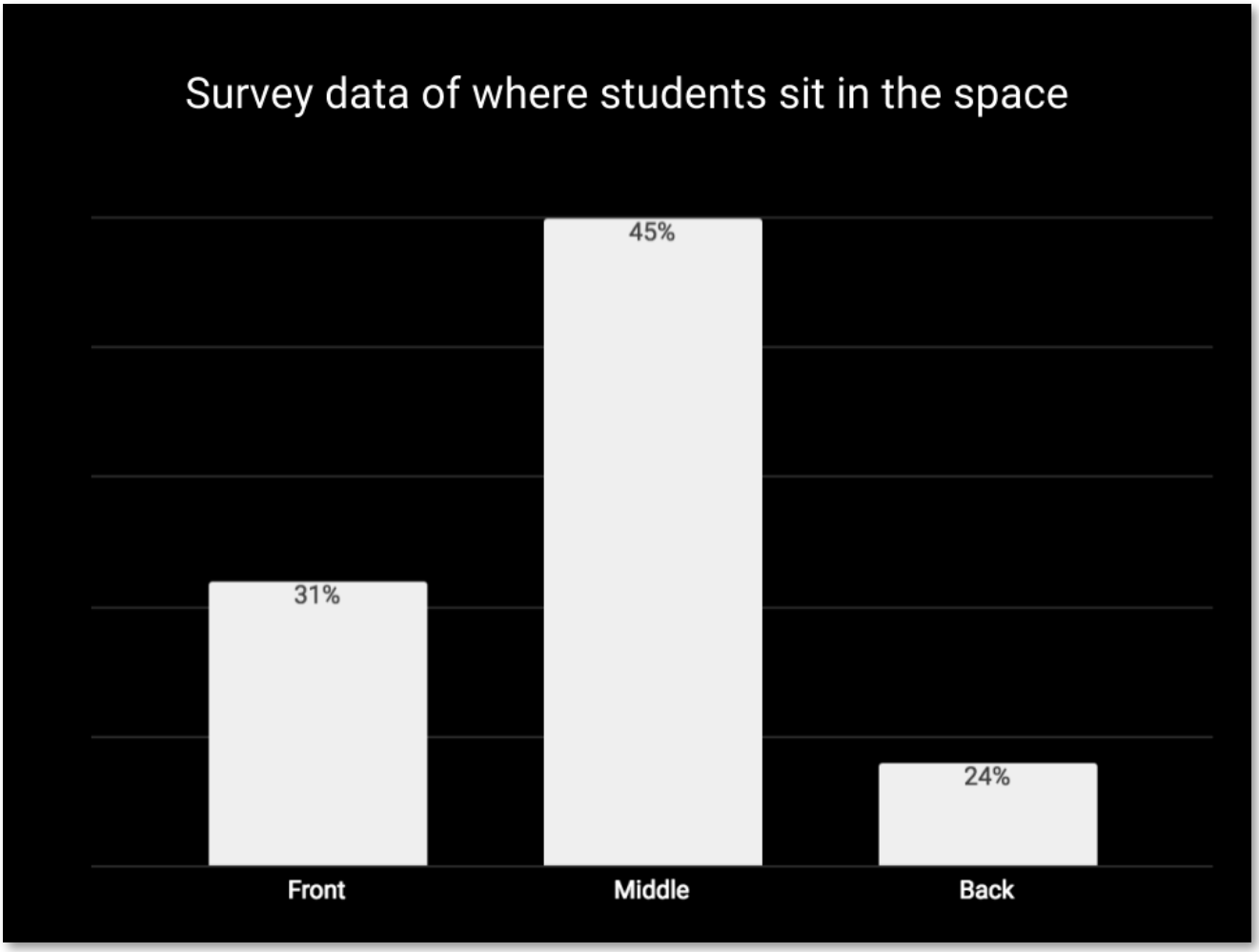
In order to gain a wide range of responses from different students, we conducted our behaviour mapping sessions at different times; however, there weren't any unique patterns other than the space being more populated during the lunch hour. Therefore, we looked at all the data together rather than splitting it up by times. Furthermore, we did take note of what the weather was like during our mapping sessions; however, the weather was consistently sunny so we could not note differences in where people sat in relation to light or temperature.

In terms of unique occurrences, the most important re-occurrence were group formations at the front. This was very prominent in our behaviour mapping and surveys. These were organized student clubs taking over large tables and moving tables to create larger ones. We recorded the names of the clubs to understand which groups needed space. The second unique recurring occurrences were the attempts to enter the back area of the space through the non-operable doors which were always kept locked. We could only guess that the doors were locked as their use would create a large flow of traffic through the designated relaxing space and would let in cold air during the winter. The third unique occurrence was a man who walked through the space soliciting money.

Student Survey Data: Multiple-Choice Questions



This chart shows that students generally report coming to the East Learning Commons wanting to use their laptops the most and sleeping the least

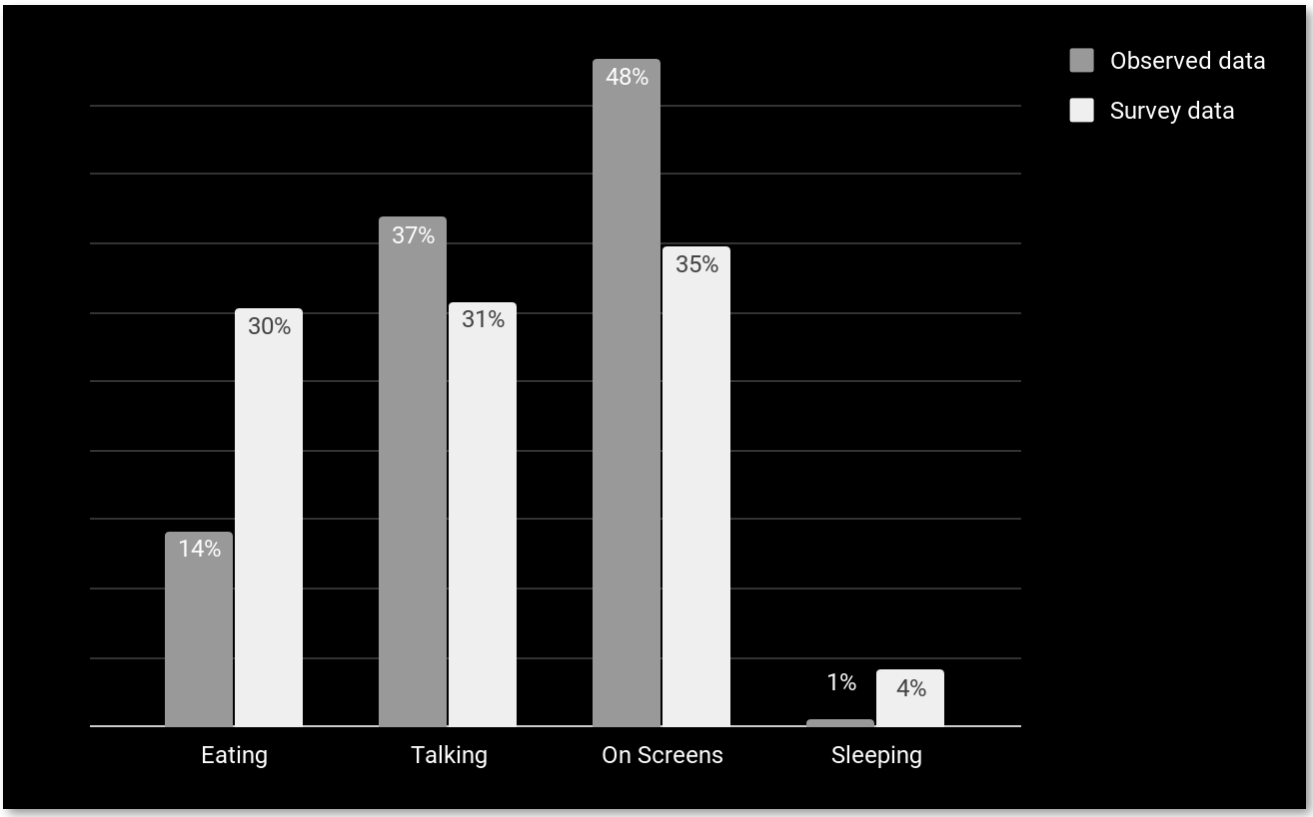


Students reported that they prefer to use the middle area the most. This area does not have a lot of tables and chairs; however, there are long benches and tables which can be pushed together to accommodate larger groups.

We did not use the data from the first multiple choice question about whether they came alone or together as it was too difficult to compare it to behavior mapping – if people were alone or not.

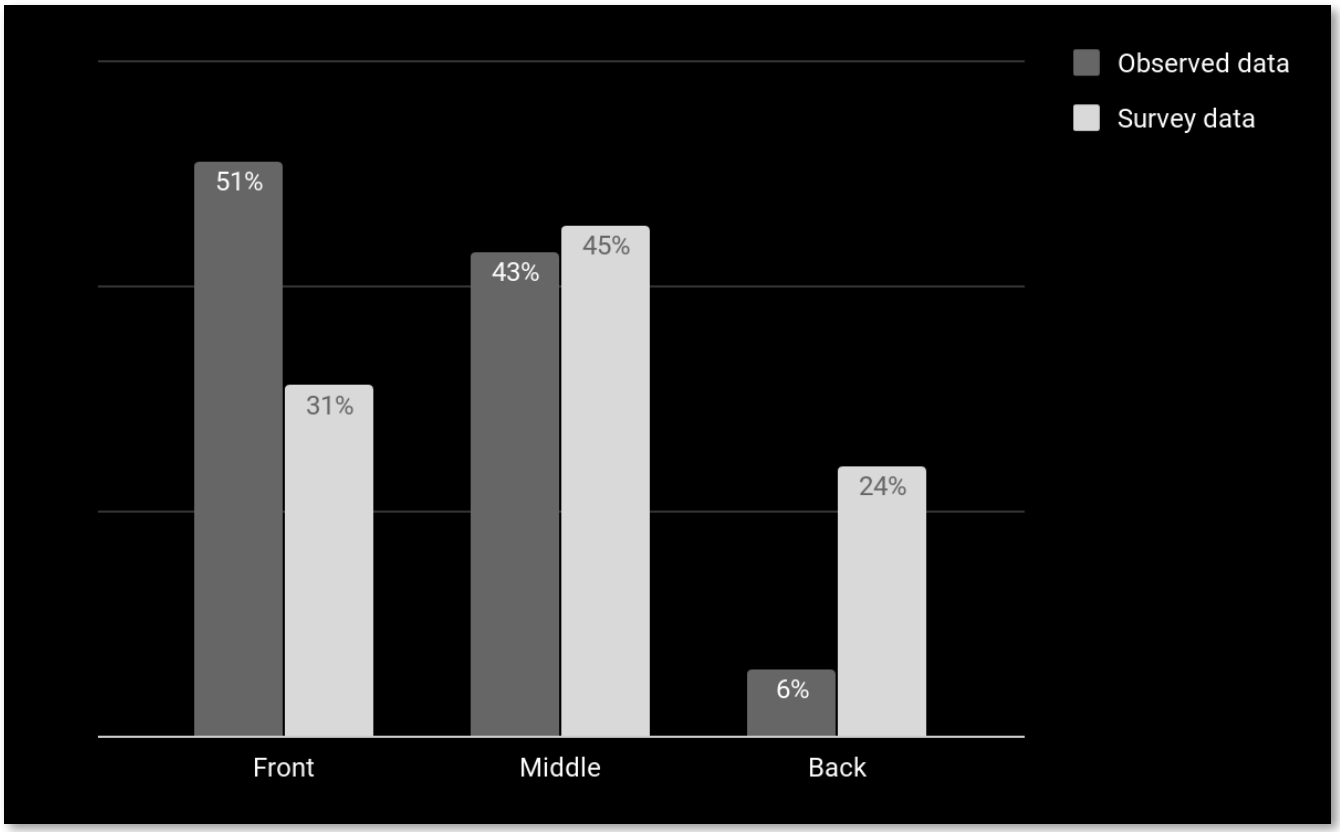
Second Research Finding: Performance Gap

To address our second objective, we compared the results of behaviour mapping and those of our student survey and determined that there were discrepancies, which we called our "performance gap." This gap spoke to the differences between what was observed and is actually occurring in the space, and what was reported and is what students want in the space.



This first graph compares the selected activities that were observed and reported. We can see the activities were prioritized in the same order for both methods. In our behaviour mapping, we observed students using their laptops the most, the talking, then eating, and then sleeping. The same order of activities was reported through our student surveys. From this, we can conclude which activities are more important than others.

However, despite this similar prioritization of activities, there are some discrepancies in percentages for eating and sleeping. We can see that students reported eating more than what we have observed – although we didn't see it during our observation mapping, students had the intention of going to the space to eat. This discrepancy could exist because eating is a short-term activity and we couldn't mark it down on our floor plans. Students also reported sleeping more than what we have observed. This may be due to the times we chose to do our behaviour mapping sessions and that we can't be in the room at all times.



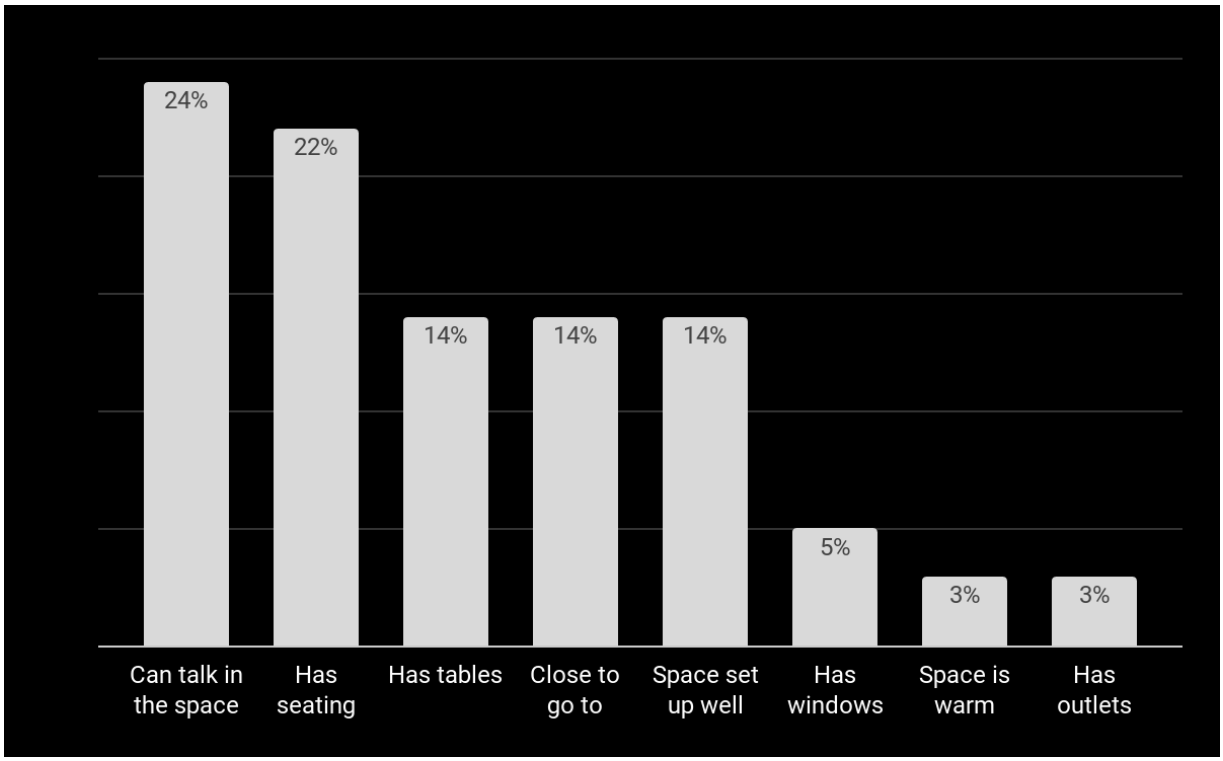
The second graph compares where students sit in the space as observed and reported. We can see that the areas in which students actually sit in do not match with those that students want to sit in. In our behaviour mapping data, we observed that students sat more in the front, then the middle and lastly the back; however, in our student survey data, students reported sitting in the middle the most, then the front, and then lastly the back.

Having experienced the room, we are able to draw upon our experiences and speculate as to why these discrepancies exist. We may have seen more students at the front of the space than what was reported from the students due to our methods. For example, we may have mapped 12 people at the large table in the front area; however, we only surveyed two of the 12 at that table. Also, students preferred sitting at the back more than what we actually observed. This may be because students would like to sit at the comfortable arm chairs to lounge and relax, but actually end up using the tables and chairs to do school work.

Third Research Findings: Open-ended Survey Questions

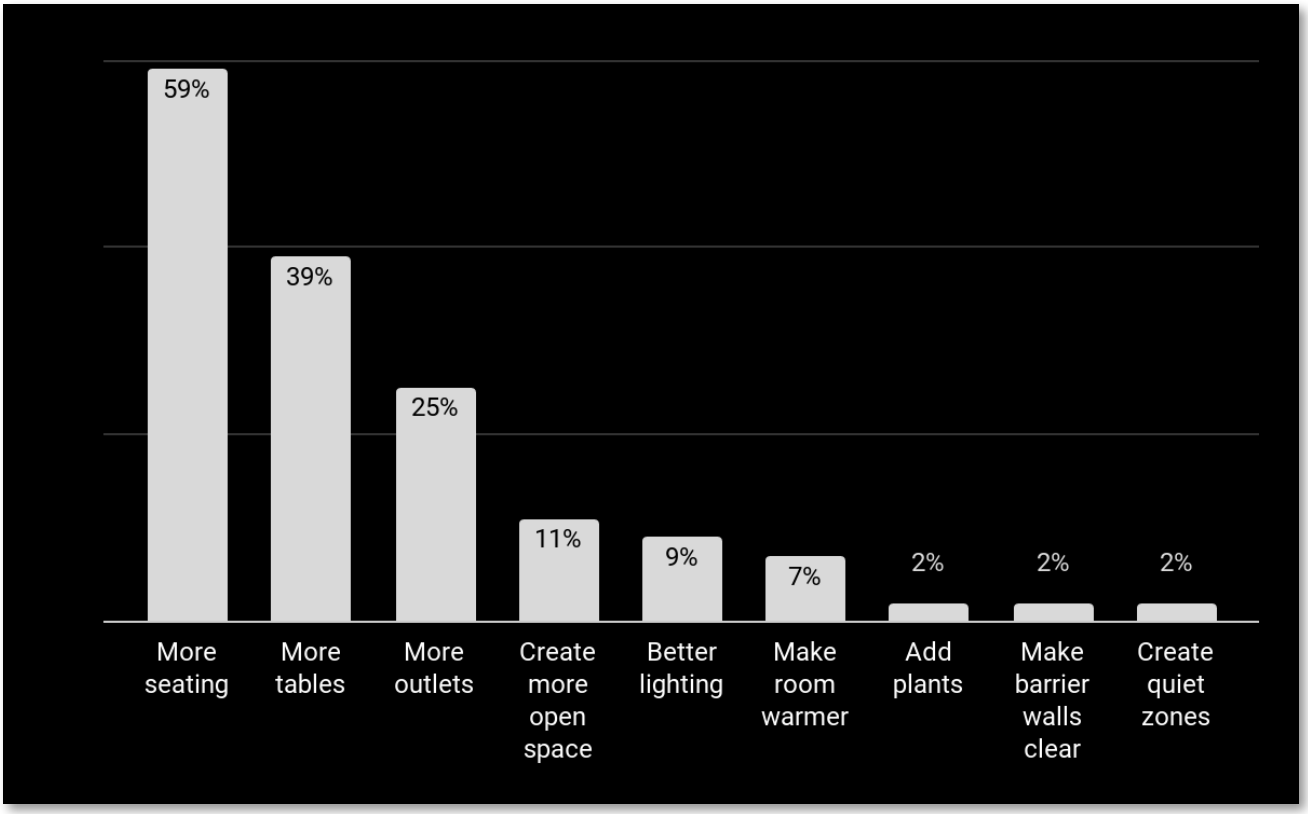
The open-ended questions addressed our third objective of determining what is already working in the room and what can be improved. Students generally spoke to using the space because it has seating, tables and allowed them to talk. They would change the space by improving and adding more of what is already there and making the space more adaptable.

How does this space enable you to do what you want?



Through this chart, we could conclude that many of the students use the space because they can talk in it, it has furnishings to facilitate them, is convenient and they enjoy the space and environment as it is. They like the space because they can talk even though they preferred using laptops most in the multiple choice question. We can only guess that they like or don't mind doing laptop work in a social environment.

How would you improve the space?



When asked for what they want in the space, students reported that they needed more of what is there, such as more tables and chairs, as well as outlets. This again speaks to their need to use laptops. They also were open to redesigning it for more open space, plants and quieter zones.

Main recommendations

This project allowed us to see and hear how the students adapted to and adapted an open space with varying kinds of furniture for activities that were done either alone or in a group. Our findings gave us a detailed understanding of what students are doing in the space and where. We noted that they use their space in relation to the area surrounding the Sidney Smith Building – food trucks, proximity to classes, nature, and a social hub in the centre of campus.

Based on our findings we suggest that the university take into consideration our findings in particular:

- The areas of current usage and how they facilitate certain actions (The front, middle and back areas facilitated certain specific actions, such as large groups seating in the front, laptop use throughout, same with eating, and the back is almost completely reserved for sleeping and relaxing)

- The middle area is lacking in small tables and chairs that have been moved out. This area should be filled with furniture.

- There is a need to acknowledge large groups that socialize together at the front. If students are moving furniture, perhaps new kinds of arrangements for large groups using furniture should be allowed for.

- There is a need for more outlets.

- Generally, the students are interested in varying options of seating in the front and middle section to facilitate eating, laptop use and talking.

- The back area is used for relaxing and privacy. This could be built upon.

- The students are willing to speak to what they are doing in the space and how the space is designed to allow for their actions and its failures or lacks. They should be included in further design options.

Limitations and Trade Offs

The major trade off was between the ability to quickly and simply collect observations and input, and being able to research more detail about changes that might occur during a semester. As noted in the scope of our research, we had only six weeks of a semester to observe the room and conduct the study. There might be seasonal changes to how the space is used as people come in and off the patio when it is cold, or come into the room to warm up.

As regards the collection of data, we had limited options in our multiple choice questions. We were restricted to activities that could be evidently seen and were already known to occur there. Furthermore, with our time constraint, we could not find out the details of what the students were doing – were they studying, or doing personal projects? Also, after analyzing our data and identifying the performance gap, we were not able to determine the reasons why there were discrepancies – we could only speculate. We did not have the time to go back and discuss with the students why they chose certain areas over others and what prevented them from using the space regularly.

Ideas for Future Studies

- Consider more detailed uses than the ones we have studied, such as studying or group work

- Compare with the usage of the West Learning Commons

- Investigate student response to environmental aspects such as light, air and sound

- Investigate the nature of group behaviour in the room

- Consider the various mandates of the university that might be applied to the room design including Indigenous spaces and accessibility of the space. See Appendix I

- Find other methods that allow students to input to the redesign of the room including discussion and mappings of room components for redesign with intervention regarding sustainability

- Consider how the room is situated on campus and in relation to nature and community as a facet of usage

- Investigate other rooms that currently offer open spaces and adaptable use for students, on campus and off. Areas on campus include the graduate room in the Daniels Architecture Building, the Nexus lounge at OISE and areas off-campus include the Centre for Social Innovation buildings on Spadina and Bathurst and the 6th floor at Ryerson University.

- Look at studies that show how room actions and designs have been reviewed using similar methods and how they were redesigned and the context of their use.

- Consider how the room can act towards Living Lab and other curriculum changes for the University including work related to the broader community in the area.

Appendices

Appendix I: University of Toronto mandates regarding Indigenous spaces and Accessibility.

Regarding Indigenous spaces:

While there was a strongly expressed desire for more meaningful dedicated Indigenous spaces on all three campuses, the Committee was also reminded that indigenizing existing spaces is another important way to render University space more accessible and meaningful to our Indigenous community members. Such an effort would also aid in the education of the U of T community as a whole about Indigenous people. There are numerous ways in which such indigenization could occur. One submission received from a faculty member encouraged the University to create a welcome sign on campus in local Indigenous languages, which would "signal traditional territory and raise awareness of diverse languages".

Answering the Call Wecheehetowin Final Report of the Steering Committee for the University of Toronto Response to the Truth and Reconciliation Commission of Canada p. 9
Retrieved 2017 from: http://www.provost.utoronto.ca/Assets/Provost+Digital+Assets/TRC_FinalReport.pdf

University of Toronto Mandate Regarding accessibility:

The University of Toronto quotes the Ontario Human Rights Code, when speaking to 'appropriate accommodation' for students' with disabilities.

Retrieved 2017 from:
http://www.viceprovoststudents.utoronto.ca/publicationsandpolicies/guidelines/academicaccommodation.htm
The Ontario Human Rights Commission's guidelines on accessible education provide the following:

"An appropriate accommodation at the post-secondary level would enable a student to successfully meet the essential requirements of the program, with no alteration in standards or outcomes, although the manner in which the student demonstrates mastery, knowledge and skills may be altered. In this way, education providers are able to provide all students with equal

opportunities to enjoy the same level of benefits and privileges and meet the requirements for acquiring an education without the risk of compromising academic integrity."

Appendix II: Articles relevant to our evaluation of a building assisting social sustainability.

Some of the most important information we got from this review was that the students appreciated the freedom to socialize. T. Dixon's writes in "Putting the S-Word Back into Sustainability" (Dixon, 2016) sets up a measurable set of indicators for social sustainability when designing and continually reassessing for communities. These indicators or actions to facilitate that process of review are valuable to us, as they are applied over time, and to various methods like our mapping and surveys. Our indicators are based in social sustainability are unique and simple as our needs require, such as - 'adaptability', social mixing, sense of place and culture that could be applied in the context of the university participation and broader community. We could suggest that our interest in more exchange with the students ongoing lead in this process.

Dr. Peter's article on the local and design, (Peters, 2015) speaks to the question of integrating of design elements and materials from the local to social sustainability and the community. We can't address the physical elements of the redesign here, but we do know that students are happy in that room as they move in relation to the outdoors, with the windows, the patio, and how it is centralized. Broadening aspects of the local as integration with the community as a university is certainly already there to be supported- such as the student clubs.

A conference report, its authors include Dr. John Robinson, speaks to the unique inhabitants of the green CIRS building at UBC as part of their university sustainable plan. It was to make people into 'inhabitant's as participants in a responsive building that dealt with their physical needs. The building was part of a larger interaction of the university in creating this project. Important to us is the ongoing evaluation set up for the building and its inhabitants and the need for partnerships across the campus as exampled by our interdisciplinary focus.

Further research into literature could focus on the need for ongoing evaluation of what occurs in a space as it exists within a community and physical location and how occupants of a space can continue to input and expand on their participation in its changes and its connection to the broader community in which it resides.

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