I would like to acknowledge the land which we are learning on today is the traditional, ancestral territory of Indigenous peoples, including the Haudenosaunee and the Anishinabeg nations. I acknowledge and thank the diverse Indigenous people whose footsteps have marked this territory on which we now gather.
Agenda

- McGill University context
- Classroom data challenges and why it is complex
- What we have started to do with our data
- Next steps you can take
What messages do these spaces communicate about learning?

Space creates expectations of behavior, suggests how to act, and communicates what is valued.
Choice Architecture

“...any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives.”

Stewardship of Teaching and Learning Spaces at McGill

Teaching and Learning Spaces Working Group (‘06)
University Teaching Labs Working Group (‘09)

Mandate

- A vision for teaching and learning space development
- Standards based on sound pedagogical and technical principles.
- Steward funding for classroom, lab renovations, IT & equipment

Representation

- All Faculties, relevant service units, students: 40+ stakeholders
- Chaired by Teaching and Learning Services

https://www.mcgill.ca/its/spaces
Principles for Designing Teaching and Learning Spaces

1. **Academic challenge**
   - Learning spaces should allow students to actively engage with content and include a range of technologies that support multiple modes of teaching and learning.

2. **Learning with peers**
   - ... should provide features that permit students to work both individually and in collaboration with one another.

3. **Experiences with faculty**
   - ... should facilitate communication and interaction between students and faculty.

4. **Campus environment**
   - ... should be consistent with the university’s culture and priorities as reflected in the campus master plan, follow university design standards, and be designed with future flexibility in mind.

5. **High Impact Practices**
   - ... exist within a larger campus context; there should be an ease of transition between spaces so as to better support high-impact practices inside and outside the classroom.

---

Principles for Designing Teaching and Learning Spaces

http://www.mcgill.ca/tls/spaces/tlswg/principles

| Principle with Faculty (Promoting interaction and communication) | Easy access to all students | Podium doesn’t interfere with sightlines, movement and interaction | Flexible furniture to support different teaching strategies | Screen sharing | Ability to control classroom technologies away from the podium | Sound zones support multiple simultaneous conversations | Appropriate amplification available | Different lighting patterns to support multiple types of teaching tasks | Colours distinguish purposes | [Principle](http://www.mcgill.ca/tls/spaces/tlswg) | [Layout](http://www.mcgill.ca/tls/spaces/tlswg) | [Furniture](http://www.mcgill.ca/tls/spaces/tlswg) | [Tech](http://www.mcgill.ca/tls/spaces/tlswg) | [Acoustics](http://www.mcgill.ca/tls/spaces/tlswg) | [Lighting & Colour](http://www.mcgill.ca/tls/spaces/tlswg) |
Active Learning Classrooms

Active Learning Teaching Labs
Our Successes

500+ spaces improved across the University

$43 M invested in space improvements

1100+ seats created in active learning classrooms & labs

Transforming our campuses’ physical spaces is one of the McGill Principal’s Five Priorities:

“Improving the University’s classrooms and teaching labs by undertaking major renovations and equipment renewal and including ‘active,’ collaborative and innovative teaching environments. This is a continuation of work already being done by Teaching and Learning Spaces working groups.”
Classrooms of many qualities: A fractured student experience

Challenges to Learning Spaces Transformation

- Need to secure financial resources (45%)
- Need for support from institutional leadership (24%)
- Gaining support from faculty (23%)
- Developing a room reservation system that matches spaces to pedagogical needs (23%)
- Aligning learning spaces work with institutional strategic plans (22%)
- Providing professional development and course redesign support for faculty (21%)
- Designing inclusive spaces (21%)
- Finding resources to pilot and prototype new ideas for learning spaces (20%)
- Conducting learning spaces research and assessment (20%)

Source: EDUCAUSE QuickPoll Results: Learning Spaces Transformation, Jenay Robert, Friday, April 1, 2022, EDUCAUSE Research Notes
Classroom data perspectives


Classroom data challenges

**Definition**
- What is a classroom? What types?
- Who decides?

**Roles**
- Who are the stakeholders?
- Who manages the data?

**Access**
- What is the authoritative source? Is there one?
- How to connect the data together?

**Analysis**
- What questions can be answered with the data?
- How is it analyzed and visualized?

**Insights**
- When to act on data?
- Who decides?
Learning Space Data is Distributed

**FACILITIES**
- Data Stewardship
  - Space inventory
  - Space typologies
  - Project reports
  - Architectural plans
  - Classroom sizes
  - Space planning
  - Energy monitoring

**TEACHING & LEARNING**
- Data Stewardship
  - Learning Space Rating System
  - Space typologies
  - Classroom photos
  - Project costs and tracking
  - “Who does innovative teaching in XX classroom?”
  - Use data / classroom research

**REGISTRAR**
- Data Stewardship
  - Course schedule
  - Classroom capacity
  - Room utilization
  - Roomtable (features)
  - Strategic enrolment

**IT/AV**
- Data Stewardship
  - Classroom AV Assets
  - Evergreening schedule
  - Classroom AV Instructions
  - Support tickets
  - Classroom photos

Siloed. Duplication. Singular focus. Need to transition

**Facilities Data Sources**
- Project schedules (Unifier)
- Architectural plans (Unifier)
- Virtual walkthrough (Matterport)
### Registrar Data Sources

**Schedule (Banner)**

**Roomtable (features)**

**Enrolment data**

### IT/AV Data Sources

**ITSM Tickets**

**IT/AV Asset Data**
IT/AV Data Sources

Classroom AV Instructions

IT/AV Data Sources

Classroom AV Instructions

Measuring potential of learning spaces

Download

http://learningspaceratingsystem.org

LSRS Team Members:

- Barbara Brandt, Emory University
- Malcolm Brown, EDUCAUSE Learning Initiative
- Shirley Dugdale, Dugdale Strategy, LLC
- Adam Finkelstein, McGill University
- Richard Holaton, Stanford University
- Julie Johnston, Indiana University
- Crystal Ramsay, Penn State University
- Robert Smith, Stanford University

http://learningspaceratingsystem.org
Learning Space Rating System: Sections

PART A
Campus Context, Planning and Support
1. Integration with Campus Context
2. Planning and Design Process
3. Support and Operations

PART B
Affordances of specific spaces
4. Environmental Quality
5. Layout and Furnishings
6. Technology and Tools
7. Inclusion

Learning Space Rating System: Scoring

<table>
<thead>
<tr>
<th>Room:</th>
<th>150 Arts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit 1.</td>
<td>150 Arts</td>
</tr>
<tr>
<td>Credit 2.</td>
<td>150 Arts</td>
</tr>
<tr>
<td>Credit 3.</td>
<td>150 Arts</td>
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<tr>
<td>Credit 4.</td>
<td>150 Arts</td>
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<tr>
<td>Credit 5.</td>
<td>150 Arts</td>
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<tr>
<td>Credit 6.</td>
<td>150 Arts</td>
</tr>
<tr>
<td>Credit 7.</td>
<td>150 Arts</td>
</tr>
</tbody>
</table>

Credits: 150

Room: Classroom Building

Credit 1. Ambient Comfort
Credit 2. Acoustic Comfort
Credit 3. Lighting
Credit 4. Ventilation
Credit 5. Temperature
Credit 6. Air Quality
Credit 7. Ergonomics

Room: Laboratory

Credit 1. Ambient Comfort
Credit 2. Acoustic Comfort
Credit 3. Lighting
Credit 4. Ventilation
Credit 5. Temperature
Credit 6. Air Quality
Credit 7. Ergonomics

Room: Lecture Hall

Credit 1. Ambient Comfort
Credit 2. Acoustic Comfort
Credit 3. Lighting
Credit 4. Ventilation
Credit 5. Temperature
Credit 6. Air Quality
Credit 7. Ergonomics
Recent Classroom Renovations

Renovated Learning Spaces

Recent Classroom Renovations

Faculty Development

Active Learning Classrooms: Documentary videos

Teaching and Learning Experiences in Active Learning Classrooms at McGill

Teaching and Learning Experiences in Active Learning Classrooms

Watch an Active Learning Experience in Active Learning Classroom

The following four videos provide a more in-depth look into the four scenes highlighted in the video above.

- Everyone is engaged!
- Learning through inquiry and collaboration
- Sharing responsibility for learning
- Learning through experience
Learning Space Data is Distributed

**FACILITIES**
- Data Stewardship
- Classroom AV Assets
- Evergreening schedule
- Classroom photos
- Classroom instructions
- Support tickets
- Classroom photos

**REGISTRAR**
- Course schedule
- Classroom capacity
- Room utilization
- Roomtable (features)
- Strategic enrolment

**TEACHING & LEARNING**
- Data Stewardship
- Learning Space Rating System
- Classroom photos
- Project costs and tracking
- "Who does innovative teaching in XX classroom?" 
- Use data / classroom research

**IT/AV**
- Data Stewardship
- Classroom AV Assets
- Evergreening schedule
- Classroom AV Instructions
- Support tickets
- Classroom photos

**ACADEMICS**
- 36

---

**The Finkelstein Data Grief Cycle**
(adapted from Kubler-Ross)

- Denial
  - Avoidance
  - Confusion
  - Elation
  - Shock
  - Fear
- Anger
  - Frustration
  - Irritation
  - Anxiety
- Depression
  - Overwhelmed
  - Helplessness
  - Hostility
  - Flight
- Bargaining
  - Struggling to find meaning
  - Reaching out to others
  - Telling one's story
- Acceptance
  - Exploring options
  - New plan in place
  - Moving on

Source: Wikimedia Commons
Learning Space Data is Distributed

FACILITIES
Data Stewardship
- Space inventory
- Space typologies
- Project reports
- Architectural plans
- Classroom sizes
- Space planning

REGISTRAR
Data Stewardship
- Course schedule
- Classroom capacity
- Room utilization
- Roomtable (features)
- Strategic enrollment

TEACHING & LEARNING
Data Stewardship
- Learning Space Rating System
- Space typologies
- Classroom photos
- Project costs and tracking
- “Who does innovative teaching in XX classroom?”
- Satisfaction surveys

IT/AV
Data Stewardship
- Classroom AV Assets
- Evergreening schedule
- Classroom AV Instructions
- Support tickets
- Classroom photos

Classroom Fleet Operations Dashboard

<table>
<thead>
<tr>
<th>FACILITIES</th>
<th>REGISTRAR</th>
<th>TEACHING &amp; LEARNING</th>
<th>IT/AV</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>2015</td>
<td>4</td>
<td></td>
</tr>
<tr>
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<td>Yes</td>
<td>Yes</td>
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</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

EQ: 66%
LF: 60%
TT: 80%
Classroom Fleet: Potential to support learning

McGill University - Comparison of Classroom Size for LSRS Sub-scores
Classroom Fleet: Potential to support learning

Classroom Fleet: AV Evergreening Analysis

<table>
<thead>
<tr>
<th>Building and Room</th>
<th>Capacity</th>
<th>M2</th>
<th>Room Utilization %</th>
<th>AV Installation</th>
<th>AV Update</th>
<th>Age of AV in Centrally Scheduled Classrooms (n=275)</th>
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<tbody>
<tr>
<td>BRONF I</td>
<td>67</td>
<td>131.64</td>
<td>103.00</td>
<td>2006</td>
<td>2018</td>
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<td>103.00</td>
<td>2004</td>
<td>2018</td>
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<td>MAASS 112</td>
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<td>202.75</td>
<td>100.00</td>
<td>2007</td>
<td>2017</td>
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<tr>
<td>SH88 2/5</td>
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<td>33.13</td>
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<td>STBIO 51/4</td>
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<td>236.92</td>
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<td>BRONF 2</td>
<td>67</td>
<td>131.5</td>
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<td>2018</td>
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<td>BRONF 422</td>
<td>90</td>
<td>149.98</td>
<td>95.56</td>
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<tr>
<td>BRONF 413</td>
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<td>149.36</td>
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<td>2008</td>
<td>2012</td>
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<td>2006</td>
<td>2012</td>
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<td>SADB M-I</td>
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<td>MCMED 321</td>
<td>126</td>
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<td>2004</td>
<td>2016</td>
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<td>BRONF 240</td>
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<td>114.67</td>
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<td>2005</td>
<td>2021</td>
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<td>2007</td>
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<tr>
<td>STBIO 51/3</td>
<td>140</td>
<td>167.26</td>
<td>91.11</td>
<td>2007</td>
<td>2015</td>
<td></td>
</tr>
</tbody>
</table>

Age of AV in Centrally Scheduled Classrooms (n=275)

<table>
<thead>
<tr>
<th>Quality</th>
<th>Age (years)</th>
<th># of rooms</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to date</td>
<td>0 to 3</td>
<td>90</td>
<td>33%</td>
</tr>
<tr>
<td>Adequate</td>
<td>4 to 6</td>
<td>45</td>
<td>16%</td>
</tr>
<tr>
<td>Dire Need</td>
<td>7+</td>
<td>140</td>
<td>51%</td>
</tr>
</tbody>
</table>

Capacity of AV in "dire" need of upgrade

Number of Classrooms

Capacity

<30  31-75  76-150  151-300  300+

34  62  29  11  2
What did we learn?

- **People**
  - Need leadership, need cooperation, need relationships
  - Clearer roles, responsibility and accountability
  - Academics and operations/admin are often out of sync, data discussions can bring them together

- **Technology**
  - Need better definitions, connections
  - Plenty of disconnected, duplicated, and ugly data
  - Analytic skill gap

- **Process**
  - Start small, go slow, look for questions you can answer
  - You will find out things you likely didn’t want to find out
  - You will find out things you always wanted to know
Where do you start?

- What are my questions?
- What are my data sources?
- How can I connect them?
- How can I best visualize the results?

Thank you!

“Learning environments are access points for changing teaching and learning.”

Adam Finkelstein
Associate Director, Learning Environments
Teaching and Learning Services
McGill University

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