Introduction to the Learning Space Rating System

Applying the Tools to Define Traits

Case Studies

Shirley Dugdale, Dugdale Strategy

How to define traits of the spaces you want to create
Intent

• Provide a way of measuring how the planning, design, and support of learning spaces can encourage active learning

• Enable institutions to examine the effectiveness of their facilities campus-wide

• Enable advocacy for more effective learning spaces with leaders and funders, alignment with academic strategic planning

learningspaceratingsystem.org
Assesses the potential to enable a spectrum of active teaching and learning engagements.
History

- Developed by a core team with the Educause Learning Initiative starting in 2010
- Beta version - 2014
- V1 released - Sept 2015
- V2 – Feb 2017
- International versions: French and Japanese - Nov 2017
- Growing interest and adoption, being tested across campuses
- V3 – in planning stages!

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What’s New with LSRS v2

- Documentation of evidence for award of credit
- Separate scoring for Part A & B
- Removal of space types
- Reference to standards added (e.g. industry standards for environmental quality, acoustics or lighting)
- Added new credits:
  EQ Credit 4.7: Environmental and Cultural Inclusiveness
  EQ Credit 4.8: Accessibility & Universal Design
<table>
<thead>
<tr>
<th>PART A</th>
<th>Campus Context, Planning and Support Considerations</th>
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<tbody>
<tr>
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<td>Integration with Campus Context</td>
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<td>4</td>
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</tbody>
</table>
Section 1 | Integration with Campus Context (ICC)

1.1 Alignment with Campus Academic Strategy
1.2 Learning Space Master Plan
1.3 Compatibility with Technology Strategic Plan
1.4 Commitment to Evidence-Based Research & Assessment
1.5 Campus Leadership for Learning Spaces

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**ICC Credit 1.1: Alignment with Campus Academic Strategy**

**Intent**
To align learning spaces with strategic academic plans or initiatives, including institutional accreditation and accountability activities.

1 point

**Criterion for the point**
Provide evidence of alignment of learning space planning with campus strategic academic plans, major campus academic initiatives, and/or institutional accreditation processes.

**Evidence for this credit**
Provide documentation that demonstrates alignment between the learning space’s design and established, written institutional academic strategies.

**Additional considerations**
- Map learning space planning or design directly to campus academic goals. For example, a team-based space design could be aligned to the goal of increasing student engagement and collaboration skills.
- Weave the learning space design directly into a major campus initiative. An example might be including mobile projection in the space’s design to align with a campus tablet initiative.
- Substantiate the above by describing specific learning space references in publications or academic, school, or department strategic plans and showing how the learning space’s design addresses those ambitions.
Section 2 | Planning and Design Process (PSP)

2.1 Stakeholder Engagement
2.2 Evidence-based Planning and Design
2.3 Pilots and Prototypes
2.4 Evaluation Plan
2.5 Dissemination of Findings

PDP Credit 2.1: Stakeholder Engagement

Intent
To involve and include all stakeholders and strategic partners of the learning spaces planning process.

1 point

Criterion for the point
Include stakeholder involvement in all stages of the planning and design processes.

Evidence for this credit
Provide evidence of substantive engagement of the users, operators, and senior administrators to offer input on needs, feedback on proposed solutions, and evaluation of what has been done. Engage stakeholders through workshops, interviews, surveys, observational studies, photo diaries, town hall meetings, charrettes, or other means.

Additional considerations
Stakeholders could include representatives of instructors, learners, curriculum development staff (such as a teaching and learning center), academic technology/IT staff, facilities planning, alumni, and administration.

- Demonstrate engagement on a project basis where appropriate.
- Provide a communications plan that is designed to inform stakeholders of relevant information and to allow them to provide ongoing input.
- Provide summaries of meeting notes, user surveys, reports, or other written evidence of engagement.
- Solicit evidence during development of the planning and/or design process to provide feedback on concepts, progress plans, and/or pilot projects.
- Gather input after space occupancy to ensure programmatic and user needs continue to be met.
- Provide evidence of attempts to engage stakeholders to give feedback on how well existing learning spaces are performing.
Section 3 | Support and Operations (SO)

3.1 Support
3.2 Space Orientation and Training
3.3 Training of Support Team
3.4 Faculty Development
3.5 Financial Sustainability of Operations
3.6 Scheduling Systems
3.7 Diverse Patterns of Use

SO Credit 3.2: Space Orientation and Training

Intent
To ensure that orientation and training on the specifics of a learning space are available to the learners, instructors, and staff using them.

1 point

Criteria for the point
To obtain credit, do both of the following:

1. Offer a regularly scheduled user orientation (or user orientation on demand) that introduces the functionality of the furniture, technology, audio, lighting, and other equipment and environmental systems associated with the space.
2. Provide online tutorials with suggested room configurations, including explanations of feasible options and activities the room can support. This resource may be combined with online resources created for SO Credit 3.1: Support.

Evidence for this credit
- Provide link to schedule of orientation(s) or request form for on demand orientation.
- Provide link to online tutorials.

Additional considerations
- Orientation sessions could include presentations or instructional scenarios to show how technology systems in the room could be utilized to support pedagogical activities.
- Provide a rehearsal space with equivalent technologies where instructors can receive an orientation and associated training and coaching. Rehearsal spaces may also provide video capture for later review.
- Provide incentives for instructors to attend orientation sessions.
- Consider that a default furniture configuration might not indicate a layout at all, but require all chairs and tables to be pulled to the side and stacked or nested after each session, encouraging the next class to consider how it would like to arrange the furnishings to best suit its learning activity.
## Sections 4-6

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Section 4 | Environmental Quality (EQ)

4. Environmental Quality (EQ)

4.1 Daylight

4.2 Views to Outdoors

4.3 Interior Visibility

4.4 Lighting Control

4.5 Thermal Comfort

4.6 Acoustic Quality

4.7 Environmental & Cultural Inclusiveness

4.8 Accessibility and Universal Design

**EQ Credit 4.2: Views to Outdoors**

**Intent**

To support learning and engagement by providing windows with views to the exterior.

1 point

**Criterion for the point**

Provide direct line of sight to the exterior of the building (i.e., through glass) with quality views that include vegetation, human activity, or objects at least 25 feet from the exterior of the window.

**Evidence for this credit**

- Photographs of the space.
- Architectural drawings that indicate windows and/or skylights.

**Additional considerations**

- Refer to LEED v4 for Building Design and Construction, EQ Credit: Quality Views (PDF available here) for best practice standards.
5. Layout and Furnishings (LF)

5.1 Proximities within Space
5.2 Movement through Space
5.3 Seating Density
5.4 Furniture Configuration Flexibility
5.5 Work Surfaces
5.6 Seating Comfort
5.7 Movable Partitions
5.8 Transparency
5.9 Access to Adjacent Informal Learning Spaces
5.10 Writable Surfaces
5.11 Physical Storage
5.12 Future Proofing
Section 6 | Technology and Tools (TT)

5. Technology and Tools (TT)
5.1 Electrical Power
5.2 Network Connectivity
5.3 Visual Displays
5.4 Sound Amplification
5.5 Audio/Visual Interface and Control

5.6 Distributed Interactivity
5.7 Session Capture and Access
Scoring

- Identify space being rated
- Enter points earned at each credit
- Add notes about the evidence collected to document each credit (e.g. photos, plans, user survey data, prototype assessments, etc.)
- A team assessment: add notes on other representatives who might need to participate to complete the rating
Part A Scoresheet

Part A deals with campus and planning context
- 3 sections of possible credits
- Totals accrue automatically

### Part A

#### Section 1. Integration with Campus Context

<table>
<thead>
<tr>
<th>Credit Number</th>
<th>Credit Title</th>
<th>Maximum Points</th>
<th>Earned Points</th>
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<tbody>
<tr>
<td>ICC 1.1</td>
<td>Alignment with Campus Academic Strategy</td>
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<tr>
<td>ICC 1.2</td>
<td>Learning Space Master Plan</td>
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<td>ICC 1.3</td>
<td>Compatibility with Campus IT Technology Infrastructure and Plans</td>
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<td>ICC 1.4</td>
<td>Commitment to Evidence-Based Research and Assessment</td>
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<td>ICC 1.5</td>
<td>Campus Leadership for Learning Spaces</td>
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#### Section 2. Planning Process

<table>
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<th>Credit Title</th>
<th>Maximum Points</th>
<th>Earned Points</th>
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<td>PP 2.1</td>
<td>Stakeholder Engagement</td>
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<tr>
<td>PP 2.2</td>
<td>Evidence-Based Planning and Design</td>
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<tr>
<td>PP 2.3</td>
<td>Pilots and Prototypes</td>
<td>1 or 2</td>
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<tr>
<td>PP 2.4</td>
<td>Evaluation Plan</td>
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<tr>
<td>PP 2.5</td>
<td>Dissemination of Findings</td>
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#### Section 3. Support and Operations

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<td>SO 3.1</td>
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<tr>
<td>SO 3.2</td>
<td>Space Orientation and Training</td>
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<tr>
<td>SO 3.3</td>
<td>Training of Support Team</td>
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<td>Faculty/Instructor Development</td>
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<td>SO 3.6</td>
<td>Scheduling Systems</td>
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<td>SO 3.7</td>
<td>Diverse Patterns of Use</td>
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</tbody>
</table>
### Part B Scoresheet

- Part B deals with the space to be rated
- 3 sections of possible credits
- Some credits in Part B can earn more than 1 point

<table>
<thead>
<tr>
<th>Section</th>
<th>Credit Number</th>
<th>Credit Title</th>
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<th>Notes on Evidence for Credit</th>
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<td><strong>Part B</strong></td>
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<td><strong>Section 4. Environmental Quality</strong></td>
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<td>Views to Outdoors</td>
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<td>Work Surfaces</td>
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<td>LF</td>
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</table>
Score Summary

- Section scores are weighted in calculation of the summary score
- Subtotals transfer automatically from worksheet onto the summary sheet
- Evidence to be collected for credit; FLEXspace database as repository

### Score Summary Sheet

<table>
<thead>
<tr>
<th>Room Information:</th>
<th>Type of Space Being Rated:</th>
</tr>
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<tbody>
<tr>
<td>Institution:</td>
<td></td>
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<tr>
<td>Building:</td>
<td></td>
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<tr>
<td>Room Number:</td>
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<td>Link to photos:</td>
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### Part A

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<tr>
<th>No. of Possible Points</th>
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<th>Earned Points</th>
<th>Percentage Achieved</th>
<th>Section Score</th>
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### Room Assessment Total

<table>
<thead>
<tr>
<th>Earned Points (calculated from scoresheet tab)</th>
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<tbody>
<tr>
<td></td>
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</table>

### Total

| Total Credits (5) | 45 - 54 | 100% | 0.0 |

**Notes:**

1. Total potential points available in each section
2. The section’s points as a proportion of total points available, as a percentage, in order to weight the relative importance of each section
3. The percentage of points achieved out of the total available points
4. The final number of points per section, calculated by multiplying the points received by the weighting factor
5. The total final number of points, rounded to the nearest point
Activity: Try Rating a Space with the LSRS!

- Break into groups of 2 to 3 people
- Download and examine Part B. Select 1 or 2 credits to score using the LSRS.
- Share the examples of spaces you brought and select a space to rate together.
- Discuss how you might apply the credits to this space.

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How to define traits of the spaces you want to create
Applying Existing Learning Spaces and Campus Needs

Develop Criteria for Design

Navigate Design through Construction

Assess What Got Built

Refine the Campus Learning Space Plan

Applying the Tools to Define Traits
A FRAMEWORK FOR APPLICATION
of FLEXspace + LSRS by Phase

An Iterative Cycle of Planning
A FRAMEWORK FOR APPLICATION

1. Project Planning
2. Engagement Planning
3. Criteria for Design
4. Prototyping & Service Design
5. Design Phases
6. Construction/Installation
7. Operations Planning
8. POE/Assessment
9. Learning Landscape Assessment
TRACKS IN EACH PHASE
For ways to use FLEXspace & LSRS

Project Planning
User & Learning Needs
Facilities & Campus Context
Best Practice Research
Network/Share
Find Resources
A FRAMEWORK FOR APPLICATION

FLEXspace + LSRS AS TOOLS FOR LEARNING SPACE PLANNING

1. **Project Planning**
   - Seek inspiration and best practice models
   - Assess what you have

2. **Engagement Planning**
   - Engage stakeholders & team
   - Plan user participation

3. **Criteria for Design**
   - Needs assessment
   - Synthesize into:
     - Planning principles
     - Design criteria
     - Space program
# PROJECT PLANNING

## Using FLEXspace:

| PROCESS       | Seek inspiration & best practice models  
|               | Build consensus on project goals and proposed process by sharing exemplary projects |
| USER & LEARNING NEEDS | Search the Toolkit for examples of user needs research projects, participatory design methods, data collection instruments, academic strategic plans and more |
| FACILITIES & CAMPUS NEEDS | Use FLEXspace as a central repository to document existing spaces  
|               | Compile results of any condition surveys, utilization analyses and LSRS scoring for review in a team workspace.  
|               | Add team members as collaborators |
| BEST PRACTICE RESEARCH | Search Toolkit for research, whitepapers and guides for best practice models from institutions and industry partners  
|               | Explore institution pages or use filters to do benchmarking |
| NETWORK/SHARE | Reach out to other members about process they went through  
|               | Contact owners of space listings  
|               | Query the community forum |
| FIND RESOURCES | Explore the user guides to learn how to become a power user--from searching to showcasing! |

## Using the LSRS:

| Predesign Phases | Assess what you have  
| Use LSRS to guide areas for inquiry, define existing conditions to be addressed |
| USER & LEARNING NEEDS | See LSRS credit 1.1 on Alignment with Academic Strategy |
| FACILITIES & CAMPUS NEEDS | Use LSRS to rate your existing learning spaces  
|               | Identify high and low performing spaces, as part of a campus-wide analysis  
|               | Gather baseline data for later comparative measurement |
| BEST PRACTICE RESEARCH | Compare LSRS scores between spaces of similar types; drill down into metadata to analyze differences |
| NETWORK/SHARE | Post the scores for your recent showcased spaces for comparisons |
| FIND RESOURCES | Refer to additional tips and resources under LSRS criteria descriptions |
“This toolkit is intended to help professionals from these support services to work effectively together and with other stakeholders to deliver outcomes that have significant transformational effect for their institutions.”

- SCHOMS - Standing Conference for Heads of Media Services
- AUDE - Association of University Directors of Estates
- UCISA - Universities and Colleges Information Systems Association

https://www.ucisa.ac.uk/learningspace
RESOURCES
A central goal of Learning Spaces Collaboratory is to imagine a future in which the process of planning learning spaces is informed by both theory and practice. A key first step is to identify and study research from scholars in a range of fields, which has unacknowledged implications for planning shared learning environments for undergraduates in our nation’s colleges and universities. A complementary strategy is to engage in research that is captured and analyzed, as it develops a feedback loop between theory and practice. To catalyze this feedback loop, we will capture and post papers from the community of theorists and the community of practitioners. Annotated contributions and other suggestions are welcome.

https://www.pkallsc.org
Campus Level Analyses of Teaching Spaces

Traditional classroom analyses...

- Utilization Studies
- Seat Occupancy Data
- Scheduling efficiency
- Condition surveys

... did not factor in how well spaces could support active learning and engaging learning experiences
## ENGAGEMENT PLANNING

### Using FLEXspace:

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>Define stakeholders and plan how to engage them (working team, users, academic leadership, CTL, space managers, learning support services, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USER &amp; LEARNING NEEDS</td>
<td>During visioning workshops, engage instructors &amp; students by using images from FLEXspace to spark discussion. Point instructors to spaces for course redesign success stories.</td>
</tr>
<tr>
<td>FACILITIES &amp; CAMPUS NEEDS</td>
<td>Have colleagues get an account and review all of your spaces in FLEXspace. Identify low performing spaces to target for redesign &amp; collect these on one private, shared Ideaboard for the team.</td>
</tr>
<tr>
<td>BEST PRACTICE RESEARCH</td>
<td>Inspire your team with virtual field trips using FLEXspace to browse, search &amp; filter, view institutional pages. Have them get their own accounts so they can ‘like’ their favorites &amp; pin them to their own Ideaboards.</td>
</tr>
<tr>
<td>NETWORK/SHARE</td>
<td>Create Ideaboards to share with team and stakeholders and create a virtual team “workplace” for dialogue. Contact developers of spaces that inspire.</td>
</tr>
<tr>
<td>FIND RESOURCES</td>
<td>See the Toolkit for exemplary user research studies &amp; guides.</td>
</tr>
</tbody>
</table>

### Using the LSRS:

<table>
<thead>
<tr>
<th>Using the LSRS:</th>
<th>Refer to LSRS Section 2 on Planning and Design Process about criteria for participatory processes and user engagement planning.</th>
</tr>
</thead>
<tbody>
<tr>
<td>USER &amp; LEARNING NEEDS</td>
<td>Earn points for PDP Credit 2.1 Stakeholder Engagement. Document evidence for your self-scoring for Section 2 in FLEXspace repository linked to the space descriptions (e.g. user survey reports).</td>
</tr>
<tr>
<td>FACILITIES &amp; CAMPUS NEEDS</td>
<td>Do the LSRS scoring as a representative team, each member bringing a different perspective and expertise to scoring. Evaluate campus teaching space alignment with users’ pedagogy and learning aspirations.</td>
</tr>
<tr>
<td>BEST PRACTICE RESEARCH</td>
<td>Compare LSRS scores for Part A across all schools/colleges to check for consistency in planning across campus.</td>
</tr>
<tr>
<td>NETWORK/SHARE</td>
<td>Connect with peers who used LSRS to engage more stakeholders in the planning process. Make visible campus-wide space planning priorities.</td>
</tr>
<tr>
<td>FIND RESOURCES</td>
<td>Refer to additional tips and resources under LSRS criteria descriptions.</td>
</tr>
</tbody>
</table>
Project Phases

Typical planning, construction, operations and evaluation of learning spaces.

Participants

<table>
<thead>
<tr>
<th>Project Owners</th>
<th>Design / Programming Team</th>
<th>User Groups</th>
<th>Specialists</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Project leadership, steering committee, campus facility management / project management, facilities operations &amp; maintenance, campus architect;</td>
<td>* Design team, planning consultants, technical consultants, technology team;</td>
<td>* Office of Institutional Analysis &amp; Assessment, Central Computing, academic student and faculty services (e.g. Learning Technology Group, Center for Teaching &amp; Learning, Writing / Tutoring Center)</td>
<td>* Advisory committee, student government &amp; faculty senate, student &amp; faculty users</td>
</tr>
</tbody>
</table>

Visioning

Determining the project vision – the goals, needs, and success criteria, along with the project’s key components and relationships.

Activities (in general order of sequence)

- regular steering committee meetings
- review of strategic plan
- review space inventory
- visioning session
- leadership interviews
- space utilization analysis
- online surveys
- review guideline standards
- existing facility assessment
- observation studies
- focus groups (by groups)
- focus groups (by themes)
- best practice research
- facility tours
- integration workshop
- technology visioning

Needs Assessment and Space Programming

Quantifying, qualifying, and relating the needs for space, technology, furniture, equipment, and services to support the functions and activities described in the vision.

Activities (in general order of sequence)

- regular steering committee meetings
- user group meetings / workshops
- departmental interviews
- space utilization analysis
- draft program
- program revision workshops
- quantitative benchmarking
- technology planning
- technology lifecycle planning

Decisions and Deliverables:

- vision statement
- guiding principles
- service philosophy
- planning horizon
- space evaluation
- review peer example cases
- develop profiles & personas
- develop use cases
- identify key spaces
- tech context map
- information resources strategy
- technology vision statement and presentation

Decisions and Deliverables:

- number of occupants
- net-to-gross ratio
- overall SF
- “lot of parts”
- how much of each kind of space + where
- adjacencies
- technology plan
- technology programmatic requirements

https://learningspacetoolkit.org
# CRITERIA FOR DESIGN

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>Using FLEXspace:</th>
<th>Using the LSRS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Use FLEXspace resources and collaboration tools as a team, with flexible levels of privacy settings</td>
<td>Define desirable criteria using LSRS as a tool for consensus building and to inform development of planning principles, design requirements &amp; space program</td>
</tr>
</tbody>
</table>

| USER & LEARNING NEEDS | Point instructors and team members to the Toolkit or specific spaces to probe about desirable space characteristics, functions and features | Refer to LSRS suggestions about user issues and perspectives under each credit description |

| FACILITIES & CAMPUS NEEDS | Search the Toolkit for relevant examples of program documents, learning space committee guidelines Benchmark costs at peer institutions to guide budgeting | Refer to LSRS Part B during programming for criteria about space design, based on planning principles in support of active learning |

| BEST PRACTICE RESEARCH | Find proof of concept examples Explore options for systems, furnishings and affordances See FLEXspace Research & Evaluation Working Group resources | |

| NETWORK/SHARE | Build consensus with FLEXspace Ideaboads Share work in progress to get feedback from others | Reach out to other institutions to see model criteria and program documents |

| FIND RESOURCES | Find links to national and international planning organizations’ guidelines with design criteria | Refer to additional tips and resources under LSRS criteria descriptions |
The Density Issue

• Density in terms of area per seat is a key factor for enabling a desirable range of activities

• LSRS criterion:
  1 point – 25 sf/seat
  2 points – 30 sf/seat

• Increasing pressure to “rightsize” existing teaching spaces across campus
Defining Traits | Developing a Process that Takes a Fresh Look

From the planning process for the Learning Innovation Center (LInC) building, Oregon State University (Bora, Architects)
Beyond space and functional requirements

Defining traits through dimensions of identity

Diagram about planning for innovation hubs across campus from: “Crafting an Innovation Landscape” by S. Dugdale, EDUCAUSE Review, Feb. 2017
Defining Traits | Spaces for Physical and Digital Making

Considering spaces and services across a campus as a network for learning and research support

Diagram about planning for makerspaces across campus from: “Crafting an Innovation Landscape” EDUCAUSE Review, Feb. 2017
Learning Space Affordances

LF Credit 5.10: Writable Surfaces

Intent
To provide abundant writable surfaces to facilitate interaction for individuals and groups.

1 point

Criterion for the point
Provide multiple surfaces/displays accessible to all participants on which they can write physically and/or digitally.

Evidence for this credit
Provide photographs of spaces.

Additional considerations
- Ensure that writable surfaces are not obstructed by pull-down screens or other objects so that they are always visible.
- The intention is to provide as much surface to be writable as possible. Consider:
  - Surfaces that are both writable and projectable.
  - Large, wall-mounted whiteboards/blackboards and/or flipcharts.
  - Writable wall surfaces on one or multiple walls.
  - Movable writable panels on casters or a wall/ceiling-mounted system.
  - Writable table surfaces (e.g., glass, whiteboard).
  - Digitally interactive table surfaces that enable writing with gestures and/or stylus.
- Where writable spaces are interspersed with nonwritable surfaces, it is helpful to indicate clearly which surfaces support erasable writing.

LF Credit 5.5: Work Surfaces

Intent
To provide furniture with adequate work surface to accommodate several devices and materials that participants may bring.

1 point

Criterion for the point
Provide sufficient work surface area per seat, sized to enable simultaneous use of a laptop, tablet, or other portable devices as well as paper materials.

Evidence for this credit
Provide evidence that work surfaces are at least 30 inches wide by 24 inches deep.

Additional considerations
- Consider choosing furniture that does not have a left- or right-handed bias. With tablet-arm chairs, provide some left-handed models.
- Typical tablet armchairs are not recommended. Some freestanding, casted tablet armchairs are designed with larger work surfaces and may be more useful.
**Construction/Installation**
- Finalize furnishings, equipment and systems

**Prototyping & Service Design**
- Test pilots and new service models
- Refer to designs during SD/DD/CD
- Seek alternative solutions during VE

**Design Phases**
- 4: Prototyping & Service Design
- 5: Design Phases
- 6: Construction/Installation
# PROTOTYPING & SERVICES ANALYSIS

## Design & Construction Phases

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>Using FLEXspace:</th>
<th>Using the LSRS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consider options for prototyping or piloting—space, services, systems, affordances</td>
<td>Refer to LSRS criteria and recommendations to develop an early testing approach.</td>
</tr>
<tr>
<td></td>
<td>Identify desirable service design issues for study</td>
<td></td>
</tr>
</tbody>
</table>

| USER & LEARNING NEEDS | Explore support systems criteria developed by others (e.g. classroom tech support, faculty development programs, etc.) | Obtain points for developing and assessing pilot spaces, prototypes of tools or furnishings, or new service roles. See LSRS credit 2.3 Prototyping about user feedback during the early design process |

| FACILITIES & CAMPUS NEEDS | Find examples of pilot spaces other institutions have developed | Rate a pilot space to see how it compares with a previous space |
|                         | Use FLEXspace to collect documentation about pilot spaces | Document findings to inform the design process |

| BEST PRACTICE RESEARCH | Identify products tested and reviewed by others | |

| NETWORK/SHARE | Check with peers on their pilot experiences | |
|               | Inquire about product performance | |

| FIND RESOURCES | Search for products useful to test in pilot projects | |
|               | Search for resources about service design for learning support | |
Pilots and Prototypes

Different types of prototyping:

• Physical mockup
• Functional prototype
• Pilot space
• Component test
• Service design role playing
• Experience design
Participatory Design Approaches

Visioning workshops – imagining future learner experiences

Analysis – defining relationships between activities, tools, people, and settings

“Sandbox” workshops – testing space layouts for anticipated teaching methods

(process and images: Dugdale Strategy)
Service Design

• Exploration of future services is an essential component for successful support, especially when introducing new types of spaces

• Four key factors from the Learning Spaces Toolkit:
  • FTE
  • Discipline
  • Level
  • Space
<table>
<thead>
<tr>
<th>DESIGN PHASES</th>
<th>Using FLEXspace:</th>
<th>Using the LSRS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROCESS</td>
<td>Organize benchmarking trips with design team, committee and instructors—real or virtual—and refer to design solutions</td>
<td>Work with the design team to apply the LSRS planning principles and criteria to the emerging solutions</td>
</tr>
<tr>
<td>USER &amp; LEARNING NEEDS</td>
<td>Find methods for consulting users during formative as well as final stage of each design phase Compile process documents in FLEXspace as evidence for Section 2 Process credits</td>
<td>Check progress each phase against articulated user needs (reviewing documents created during Schematic Design, Design Development and Construction Documents phases)</td>
</tr>
<tr>
<td>FACILITIES &amp; CAMPUS NEEDS</td>
<td>Conduct virtual field trips, to identify places to visit for benchmarking tours Search photographs and metadata about product installations</td>
<td>Evaluate proposed space designs in relation to LSRS Part B: • Section 4 Environmental Quality • Section 5 Layout and Furnishings • Section 6 Technology and Tools</td>
</tr>
<tr>
<td>BEST PRACTICE RESEARCH</td>
<td>Scan Spaces and Partner pages for product information, recent introductions, inventive solutions to particular issues</td>
<td></td>
</tr>
<tr>
<td>NETWORK/SHARE</td>
<td>Reach out to owners of Spaces or query the community forum about performance of installed products, recommendations</td>
<td></td>
</tr>
</tbody>
</table>
| FIND RESOURCES | Get one-click links to industry partner manufacturers, products, AV systems, etc. | See references to industry standards, other rating systems (e.g. WELL) and notes on considerations for design.
Rating for Wellness | WELL Rating System

https://www.wellcertified.com/en

When you earn WELL v1 Certification for your building or community, you signal to the world that you’re putting people first.

Flexible for communities and all building types, with options to customize your approach to fit your goals, WELL offers a framework to help improve health and well-being for everyone that visits, works in, or experiences your building.
WELL Building Rating System for Health & Well Being

https://www.wellcertified.com/en
## CONSTRUCTION/ INSTALLATION

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>Using FLEXspace:</th>
<th>Using the LSRS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Provide resources for finalization of procurement decisions about technology systems, furniture and/or equipment selection</td>
<td>Review LSRS criteria as decisions are finalized</td>
</tr>
</tbody>
</table>

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<tr>
<th>USER &amp; LEARNING NEEDS</th>
<th>Using FLEXspace:</th>
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<tbody>
<tr>
<td></td>
<td>Get feedback from users on proposed furnishings and tools prior to procurement – use FLEXspace Project Space to poll and gather data</td>
<td>Refer to LSRS Part B during review (e.g. Section 5 Layout and Furnishings while reviewing final layout alternatives; Section 6 Technology and Tools)</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>FACILITIES &amp; CAMPUS NEEDS</th>
<th>Using FLEXspace:</th>
<th>Using the LSRS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Search for more detailed aspects of other projects’ equipment or furnishings specs</td>
<td>Review building and technology systems performance against LSRS Section 4 Environmental Quality</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BEST PRACTICE RESEARCH</th>
<th>Using FLEXspace:</th>
<th>Using the LSRS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Do product research for furniture and equipment procurement</td>
<td></td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>NETWORK/SHARE</th>
<th>Using FLEXspace:</th>
<th>Using the LSRS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consult forum on queries that arise during construction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Upload before, during and after images to your Space listing, along with design rationale and insights</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FIND RESOURCES</th>
<th>Using FLEXspace:</th>
<th>Using the LSRS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Scan for alternative product solutions during a Value Engineering process to reduce costs</td>
<td></td>
</tr>
</tbody>
</table>
A FRAMEWORK FOR APPLICATION

**Learning Landscape Assessment**
- Review alignment with academic strategic plan
- Prioritize next phase of projects

**POE/Assessment**
- Feedback and research initiatives
- Develop LSRS scores

**Operations Planning**
- Training and support services
- Prep for launch
# OPERATIONS PLANNING

## Using FLEXspace:

**PROCESS**
Disseminate information about training programs on active learning, new affordances or technologies, new spaces

**USER & LEARNING NEEDS**
Attach user support resources directly to each space listing, or upload to the Toolkit for easy access by faculty and others. Explain how to use layouts and equipment in new spaces, help instructors and support staff to prep for launch. Develop communications plan and demonstration sessions.

**FACILITIES & CAMPUS NEEDS**
Upload space images and alternative layouts into institutional inventory for instructors to view in FLEXspace.

**BEST PRACTICE RESEARCH**
Find case studies and guides for successful prep and launch planning, especially when introducing new types of spaces.

**NETWORK/SHARE**
Use FLEXspace Forum to reach peers for lessons learned. Share instructor experiences and success stories with institutional teams, to demo what is possible, give credit.

**FIND RESOURCES**
Explore the Toolkit for exemplary course redesign resources.

## Using the LSRS:

Refer to all of LSRS Part A Section 3 Support and Operations for desirable support systems planning criteria.

Refer to: Credit 3.1 Support; 3.2 Space Orientation and Training; 3.3 Training of Support Team; 3.4 Faculty/Instructor Development; Credit 3.6 Scheduling Systems and 3.7 Diverse Patterns of Use to enable most effective uses of learning spaces provided.

Refer to Section 5 Technology and Tools for recommended functional capabilities to support learning.

Refer to ELI community studies, articles and resources about support services planning and operations.

Share useful resources and documents that were referred to while creating the space.
Operations and Support

- Orientation, training, faculty development and support
- Scheduling systems to enable a better fit between space and pedagogy intent
- More effective use of learning space resources
### ASSESSMENT/ POEs

<table>
<thead>
<tr>
<th>PROCESS</th>
<th><strong>Using FLEXspace:</strong> Support assessing spaces for operation, pedagogy effectiveness, user satisfaction and enabling creative teaching and learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>USER &amp; LEARNING NEEDS</td>
<td><strong>Using the LSRS:</strong> Aid planning for Post-Occupancy Evaluation to assess building/space design for functional requirements, space quality and support for learning and well being</td>
</tr>
<tr>
<td>FACILITIES &amp; CAMPUS NEEDS</td>
<td><strong>Using FLEXspace:</strong> Use FLEXspace as repository for evidence for LSRS credits</td>
</tr>
<tr>
<td></td>
<td><strong>Rate new spaces with LSRS scores</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Compare with previous scores before renovation</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Upload documentation as evidence for credit</strong></td>
</tr>
<tr>
<td>BEST PRACTICE RESEARCH</td>
<td><strong>Explore the FLEXspace Research &amp; Evaluation Working Group’s initiatives and resources</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Explore findings in ECAR and other research studies</strong></td>
</tr>
<tr>
<td>NETWORK/SHARE</td>
<td><strong>Connect with peers who have conducted assessment studies</strong> Post your LSRS sub-scores to support academic research using FLEXspace data</td>
</tr>
<tr>
<td></td>
<td><strong>Share your assessment methods and protocols in the Toolkit, or attach to a specific space listing</strong></td>
</tr>
<tr>
<td>FIND RESOURCES</td>
<td><strong>Search Toolkit for assessment methods, protocols and experts</strong> Post your LSRS sub-scores to support academic research using FLEXspace data</td>
</tr>
<tr>
<td></td>
<td><strong>View FLEXspace tutorials for how to document spaces</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Refer to EDUCAUSE Learning Initiative &amp; ECAR resources</strong></td>
</tr>
<tr>
<td>PROCESS</td>
<td>Using FLEXspace: Support campus community dialog on how well learning spaces support effective teaching and learning experiences</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>USER &amp; LEARNING NEEDS</td>
<td>Use FLEXspace institutional community space to compile insights from user input from multiple projects across schools, to inform campus planning practices</td>
</tr>
<tr>
<td>FACILITIES &amp; CAMPUS NEEDS</td>
<td>Use FLEXspace collaborative tools to review learning spaces and LSRS scores across the campus, and prioritize spaces needing redesign or upgrade</td>
</tr>
<tr>
<td>BEST PRACTICE RESEARCH</td>
<td>Find links to university planning organizations (e.g. SCUP), explore presentations of exemplary projects</td>
</tr>
<tr>
<td>NETWORK/SHARE</td>
<td>Reach out to peers who have done campus-wide analyses and learning space master plans</td>
</tr>
<tr>
<td>FIND RESOURCES</td>
<td>Search the Toolkit for resources on campus analyses and learning space plans</td>
</tr>
</tbody>
</table>
Moving to an Evidence-based Planning Process

- Considerations for campus scale analysis
- Need to factor in how well active learning is being supported into capital planning decisions

ICC Credit 1.4: Commitment to Evidence-Based Research and Assessment

Intent
To develop and implement a regular, iterative process of research and assessment that informs development of learning spaces and contributes to an institutional culture of evidence-based design.

1 point

Criterion for the point
Create and maintain a learning space assessment and evaluation plan that involves multiple campus stakeholder groups with defined iterative evaluation cycles.

Evidence for this credit
Provide research and assessment plans and reports, including evidence of campus stakeholder engagement.

Additional considerations
- Conduct postoccupancy space performance evaluation(s).
- Provide regular, ongoing forums for user feedback on specific learning space(s) to improve support and operations.
A FRAMEWORK FOR APPLICATION

Learning Landscape Assessment
- Review alignment with academic strategic plan
- Prioritize next phase of projects

POE/Assessment
- Feedback and research initiatives
- Develop LSRS scores

Operations Planning
- Training and support services
- Prep for launch

Construction/Installation
- Finalize furnishings, equipment and systems

An Iterative Cycle of Planning

Project Planning
- Seek inspiration and best practice models
- Assess what you have

Engagement Planning
- Engage stakeholders & team
- Plan user participation

Criteria for Design
- Needs assessment
- Synthesize into:
  Planning principles
  Design criteria
  Space program

Prototyping & Service Design
- Test pilots and new service models
- Refer to designs during SD/DD/CD
- Seek alternative solutions during VE
Workshop Part 3 | TRAITS

Introduction to the Learning Space Rating System
Applying the Tools to Define Traits
Case Studies

How to define traits of the spaces you want to create
Humber College, Toronto

• Adapted the LSRS to their planning process.
• Large public institution in Canada: 44,000 FTE, 30,000 FT, 45,000 part time registrations, 2 large campuses plus a satellite campus.
• 6 years ago: new president, moved to a more learner centered approach, learning space planning became an objective within the strategic plan.
• Stakeholder involvement in visioning.
Humber College

- Developed 3 Guiding Principles for all spaces:
  - Flexibility
  - Service
  - Student Experience
- Translated into space requirements
- Two rounds of prototypes: did observations, learned a great deal, informed building the business plan
Humber College

- Next phase inventory assessed 190 classrooms identifying “the good, bad, and the ugly”:
  - Good – moderate upgrade needed
  - Bad – significant resources needed
  - Ugly – can never be used as effective learning space, must repurpose
- Long range 8 year plan was developed, integrated with facilities plan to allocate funding to learning space renovations
- Facilities and IT met with every academic dean about future curriculum
- Conducted risk analysis
Humber College

• Moving forward with the process drove thinking, made the campus community more aware

  “It shifted the conversation”

• Having champions in IT who represented the principles provided continuity in approach

• A research analyst worked with faculty to assess spaces: the process helped to understand nuances of disciplinary needs, deliver meaningful learning centered space
NY Campuses

LSRS + FLEXspace > Learning Space Master Plan development

**SUNY Geneseo**

- **LSRS**
  - Rated all their rooms
  - Integrated in planning process

- **FLEXspace**
  - Used as idea generator and conversation starter
  - Used to build consensus around exemplars

**Buffalo State Univ.**

- **LSRS**
  - Measured impact
  - Determined which classrooms to upgrade technology
  - Assessed staffing levels

- **FLEXspace**
  - Supported master planning
  - Shared attributes of technology integration
UK Higher Education Learning Space Toolkit | Case Studies

https://www.jisc.ac.uk/full-guide/learning-space-toolkit-case-studies

- Case study one - Loughborough University: STEM Ideas Factory
- Case study two - Loughborough University: Design School auditorium
- Case study three - University of Aberdeen: digitally enhanced learning spaces
- Case study four - University of Glasgow: pilot rooms
- Case study five - University of Wolverhampton: physician associate laboratory
- Case study six - University of Essex: library reading room
- Case study seven - London School of Economics and Political Science: LSE LIFE
- Case study eight - Kingston University: teaching room pilots
- Case study nine - City, University of London: interactive lecture theatre
- Case study ten - University of Liverpool: Central Teaching Hub (CTH)
Case Study | McGill University

Guest Participant:
Adam Finkelstein, Associate Director for Learning Environments
Teaching and Learning Services
40,000 students from 120 different countries
1700 tenure track faculty
3400 admin and support
475 classrooms / 21,200 seats
190 yr-old Heritage campus
Accumulated deferred maintenance of $900M
“The built campus environment is a physical manifestation of the teaching and learning vision for an intuition.”
Our successes

Improved teaching and learning environments
- Over $25M in classroom renovations (2006+)
- Over $18M in teaching lab renovations (2010+)
- Improved over 350 classrooms / 12 major labs
- 16+Active Learning Classrooms / Labs (24-80 seats)

Improved prioritization and renovation process

Improved use of space by instructors

Created a community for improving learning spaces

Learning spaces are now a (visible) strategic priority
Kotter’s 8-step process for leading change

1. Create urgency
2. Create a coalition
3. Develop a vision and strategy
4. Communicate the vision
5. Empower action
6. Get quick wins
7. Leverage wins to drive change
8. Embed in culture

Creating a climate for change

Engaging and enabling the whole organization

Implementing and sustaining change

*The 8-Step Process for Leading Change – Dr. John Kotter

From: http://www.reinar-svendsen.dk/blog/taet-paa-john-p-kotters-8-trin.html
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 and lab renovations, IT & equipment

Representation

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

<table>
<thead>
<tr>
<th>Principle</th>
<th>Layout</th>
<th>Furniture</th>
<th>Tech</th>
<th>Acoustics</th>
<th>Lighting &amp; Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic Challenge</strong></td>
<td>Work surfaces for notebooks, laptops, textbooks</td>
<td>Comfortable furniture; Varied furniture to support different types of tasks and preferences</td>
<td>Access to infrastructure Access to resources Multiple sources and screens</td>
<td>Acoustic design to avoid distraction from outside and inside sources</td>
<td>Appropriate lighting for individual work Intentional use of colour to promote focus</td>
</tr>
<tr>
<td>[Promoting active engagement with content]</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Learning w/ Peers</strong></td>
<td>Promote F2F communication Individuals can move about easily Unobstructed sightlines</td>
<td>Flexible seating Intentional use of furniture of different heights and shapes</td>
<td>Shared workspaces</td>
<td>Sound zones support simultaneous conversations Appropriate amplification</td>
<td>Different lighting patterns to support different activities Using colour to define groups’ use of space</td>
</tr>
<tr>
<td>[Promoting active engagement with one another]</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Experiences with Faculty</strong></td>
<td>Easy access to all students</td>
<td>Podium doesn’t interfere with sightlines, movement and interaction Flexible furniture to support different teaching strategies</td>
<td>Screen sharing Ability to control classroom technologies away from the podium</td>
<td>Sound zones support multiple simultaneous conversations Appropriate amplification available</td>
<td>Different lighting patterns to support multiple types of teaching tasks Colours distinguish purposes</td>
</tr>
<tr>
<td>[Promoting interaction and comm.]</td>
<td></td>
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</tr>
</tbody>
</table>
Lecture Hall – 54 seats – 2006
2 rows on a tier, movable chairs, two screens, movable podium, activating color
Active Learning Classroom – 72 seats – 2009
Fixed round tables movable chairs, writable walls, multi-sources and screens, screen sharing, central podium, raised floor, natural light, daylighting, table colors to match writable glass
# McGill’s Comprehensive Support

<table>
<thead>
<tr>
<th></th>
<th><strong>Proactive</strong> (anticipating needs)</th>
<th><strong>Reactive</strong> (responding to requests)</th>
</tr>
</thead>
</table>
| **Before/After Teaching** | • Group Meetings  
• Room orientations (instructors)  
• Listserv  
• Resources (links, articles)  

**Scheduled** | **Immediate** |
|----------------|--------------|
| • Consultations  
• Practice in room | • Email/phone support |

<table>
<thead>
<tr>
<th><strong>During Teaching</strong></th>
<th><strong>Scheduled</strong></th>
<th><strong>Immediate</strong></th>
</tr>
</thead>
</table>
| • Room orientations (students)  
• Job aids | • Observations | • In-room tech support  
• Emergency phone support |
## McGill’s Constellation of ALCs

<table>
<thead>
<tr>
<th>Year</th>
<th>Active Learning Classroom</th>
<th>Capacity</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>Burnside 511, Education 627</td>
<td>38 72</td>
<td>Computer Classroom, Classroom</td>
</tr>
<tr>
<td>2010</td>
<td>Macdonald Stewart 2-028/29</td>
<td>24/52</td>
<td>Computer Classroom</td>
</tr>
<tr>
<td>2011</td>
<td>688 Sherbrooke Rm 1265</td>
<td>24</td>
<td>Classroom</td>
</tr>
<tr>
<td>2012</td>
<td>Strathcona New Music A-412, Mac Stewart Active Physics Lab, Undergraduate Chemistry Labs</td>
<td>24 80 2x100</td>
<td>Classroom, Lab / Classroom, Lab</td>
</tr>
<tr>
<td>2013</td>
<td>CyberMed, MacDonald 50 Design Lab</td>
<td>3x80 48</td>
<td>Classroom, Computer Classroom</td>
</tr>
<tr>
<td>2014</td>
<td>Dentistry Active Classroom</td>
<td>40</td>
<td>Classroom</td>
</tr>
<tr>
<td>2015</td>
<td>McConnell 10 Design Lab, Continuing Education Language Labs, Education 129</td>
<td>24 36x2 96</td>
<td>Computer Classroom, Lab / Classroom, Classroom</td>
</tr>
<tr>
<td>2016</td>
<td>Adams 211</td>
<td>48</td>
<td>Lab / Classroom</td>
</tr>
<tr>
<td>2018</td>
<td>Arts 145/150</td>
<td>88</td>
<td>Classroom</td>
</tr>
</tbody>
</table>
CyberMed – 2013
3x80 seat Active Learning Classrooms, 7 x16 small group rooms, informal learning space
McGill University – CyberMed – 2013
Fixed tables movable chairs, writable walls, multi-sources and screens, screen sharing, central podium
McGill University – 2016 – 48 seats – Frank Dawson Adams 211

Fixed tables, movable chairs, writable walls, multi screen / multi source projection, screen sharing, central podium
McGill University – 2018 – 88 seats – Arts 145/150

Fixed tables, movable chairs, writable walls, multi screen / multi source projection, screen sharing, central podium
McGill University – 2010 – 80 seats – Macdonald Campus
Active Learning Physics Lab (dry lab)

Fixed tables, counter height, movable chairs, writable walls, multi screen / multi source projection, screen sharing, central podium, raised floor
Undergraduate Chemistry Labs – 2011
Round table pods, interactive whiteboards, screen sharing across two floors
McGill University – 2015 – 96 seats – Education 129

Low tiers, arc-shaped tables of 6, student microphones, screen sharing, writable walls, multiple simultaneous sources, videoconferencing
McGill University – 2015 – 96 seats – Education 129

Low tiers, arc-shaped tables of 6, student microphones, screen sharing, writable walls, multiple simultaneous sources, videoconferencing
McGill University – 2015 – 96 seats – Education 129
Low tiers, arc-shaped tables of 6, student microphones, screen sharing, writable walls, multiple simultaneous sources, videoconferencing
McGill University – “Standard” Classroom – 2018
72 seats - Movable tables and chairs, writable walls, dual source AV
Conclusions

• Create the right guiding coalition
• Start where people are, but have a vision
• Principles help keep focused on pedagogy
• Create conditions for success
• Find your own path – learning spaces exist within context and culture
• Learning spaces are access points for changing teaching and learning
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Teaching and Learning Services (@McGillTLS)
  http://www.mcgill.ca/tls/
  http://teachingblog.mcgill.ca
Recent Learning Spaces Improvements
  http://www.mcgill.ca/tls/spaces/classrooms
Active Learning Classrooms
  http://www.mcgill.ca/tls/spaces/alc/