Overview

• Inquiry through Blended Learning Program (ITBL)
• National Survey of Student Engagement (NSSE) Framework
• Case study
University of Calgary Context

University of Calgary

- Calgary > 1M population
- 40 yr old campus-based institution
- ~30,000 students & growing
- 80% plus HS average to get in
- Top 10 in research funding
- 81 students per class (junior level)
- Increasing student dissatisfaction
Institutional Learning Plan

• That inquiry-based learning approaches be at the centre of the undergraduate learning experience.
• All students must have the opportunity to participate in communities of inquiry
• Learning technologies (i.e., eLearning) offer opportunities to enhance the campus experience and extend learning through the innovative use of on-line resources, asynchronous collaborative learning opportunities, and electronic communication.

Inquiry

• Is problem or question driven
• Typically has a small-group feature
• Includes critical discourse
• Incorporates research methods such as information gathering and synthesis of ideas
Community of Inquiry

- The importance of a community of inquiry is that, while the objective of critical reflection is intellectual autonomy, in reality, critical reflection is “thoroughly social and communal”.

»Lipman, 1991

Community of Inquiry Framework

Social Presence
The ability of participants to identify with the community (e.g., course of study), communicate purposefully in a trusting environment, and develop inter-personal relationships by way of projecting their individual personalities.

Cognitive Presence
The extent to which learners are able to construct and confirm meaning through sustained reflection and discourse in a critical community of inquiry.

Teaching Presence
The design, facilitation and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes.
# CoI Categories/Indicators

<table>
<thead>
<tr>
<th>ELEMENTS</th>
<th>CATEGORIES</th>
<th>INDICATORS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Presence</strong></td>
<td>Open Communication</td>
<td>Learning climate/risk-free expression</td>
</tr>
<tr>
<td></td>
<td>Group Cohesion</td>
<td>Group identity/collaboration</td>
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<td></td>
<td>Personal/Affective</td>
<td>Self projection/expressing emotions</td>
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<tr>
<td><strong>Cognitive Presence</strong></td>
<td>Triggering Event</td>
<td>Sense of puzzlement</td>
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<td></td>
<td>Exploration</td>
<td>Information exchange</td>
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<td></td>
<td>Integration</td>
<td>Connecting ideas</td>
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<td></td>
<td>Resolution</td>
<td>Applying new ideas</td>
</tr>
<tr>
<td><strong>Teaching Presence</strong></td>
<td>Design &amp; Organization</td>
<td>Setting curriculum &amp; methods</td>
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<tr>
<td></td>
<td>Facilitating Discourse</td>
<td>Shaping constructive exchange</td>
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<td></td>
<td>Direct Instruction</td>
<td>Focusing and resolving issues</td>
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</tbody>
</table>

## Blended Learning Described

- Blended learning is the **organic integration** of thoughtfully selected and complementary face-to-face and online approaches and technologies.

- Blended learning is seen as an opportunity to **fundamentally redesign** how we approach teaching and learning in ways that higher education institutions may benefit from increased **effectiveness, convenience and efficiency**.

(Garrison & Vaughan, 2008)
Why Blended Learning?

- New approaches to teaching (change culture)
- Enhance student learning
- Maximize institutional resources
- Access; convenience

Strategic Challenges

- Awareness and understanding of inquiry and blended learning
- Student orientation (resistance)
- Commitment to fundamental redesign
- Strategic plan covering all four undergraduate years
- Teaching-research imbalance
History of BL at U of C

- Institutional Learning Plan
- Blended Learning Position Paper
- Link to inquiry based learning
- Raising Awareness
  - Steve Sorg, UCF (2002)
  - Carol Twigg, NCAT (2004)
  - Curtis Bonk, Indiana University (2005)
  - Peter Bullen & Peter Chatterton, University of Hertfordshire (2006)
- Grant program

LEADERSHIP

- What are the leadership characteristics we need in higher education?
Leadership Constraints

- Collegiality & consensus
- Governance model
- Loyalty to discipline; silos
- Morale; budget cuts
- Conception & selection of leaders
- Lack of senior level advocate
**What We Did**

- Draft policy, set priorities
- Provide incentives/financial support
- Strategic selection of prototypes; focus on limited number of prototypes the first year
- Single POP for support, quality assurance, and project management
- Mandatory participation in ITBL 401
- Study and evaluate all projects/developments
- Create a task group to address issues, challenges, opportunities and communicate to community

**I&BL Program**

- Faculty apply for course redesign grants ($10,000 with one $30,000 grant for a major course redesign)
- Proposal reviews and selections are made by the Inquiry Learning Action Group
- Teaching & Learning Centre provides course redesign consultation and support (define course goals and expectations, redesign learning activities and assessment assignments, adapt and develop online tools, evaluate implementation, and disseminate results)
Inquiry Through Blended Learning Support Program

- **Orientation** – course redesign guide and initial meeting with representatives from the Teaching & Learning Centre, Information Technologies and the Library

- **Faculty community of inquiry** – blending of face to face luncheon meetings with online learning activities to support project development

- **Project team meetings** – Teaching & Learning Centre consultant with faculty, graduate students and staff involved in each specific project

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National Survey of Student Engagement (NSSE)
National Survey of Student Engagement

Student engagement
1. Amount of time and effort that students put into their classroom studies that lead to experiences and outcomes that constitute student success

2. Ways the institution allocates resources and organizes learning opportunities and services to induce students to participate in and benefit from such activities

National Survey of Student Engagement

Five clusters of effective educational practice (benchmarks)
1. Active and collaborative learning
2. Student interactions with faculty members
3. Level of academic challenge
4. Enriching educational experiences
5. Supportive campus environment
Active and Collaborative Learning

How often have you:
- Asked questions in class or contributed to class discussions
- Asked questions online or contributed to online discussion
- Made a class presentation
- Worked with other students on projects during class
- Worked with classmates outside of class to prepare assignments

Student Interactions with Faculty Members

How often have you:
- Received prompt written or oral feedback from the instructor on your academic performance
- Used email to communicate with the instructor
- Discussed ideas from our readings or classes with the instructor outside of class
- Worked with the instructor on activities other than coursework (committees, orientation, student life activities, etc)
Level of Academic Challenge

During this course, how much of your coursework emphasized the following mental activities:

- **Memorizing** facts, ideas, or methods from the course and readings so I can repeat them in pretty much the same form
- **Analyzing** the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components
- **Making judgments** about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions
- **Applying** theories or concepts to practical problems or in new situations

Student Learning

To what extent has your experience in this course contributed to your knowledge, skills, and personal development:

- Writing clearly and effectively
- Thinking critically and analytically
- Speaking clearly and effectively
- Analyzing quantitative problems
- Using ICT
- Working effectively with others
- Voting in elections
- Learning effectively on your own
- Understanding people of other ethnic backgrounds
- Solving complex real world problems
CLASSE – Classroom Survey of Student Engagement

- Classroom level adaptation of the NSSE (i.e., student engagement at classroom level)
- Student and faculty versions
- Benchmarks
  - Engagement activities
  - Cognitive skills
  - Other educational practices
  - Class atmosphere

Question?

What have we learned about student engagement?
Conclusion

Grades, persistence, student satisfaction, and engagement go hand in hand.

Case Study

PSYC467 - Psycholinguistics
## Student Engagement in ITBL Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Active and Collaborative Learning</th>
<th>Faculty to Student Interaction</th>
<th>Level of Academic Challenge</th>
<th>Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPSC 203</td>
<td>Low</td>
<td>Low</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>ENGG205</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>Moderate</td>
</tr>
<tr>
<td>GEOG 361</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>Moderate</td>
</tr>
<tr>
<td>GRST 205</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>MDSC 361</td>
<td>Moderate</td>
<td>Low</td>
<td>High</td>
<td>Moderate</td>
</tr>
<tr>
<td>POLI 343</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>Moderate</td>
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<tr>
<td>POLI 541</td>
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<td>PSYC 467</td>
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<td>STAS 201</td>
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<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>MODE</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

### Fall 2006

- Course initially consisted of three – 50 minute lecture periods per week
- Redesigned to incorporate a lab component and offered in a 120 minute time block – once a week
Active and collaborative learning

Faculty to student interaction
Winter 2007

Course redesigned for the winter 2007 semester based on feedback from the NSSE survey results

Lecture component
- Peer reviewed journal articles used to supplement course textbook
- Article critique assignment
  - Student groups select an article to critique each week
  - Weekly online discussions about the articles – moderated by these student groups
  - Groups then make a class presentation based on an analysis & synthesis of the online discussion

Lab Component
- Individual experiments redesigned to become team based
- Data collection required outside of class time
- Instructor and graduate teaching assistant demonstrated and discussed their current research in the labs

Active and collaborative learning

![Graph showing active and collaborative learning](image)
Faculty to student interaction

Level of academic challenge
Student learning

To what extent has your experience in this course contributed to...

Very much
Quite a bit
Some
Very little

Learning your own
Learning critically, analytically
Using ICTs
Writing effectively/analytically
Solving numerical problems
Solving equations/problems
Speaking clearly, effectively

2007 2006

Student satisfaction

Overall, I am satisfied with this course:

Agree strongly
Agree somewhat
Not sure
Disagree somewhat
Disagree strongly

% of students
### Student Success

<table>
<thead>
<tr>
<th>Fall 2006</th>
<th>Winter 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop/withdrawal = 15%</td>
<td>Drop/withdrawal = 0%</td>
</tr>
</tbody>
</table>

### Final Course Grades

<table>
<thead>
<tr>
<th>Grade</th>
<th>Fall 2006</th>
<th>Winter 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>64%</td>
<td>82%</td>
</tr>
<tr>
<td>B</td>
<td>36%</td>
<td>12%</td>
</tr>
<tr>
<td>C</td>
<td>0%</td>
<td>6%</td>
</tr>
</tbody>
</table>

### Instructor Feedback

- Instructors need to be more intentional about creating opportunities for active and collaborative learning.
- There needs to be clear expectations, structure, and direction.
Design Appropriate Activities

- Students must be tasked to solve a problem to move them through to integration and resolution (ie, HOL) (Murphy, 2004)

- “Faculty need to be more directive in their assignments …” (Meyer, 2003, p. 8)

Conclusion

Improvement in higher education will require converting teaching from a “solo sport” to a “community-based research activity”.

(Carnegie Mellon University)
QUESTIONS

http://tlc.ucalgary.ca/teaching/programs/itbl/

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Blended Learning in Higher Education
Framework, Principles, and Guidelines

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