4-2013

Librarians with impact: Contributing to campus-wide learning space and course redesign transformations

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Recommended Citation  
Maybee, Clarence; Doan, Tomalee; and Garritano, Jeremy, "Librarians with impact: Contributing to campus-wide learning space and course redesign transformations" (2013). Libraries Faculty and Staff Presentations. Paper 20.  
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Librarians with IMPACT

Contributing to campus-wide learning space and course redesign transformations

Tomalee Doan
Clarence Maybee
Jeremy Garritano
Agenda

• Instruction Matters: Purdue Academic Course Transformation (IMPACT) & Learning Spaces

• IMPACT & Information literacy

• Liaison Librarians on the Front Line of IMPACT
It all started here...
IMPACT: Methods & Goals

• Support **faculty-led** course redesign with campus-wide resources
• Refocus the **campus** culture on student-centered pedagogy and student success
• Network faculty through **Faculty Learning Communities**
• Bases course redesign on **best practices and sound research**
• **Grow and sustain** IMPACT by adding new IMPACT faculty fellows annually
• **Reflect, assess and share results** to benefit future courses and students
Campus-Wide Support

- **ITAP**: Donalee Attardo & John Campbell
- **Libraries**: Tomalee Doan
- **Teaching Academy & Provost**: Frank Dooley
- **CIE**: Chantal Levesque-Bristol
- **Extended Campus**: Michael Eddy
- **Faculty**: Cliff Weil
- **DLRC**: Gabriella Weaver
IMPACT Strategies

• Develop a network of faculty through Faculty Learning Communities (FLC)
• Base course redesign and FLC curriculum on **best practices** and **sound research**
• **Grow and sustain** IMPACT by adding new IMPACT faculty fellows annually
• **Assess** the effectiveness of the redesign with a **systematic assessment plan**
IMPACT Goals

- To foster and support faculty-led course redesign with campus-wide resources
- To reflect, assess and share results to benefit future courses and students
- Transform the teaching and learning culture toward a more student-centered pedagogy through active learning, technology, and space use
- Foster learning gains
The sustainable goal is 30 classes/sem.

Most of the colleges on Campus have been touched by IMPACT (except the Vet School).

Many STEM classes (Sciences, Technology, Engineering)
What have we learned?

- IMPACT is setting new expectations across campus for excellence in undergraduate teaching.
- While many universities are prioritizing active learning, few are doing so at a broad campus-wide scale like Purdue.
- We are carefully monitoring the effectiveness of our efforts.
- In turn, this is driving the need for new types of learning spaces that support active learning.
Student Learning, Retention and Perception

• Overall, 65% of the IMPACT classes demonstrated an increase in course GPA

• Fall to spring retention and graduation rates increased for the majority IMPACT courses.

• Higher course grades were observed for comparable courses taught concurrently or previously.

• Students reported an equivalent or increased level of engagement and confidence

• Over 80% of the students reported that the classroom physical space met their needs for learning and that the technology used engaged their interest
IMPACT Classrooms

Hicks Undergraduate Library

3 IMPACT Classrooms Renovation summer ‘13

- Collaborative work stations
- Dynamic media projection capabilities
- Seating 72 - 120
IMPACT & INFORMATION LITERACY
Student-centered Learning & Information Literacy

• Active learning typically requires using information differently than passive learning:

  Do students know how to use information in the ways they need to in order to learn in the active approach being utilized?

• Informed learning – using information to learn about a subject

Bruce, 2008
Our Role in the Redesign Process

- Co-facilitate course redesign curriculum
- Provide pedagogic support as members of IMPACT Teams comprised of members from Libraries, CIE, or iTaP

Librarians involved with IMPACT
Information Literacy Transformations

- Librarians worked with 28 courses between Fall 2011 and the Summer of 2012
- 14 were identified as addressing IL
- 7 substantially increased IL efforts.

<table>
<thead>
<tr>
<th>Course</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL</td>
<td>Somewhat</td>
<td>Major focus</td>
</tr>
<tr>
<td>CE</td>
<td>Somewhat</td>
<td>Major focus</td>
</tr>
<tr>
<td>EDCI</td>
<td>Somewhat</td>
<td>Major focus</td>
</tr>
<tr>
<td>GS</td>
<td>Not at all</td>
<td>Somewhat</td>
</tr>
<tr>
<td>MET</td>
<td>Somewhat</td>
<td>Major focus</td>
</tr>
<tr>
<td>STAT</td>
<td>Somewhat</td>
<td>Major focus</td>
</tr>
<tr>
<td>TECH</td>
<td>Somewhat</td>
<td>Major focus</td>
</tr>
</tbody>
</table>
## Purposes for Addressing IL

<table>
<thead>
<tr>
<th>Course</th>
<th>Information Literacy Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biol</td>
<td>Learning how biologists use evidence</td>
</tr>
<tr>
<td>CE</td>
<td>Reviewing technical information on climate change, water resources, fracking, etc.</td>
</tr>
<tr>
<td>EDCI</td>
<td>Integrate information technology into K-12 learning environments</td>
</tr>
<tr>
<td>GS</td>
<td>Using information effectively to become better learners</td>
</tr>
<tr>
<td>MET</td>
<td>Critical thinking</td>
</tr>
<tr>
<td>STAT</td>
<td>Evaluating information sources</td>
</tr>
<tr>
<td>TECH</td>
<td>Design process, including collecting information and data, generating ideas, etc.</td>
</tr>
</tbody>
</table>
Example: Statistics & Society

http://youtu.be/XE7P85XL3NI
Assessment

• Identify changes in IL focus of course
  ◦ e.g., learning outcomes related to IL

• Map student performances on assessment instruments that tie back to IL learning outcomes

• Determine student perceptions of IL learning outcomes
Research Projects

• IMPACT’s Influence on Faculty Understandings of Information Literacy (Maybee & Doan)

• Peer Leader’s Influence on Team’s Learning to Use Biological Information (Pelaez, Slebodnik, & Maybee)
Future Directions

• Work with new instructors

• Redesign courses that are part of Purdue’s new core curriculum
  • 17 IMPACT courses are currently part of the new core
  • 7 of these courses meet the core foundational IL outcome
Mentoring faculty through course redesigns

LIAISON LIBRARIANS ON THE FRONT LINE
Role of Support Team Members

- **Primary** role
  - Mentor, coach, cheerleader
  - “Responsible” to IMPACT Mgmt Team

- **Secondary** role
  - Backup
  - Second opinion
  - Represent different interests/experiences

- “Underground” invisible college
Lessons from Working w/ Faculty

• All good things come to those who wait...

• I’ve created a monster...

• Too many cooks...

• Expect the unexpected...

• I’ve got my eyes on you...
Barriers when Working w/ Faculty

• Still think they know what is best
• Can become fixated
• They act like their students
• Politics
• No rewards for (Scholarship of) Teaching and Learning
Example 1: TECH 120

- OLD: Traditional “seminar”
- REDESIGN: Flipped in computer lab
- First iteration, worked on benchmarking solutions to prevent future bridge collapse like the I-35 collapse in MN in 2007.
  - Evaluate solutions on two levels – how good was the source from and how good was the solution in solving the problem.
  - Librarians developed module and led discussion in 16 sections.
• Second iteration, focused on “Green Challenge” in the College of Technology.
  • Updated videos and include subject searching.
  • Focused on near-transfer of skills – modified examples.
  • Students had completely different topics, so difficult to compare among group members.
• Third iteration, fall 2013, suggestions:
  • Students should focus on similar problem, whatever it is.
  • Focus/assess evaluating the *source* of solutions outside class.
  • Focus/assess evaluating *technical aspects* of solutions in class.
  • Make sure idea of evaluating information as part of the design process is interwoven throughout the rest of the semester.

• Submitted and accepted for Foundational Core for Information Literacy
Example 2: CE 355

- Environmental Engineering Course – wants engineers to not only focus on applying information to calculations, but to critically think about their answer and say, “so what?”

- Information is critical for success in society – global warming, fracking, water shortage, etc.

- Two Cities project throughout the semester – comparing one US city with a similar city in a developing country.
CE 355 - 2

**Creative Thinking** Learning Objectives

- 1.2b. Students will integrate diverse credible sources of information to create strategies to sustainably manage resources.

**Critical Thinking** Learning Objectives

- 2.2a. Students will be able to evaluate conflicting information in the context of sustainability.

- 2.2b. Students will produce scholarly products that demonstrate proficient information literacy skills.
CE 355 - 3

• First iteration, during FLCs
  • Basic lectures and LibGuide (usage stats)
  • Spoke at 2 classes
  • Instructor disappointed in info lit question on final exam

• Second iteration, first full implementation
  • Guiding lectures (20 min), working days, improved LibGuide
  • Attended 7 classes
  • Immediate info lit assignment in week one – found them to be very successful in evaluating sources of information
  • More structured info lit assignment for fracking unit
• **Third iteration (spring 2013)**
  - Enhanced working days with peer Teaching Assistants
  - More outside communications working with groups
  - Improved LibGuide and taking suggestions from students – including updating live during working days
  - Attended 6 classes so far

• **Future iterations:**
  - Focus on estimating data, dealing with statistics
  - “Data literacy”
  - Conduct more research throughout the semester
What else do I get out of this?

• Subject enthusiasm - Fracking example

• How to be more spontaneous

• Improvements to my teaching
  • rewrote my course outcomes and objectives
  • get to experiment with other classes to see what might or might not work for me

• Creating my own community of practice
Librarians are...

- Innovators
- Campus collaborators
- Pedagogic consultants
- Faculty mentors

- What role do librarians play on your campus?
References


Link to FLC Syllabus

https://docs.google.com/file/d/0B29YtI_4m1_bTVk5VzRiMjhpdm8/edit?usp=sharing