Instructional Technology: A Welcome Change?

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Overview

- Introduction
- I do not know what this is...
- NSSE, FSSE, and Technology
- Technology and Good Teaching Practices
- Kristin
- Megan
- Questions & Discussion
I do not know what this is...

1. **Course management systems** (WebCT, Blackboard, Desire2Learn, Sakai, etc.)
2. **Student response systems** (clickers, wireless learning calculator systems, etc.)
3. **Online portfolios**
4. **Blogs**
5. **Collaborative editing software** (Wikis, Google Docs, etc.)
6. **Online student video projects** (using YouTube, Google Video, etc.)
7. **Video games, simulations, or virtual worlds** (Ayiti, EleMental, Second Life, Civilization, etc.)
8. **Online survey tools** (Survey Monkey, Zoomerang, etc.)
9. **Videoconferencing or Internet phone chat** (Skype, TeamSpeak, etc.)
10. **Plagiarism detection tools** (Turnitin, DOC Cop, etc.)
Percentage of Students that Do Not Know What the Technology Is
NSSE & FSSE

National Survey of Student Engagement (NSSE)
- Surveys first-year and senior students about the nature and quality of their undergraduate experience
- Focuses on what students do
- In 2009; 370,000 students from 640 institutions
- [www.nsse.iub.edu](http://www.nsse.iub.edu)

Faculty Survey of Student Engagement (FSSE)
- Measures faculty members’ expectations of student engagement in quality educational practices
- Also asks about how faculty spend their time
- In 2009; 19,000 faculty from 148 institutions
- [www.fsse.iub.edu](http://www.fsse.iub.edu)
NSSE & FSSE Technology Items

1. Use of course management features
2. Use of Web 2.0 technologies
3. Use of technological methods of communication

31,000 students at 58 institutions
12,000 faculty at 50 institutions
18 institutions administered to both their students and faculty

Institutions spanned all Carnegie classifications, both private and public institutions, with enrollment size ranging from 610 to 20,780 undergraduates
NSSE & FSSE Technology Items

During the current school year, about how often did you use...in your courses?
- Very often, Often, Sometimes, Never
- This option was not available
- I do not know what this is

During the current school year, about how many of your classes did you take entirely online?
- None, Some, Most, All
NSSE Technology Scales

Course management Technology
- Grade posting, online lecture notes/slides, etc.

Interactive Technology
- Student response systems, blogs, simulations, etc.

High-Tech Communication
- Text messaging, instant messaging, social network sites
What was the most frequently used Course Management Tool?

1. Posting of announcements, assignments, or course readings
2. Lecture notes/slide posting
3. Homework, quizzes, tests, etc.
4. Instructor feedback on assignments
5. Grade posting
6. Discussion boards
7. Instant messaging/chat room
Frequent Use of Course Management Tools (%)
Use of Course Management Technology

More often used by students that are
- Non-traditional
- Female
- Taking at least some of their courses online
- Professional majors, Business majors (FY), and Education majors (SR)
  - Least often used by Arts & Humanities majors, Social Science majors (FY), and Physical Science majors (SR)

At institutions that are
- Private
- Larger
- Small/medium Master’s
By faculty that
- Are not tenure track
- Teach more first-years than seniors
- Teach primarily Education and Arts & Humanities courses
What was the most frequently used Interactive Technology

1. Student response systems
2. Online portfolios
3. Blogs
4. Collaborative editing software
5. Online student video projects
6. Video games, simulations, or virtual worlds
7. Online survey tools
8. Videoconferencing of Internet phone chat
Frequent Use of Interactive Technology (%)

- Student response systems
- Online Portfolios
- Blogs
- Collaborative Editing Software
- Online Student Video Projects
- Video Games, Simulations
- Online Survey Tools
- Videoconferencing

First-Years
Seniors
Use of Interactive Technology

More often used by students that are
- Traditional
- Male
- Taking at least some of their courses online
- Professional majors and Business majors
  - Least often used by Arts & Humanities majors, Biological Science majors (FY), and Engineering majors (SR)

At institutions that are
- Private
- Larger
- Doctoral Research

By faculty that
- Are non-tenured
- Are female
- Teach more seniors than first-years
- Teach primarily Business and Professional courses
What was the **THIRD** most frequent use of communication technology?

1. Face-to-face
2. Phone
3. Text messaging on a cell phone
4. Email
5. Discussion boards/course management system postings
6. Instant messaging/chat rooms
7. Social network sites
Frequent Use of Communication Technology (%)
Use of High-Tech Communication Technology

More often used by students that are
- Traditional
- Male
- Taking at least some of their courses online

- Business majors and Education majors
- Least often used by Engineering majors, Physical Science majors (FY), and Arts & Humanities majors (SR)

At institutions that are
- Smaller
- Baccalaureate

By faculty that
- Are not tenure track
- Are younger
- Primarily teach Professional, Business, and Education courses
Technology’s Relationship with Student Learning and Engagement

Student Learning and Engagement

NSSE Benchmarks
- Academic Challenge
- Active & Collaborative Learning
- Student-Faculty Interaction
- Supportive Campus Environment

Self-Reported Gains
- Gains in Practical Competence
- Gains in Personal Development
- Gains in General Education

Deep Learning Scales
- Higher Order Thinking
- Integrative Learning
- Reflective Learning
# Technology's Relationship with Student Learning and Engagement

<table>
<thead>
<tr>
<th>Course Management Technology</th>
<th>First-Year Students</th>
<th>Senior Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active &amp; Collaborative Learning</td>
<td>+++</td>
<td>++</td>
</tr>
<tr>
<td>Student-Faculty Interaction</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Gains in Personal and Social Development</td>
<td>+++</td>
<td>+++</td>
</tr>
</tbody>
</table>

○ Three pluses indicates a statistically “medium” difference, observable and noticeable to the eye of the beholder

○ All analyses control for age, gender, major, number of classes taken entirely online, and institutional Carnegie classification
Technology’s Relationship with Student Learning and Engagement

<table>
<thead>
<tr>
<th>Interactive Technology</th>
<th>First-Year Students</th>
<th>Senior Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Challenge</td>
<td>++++</td>
<td>++</td>
</tr>
<tr>
<td>Supportive Campus Environment</td>
<td>++++</td>
<td>++</td>
</tr>
<tr>
<td>Higher Order Thinking</td>
<td>++++</td>
<td>++</td>
</tr>
<tr>
<td>Gains in Practical Competence</td>
<td>+++++</td>
<td>+++</td>
</tr>
<tr>
<td>Gains in Personal and Social Development</td>
<td>++++</td>
<td>+++</td>
</tr>
<tr>
<td>Gains in General Education</td>
<td>++++</td>
<td>+++</td>
</tr>
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</table>
# Technology’s Relationship with Student Learning and Engagement

<table>
<thead>
<tr>
<th>High-Tech Communication</th>
<th>First-Year Students</th>
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</tr>
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<tbody>
<tr>
<td>Academic Challenge</td>
<td>++</td>
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</tr>
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<td>Integrative Learning</td>
<td>+++</td>
<td>++++</td>
</tr>
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<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Gains in Personal and Social Development</td>
<td>+++</td>
<td>+++++</td>
</tr>
</tbody>
</table>

Five or more pluses indicates a statistically “large” difference, plainly evident or obvious.
“TECHNOLOGY, IN AND OF ITSELF, CANNOT TRANSFORM THE TEACHING AND LEARNING PROCESS – ONLY PEOPLE CAN DO IT.”

Mawka and Salim, 2007, p. 71
Possible Uses of IT to Advance Learning

Brainstorm and Sharing of Examples

In teams of approximately 5, generate ideas about how to advance the following sound pedagogical practices.

- Student-Faculty Contact
- Active and Collaborative Learning
- Frequent Feedback
- Integrative Learning
Student-Faculty Contact

- Video Conferencing
  - Adobe Connect
  - Webconference.com

- Bridges the miles and oceans and makes interacting with experts anywhere in the world possible.
Video Conferencing Example

Chad Christensen: Questions
Theresa: Megan - You have feedback or echo
Megan Palmer: Thanks.
Megan Palmer: I have two computers on.
Megan Palmer: I'll try again.
Theresa: much better
andrea robledo: hello all. I have a blank screen in the camera and voice box, is that right?
Mahausahaan: I don't have a camera and voice button on that pod...is that right?
Megan Palmer: Hold on one moment.
Brian G: it's either right or left...
Megan Palmer: I'm working on this.
Megan Palmer: Moe can you test your camera and voice, please? :)
Brian G: yep
Megan Palmer: I can
andrea robledo: I do!
Danny: hear ya
Cameron: wonderful
Mahausahaan: SHOULD I START RIGHT AT 6?
andrea robledo: Go mo!
Mahausahaan: OKAY...WILL DO!
andrea robledo: Did camera's just freeze?
Megan Palmer: I think they are okay now.
andrea robledo: thanks... If everything is quiet, I'm good, but if there is talking I got none of it
andrea robledo: take that back! I'm good
Megan Palmer: I know about the feedback.
Megan Palmer: Hold on, one moment.
Amy Jones: sounds good
Jamie Shepherd: they are!
Cameron: they are gone

http://breeze.iu.edu/p99471556/
Feedback

Audio Feedback
- Example 🎤
- Audacity

Guided Field Experience
- Podcasts
  - Example
Active & Collaborative Learning

Wiki
Active & Collaborative Learning

Wikispaces
Active & Collaborative Learning

Google Docs

<table>
<thead>
<tr>
<th>Name</th>
<th>Location (Breeze or office)</th>
<th>Date</th>
<th>Time (20 minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandi Ingals</td>
<td>Breeze</td>
<td>Monday, April 13</td>
<td>10:00:00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monday, April 13</td>
<td>10:20:00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monday, April 13</td>
<td>10:40:00</td>
</tr>
<tr>
<td>Cassandra Bless</td>
<td>Office</td>
<td>Monday, April 13</td>
<td>11:20:00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monday, April 13</td>
<td>11:40:00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tuesday, April 14</td>
<td>1:00:00</td>
</tr>
<tr>
<td>Courtney Buchanan</td>
<td>Breeze</td>
<td>Tuesday, April 14</td>
<td>1:20:00</td>
</tr>
<tr>
<td>Natalie Fiorini</td>
<td>Breeze</td>
<td>Tuesday, April 14</td>
<td>1:40:00</td>
</tr>
</tbody>
</table>
Active & Collaborative Learning

- Team Based Learning
- Live chat
- Team Adobe Connect rooms
Integrative Learning

Module Summaries

- **PPT with audio**

Blogs

- **Ning.com**
  - Example
- **Blogger.com**
- **Glogster.com**

Animations

http://www.iupui.edu/7Egeotrans/assets/flash/intro.html
Integrative Learning

Online resources

Wisc-Online

Chicken Around the World
### Student Feedback

Considering the interaction that you had with other students and your course instructors, how do you think this course being offered in a hybrid fashion affected the quality of interaction you had:

<table>
<thead>
<tr>
<th>Activity</th>
<th>More likely</th>
<th>About the same</th>
<th>Less likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>discuss the ideas and concepts taught in this course with the instructor.</td>
<td>26%</td>
<td>74%</td>
<td></td>
</tr>
<tr>
<td>discuss the ideas and concepts taught in this course with other students.</td>
<td>50%</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>work on assignment with other students.</td>
<td>62%</td>
<td>28%</td>
<td></td>
</tr>
<tr>
<td>communicate with content experts outside your college or university.</td>
<td>88%</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>apply what you are learning to &quot;real world&quot; problems.</td>
<td>62%</td>
<td>28%</td>
<td></td>
</tr>
</tbody>
</table>

“The variety of learning activities pushes me past the comfort zone and challenges me, and though I may not always like it, I do appreciate how it improves the learning process. This experience has also introduced instructional design features that I can hopefully incorporate in my own repertoire of future teaching endeavors, though I am a bigger fan of face-to-face, non-distance class formats, I see the potential more with the success of this class experience.”
## Student Feedback

### Because of the way this course uses electronic media,

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I put more thought into my comments.</td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>I am better able to juggle my course work with my work and/or home responsibilities.</td>
<td>62%</td>
<td>38%</td>
</tr>
<tr>
<td>I was able to take this course.</td>
<td>58%</td>
<td>42%</td>
</tr>
</tbody>
</table>

### Considering the interaction that you had with other students and your course instructors, how do you think this course being offered in a hybrid fashion affected the quality of interaction you had with other students?

<table>
<thead>
<tr>
<th>Interaction</th>
<th>Increased</th>
<th>No Difference</th>
<th>Decreased</th>
</tr>
</thead>
<tbody>
<tr>
<td>with other students?</td>
<td>87%</td>
<td>0%</td>
<td>13%</td>
</tr>
<tr>
<td>with the instructor?</td>
<td>88%</td>
<td>12%</td>
<td>0%</td>
</tr>
</tbody>
</table>

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*“The group forums helped with focusing on topics of interest, and I like smaller groups in the forums.”*

*“I am still not a fan of the blog (mainly because I’ve not embraced that form of media communication)...”*
Questions?

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