From Community Source to Open Data: Leveraging the Sakai Community to Make Better Decisions

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Session Overview

• The “average” IT survey
• The Sakai community & building a shared survey instrument
• High-level results and interesting differences
• Using survey data to promote local innovations

Data Geeks: bit.ly/misi2010
Survey Respondents at the University of Delaware

- **Topics:**
  - Use of technology for academic purposes
  - Special focus on the Sakai LMS

- **Respondents:**
  - 51 Faculty
  - 361 Students
Rating the Value of Information Technologies

Q. The following information technologies are valuable for my course-related activities...

<table>
<thead>
<tr>
<th>Technology</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sakai or Other LMS</td>
<td>4.7</td>
<td>2.7</td>
</tr>
<tr>
<td>Social Networking Websites</td>
<td>3.6</td>
<td>3.0</td>
</tr>
<tr>
<td>Handheld Devices</td>
<td>3.6</td>
<td>2.7</td>
</tr>
</tbody>
</table>

- Instructor
- Student
Observations

- **Instructors** and **students** highly value the use of a LMS.

- **Students** value the use of **social media** and **handheld devices** for learning more than **instructors**.
Observations

• Instructors and students highly value the use of a LMS.
• Students value the use of social media and handheld devices for learning more than instructors.

We all do this.

We survey our users (to death), analyze the data, make decisions, and put a plan into action.
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We survey our users (to death), analyze the data, make decisions, and put a plan into action.

What if we could compare our own institution with our peers?

What could we learn?
The Sakai Community

- Began as a research project: Sharing code on a Collaboration and Learning Environment (CLE)

- Now: Over 200 institutions
  - Many contribute software code under an open, community license
The Sakai Community

- Non-technical professionals:
  - Leveraging the network of Sakai institutions
  - Understand how technology is used to support teaching & learning
From Local to Global
From Local to Global

Institutions Using Sakai

Show All | Production | Pilots | Partners: Academic | Partners: Commercial Affiliates | Community Servers

Map | Satellite | Hybrid

Terms of Use

2003

2011
Co-Constructing a Survey

• The Sakai Multi-Institutional Survey Initiative (MISI)

• Goal: Gauge user attitudes, perceptions, and use.

• Method: Locally-administered online surveys, all using a “core” set of survey items.
# Sausage-Making: Survey-Style

## Course-Related Activities - In General

<table>
<thead>
<tr>
<th>Item</th>
<th>Scale</th>
<th>Audience Voting</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>The majority of courses I teach / take at &lt;Institution&gt; are conducted...</td>
<td>Radio button selection</td>
<td>Both</td>
<td>+1(Severin, Danubius) +1(Angela, Rice) +1(Charmaine, JHU) +1(Rita, IU) 0(Susan, Lourdes) +1(Salwa-Texas State) +1(John-VT) +1(Yves UPMC) +1(Ylna/Stephanie (UVA) 0(Lisa, UCA)</td>
</tr>
</tbody>
</table>

Please rate your agreement with the statements below: The following information technologies are valuable for my course-related activities...  

- Blogging tools (e.g., Blogger)  
- Collaborative document sharing (e.g., Google Docs)  
- File storage systems (e.g., IFS)  
- Group calendar  
- Handheld devices (e.g., Palm Pilots, Blackberries)  
- Instant Messaging (e.g., AOL IM, Chat)  
- Learning management systems (e.g., <Sakai>)  
- My personal website  
- Online quiz / test systems  
- Online media (e.g., audio, video)  
- Online surveys (e.g., SurveyMonkey)  
- RSS news feeds (e.g., New...

<table>
<thead>
<tr>
<th>Item</th>
<th>5-point Likert scale (plus N/A)</th>
<th>Audience Voting</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td>Both</td>
<td>+1(Severin, Danubius) +1(Angela, Rice) 0(Charmaine, JHU) +1(Rita, IU) 0(Susan, Lourdes) +1(Salwa-Texas State) +1(John-VT) +1(Yves UPMC) +1(Ylna/Stephanie (UVA) 0(Lisa, UCA)</td>
</tr>
<tr>
<td>Disagree</td>
<td></td>
<td>Both</td>
<td>Re. File storage systems: As a core item, should we be using a more self-explanatory term such as shared, network-accessible file systems. That might allow people to think more readily about cloud-based systems and campus systems that are simple shared drives with access-control. (Dick, Delaware) Re: File storage is too technical. I would prefer Web server. I will also change some examples. For instance Survey Monkey is completely unknown for us. Yves UPMC)</td>
</tr>
<tr>
<td>Neutral</td>
<td></td>
<td>Both</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td></td>
<td>Both</td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td></td>
<td>Both</td>
<td></td>
</tr>
<tr>
<td>Have Not Used</td>
<td></td>
<td>Both</td>
<td></td>
</tr>
</tbody>
</table>

### Additional Tools
- Shared wiki
- Conference calls
- Email
Survey Instrument

• General Information Technology (IT) use / preferences in courses
Survey Instrument

Using information technology in my course(s) is valuable for...

(5-point Likert scale: Strongly Disagree - Strongly Agree)

- Improving my teaching
- Improving my students’ learning
- Saving me time (efficiency)
- Accessing material any time, from any location (convenience)
- Managing my course activities
- Improving my students’ communication to me
- Improving my communication to my students
- Improving my students’ communication with each other
Survey Instrument

- General Information Technology (IT) use / preferences in courses
- LMS activities and perceptions
Survey Instrument

In terms of presenting and / or sharing materials, Sakai is valuable for...

(5-point Likert scale: Strongly Disagree - Strongly Agree)

- Posting a syllabus
- Posting lecture outline or notes after the lecture
- Posting sample exams & quizzes for learning purposes

Within Sakai, the following tools are valuable for my course-related activities...

- Assignments
- Discussion
- Gradebook
Survey Instrument

- General Information Technology (IT) use / preferences in courses
- LMS activities and perceptions
- Quantitative and qualitative items
Survey Instrument

Has using Sakai affected how you use in-class time? If so, how?

• Quantitative and qualitative items
Data Collection & Analysis

- Surveys individually administered by each participating institution

- Data then uploaded to Michigan's Sakai implementation
Participants

• 3,431 Instructors

• 8,228 Students
Survey Items by Interaction Type

- **Learner-Content (LC)**
Survey Items by Interaction Type

- Learner-Content (LC)
- Learner-Instructor (LI)
Survey Items by Interaction Type

• **Learner-Content (LC)**

• **Learner-Instructor (LI)**

• **Learner-Learner (LL)**
## Survey Items and Interaction Types

<table>
<thead>
<tr>
<th>Learner-Content</th>
<th>Learner-Instructor</th>
<th>Learner-Learner</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Post / Access online readings and supplementary materials</td>
<td>• Send / Receive messages or notifications</td>
<td>• Students work together on a task or assignment</td>
</tr>
<tr>
<td>• Post / Access lecture outline before lecture</td>
<td>• Students turn in assignments</td>
<td>• Students read / comment on each others’ work</td>
</tr>
<tr>
<td>• Post / Access lecture outline after lecture</td>
<td>• Instructors return assignments with comments and/or grade</td>
<td>• Students generate / share instructional materials</td>
</tr>
<tr>
<td>• Post / Access multimedia materials</td>
<td>• Students ask questions before lecture</td>
<td>• Instructors create / Students are part of ad-hoc student groups or teams</td>
</tr>
<tr>
<td></td>
<td>• Students ask questions after lecture</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Give / Take online exams and quizzes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Post / Access course or assignment grades</td>
<td></td>
</tr>
</tbody>
</table>
Research Questions

- Do instructors and students value interaction types differently?
- Do respondents in research and non-research universities value interaction types differently?
- Does the number of courses for which one has used an LMS influence how much one values specific interaction types?
- Does how much one uses IT in courses influence how much one values specific interaction types?
Independent Variables

- Same independent variables used across all three HLMs

<table>
<thead>
<tr>
<th>Key</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor / student</td>
<td>Expertise with computers</td>
</tr>
<tr>
<td>Research / Non-research</td>
<td>Frequency of LMS visits</td>
</tr>
<tr>
<td>university</td>
<td>Value of LMS</td>
</tr>
<tr>
<td>Number of courses one</td>
<td>Value of IT for improving teaching &amp; learning</td>
</tr>
<tr>
<td>has used an LMS</td>
<td></td>
</tr>
<tr>
<td>Preference for IT</td>
<td></td>
</tr>
</tbody>
</table>
Key Variables

Intercept
Student # of Courses Use IT Non-Research Student # of Courses Use IT Non-Research

SD Units
-0.8 -0.6 -0.4 -0.2 0 0.2 0.4 0.6 0.8

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Instructor / Student Differences

- Students value **LC** and **LI** interactions more highly than instructors
  - Students value **LI** interactions more than **LC** interactions
Individuals within non-research universities value LL more than individuals within research universities.

- Largest single factor for how much one values LL interactions.
Number of Courses

- Positively influences how much one values LC interactions
- Negatively influences how much one values LL interactions
Use of Information Technologies

• Significant, positive effect across all models
  - Largest effect for LL interactions compared to other interaction types
Implications

- Research focusing on different instructional uses and at different levels of analysis will help shed light on what is driving the differences
Bringing it Home: Supporting Local Innovations

- Using Sakai since 2004
- Reference point for new adopters
- New tools such as online course evaluations, textbooks, and increasing use of LTI-powered tools
Bringing it Home: Making Support Decisions

- Using Sakai since 2008
- Most Sakai tools used out-of-the-box
How do Instructors at Research Institutions Value IT?

Q. The following information technologies are valuable for my course-related activities...

- **Sakai or Other LMS**: Instructors-UD (4.7), Instructors-Other (4.5)
- **Online Media**: Instructors-UD (4.5), Instructors-Other (4.1)
- **Quiz/Test systems**: Instructors-UD (4.3), Instructors-Other (3.3)
- **Web-based file server**: Instructors-UD (4.1), Instructors-Other (3.6)
- **Personal website**: Instructors-UD (4.1), Instructors-Other (3.2)
- **Group calendar**: Instructors-UD (4.1), Instructors-Other (3.4)
- **Plagiarism-prevention tools**: Instructors-UD (4.0), Instructors-Other (3.1)
- **Clickers**: Instructors-UD (4.0), Instructors-Other (2.9)
How do Instructors at Research Institutions Value IT?

Q. The following information technologies are valuable for my course-related activities...

- Sakai or Other LMS: 4.7 (UD), 4.5 (Other)
- Online Media: 4.5 (UD), 4.1 (Other)
- Quiz/Test systems: 4.3 (UD), 3.3 (Other)
- Web-based file server: 4.1 (UD), 3.6 (Other)
- Personal website: 3.2 (UD), 3.4 (Other)
- Group calendar: 4.1 (UD), 3.4 (Other)
- Plagiarism-prevention tools: 4.1 (UD), 3.1 (Other)
- Clickers: 4.0 (UD), 2.9 (Other)

Whoa, what’s up with that?

Instructors-UD
Instructors-Other

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Possible Actions
Conclusion

- We all do surveys
- Value of the instrument-creating process
- Networking benefits
- Replicable for any purpose, in any community
Contact Us

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IT Client Support & Services • University of Delaware