Mar 10th, 3:00 PM - 3:45 PM

The Infotechnology Gap: Are Students Ready for Innovative Uses of Technology in Learning?

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The Infotechnology Gap: Are Students Ready for Innovative Uses of Technology in Learning?

The SoTL Commons 2011
Nick De Bonis, Steve Bonham
Thursday, 10 March 2011, 3-3:45 pm, Room 2911
The Spark...

- “Teaching and Learning with Technology” Faculty Learning Community, Fall 2010
- Brainstormed problems/issues in our classrooms (F2F, Hybrid & on-line)
- A hypothesis emerged: There is a gap between info-technology skill expectations by and for both students and teachers.
- Qs: How big is that gap and in what areas?
Purpose of this Study

• To investigate perceptions of infotechnology literacy skills for two linked populations:
  – Undergrad university students
  – Faculty members

• Expanded focus from traditional Computer Literacy to Infotechnology
“Computer Literacy” in 2011

• Conceptual knowledge relative to basic terminology (hard disk, RAM, etc.) and skills required to perform tasks in word processing, using spreadsheets, presentations and graphics... basic operating systems functions.

• Many states now have a computer literacy course required for high school graduation.
“Info-Technology” Literacy

• Is Computer Literacy PLUS...
  – Connecticon* savviness
    • Networking infrastructure (Internet via PC, Cell & other, (iPod, iPad, Game Platform, etc.))
    • People
    • Content
  – Internet savviness
    • Uses & purpose
      – As a consumer
      – As a producer (creating & contributing to the open WWW)
  – LMS savviness – in particular GeorgiaView (our system’s version of Blackboard/WebCT)
Objective: Identify Suspected Gaps

<table>
<thead>
<tr>
<th></th>
<th>Faculty Members</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Perception</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Perception of...</td>
<td>(Students) √</td>
<td>(Faculty) √</td>
</tr>
</tbody>
</table>

It was hypothesized that there would be gaps in two dimension:
• self-perceptions of both groups ∨
• perceptions of each other
The Instruments; Two Online Surveys

<table>
<thead>
<tr>
<th>Question</th>
<th>1 Strongly Disagree</th>
<th>2 Disagree</th>
<th>3 Neither disagree or agree</th>
<th>4 Agree</th>
<th>5 Strongly Agree</th>
<th>6 Don't Know</th>
<th>7 Not Applicable to me</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have trouble turning a computer on.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I can make a computer do what I want it to.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<td>○</td>
</tr>
<tr>
<td>When I have a problem using a computer, I usually solve it one way or another.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I need an experienced infotechnology person nearby when I use a computer.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I need someone to show me the best way to use a computer.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I'm in complete control when I use a computer.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I usually teach myself most of the things I need to know about a computer.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I prefer to learn new computer software packages on my own.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I'm experienced enough to design my own website.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I'm in complete control when I'm on the university website.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I'm in complete control when I'm using the university's Google email system.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I know how to convert different versions of files</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

A copy of the questionnaire can be obtained by contacting Dr. Nick De Bonis at ndebonis@georgiasouthern.edu.
Sample Frame & Sample Sizes

• Sample Frame
  – roughly 870 Georgia Southern faculty contacted by email using the GSUfac listserv early February 2011.
  – The same email was sent to 560 former students of De Bonis from 2009-10 and to 115 students in his Spring 2011 classes.
  – A second reminder email was sent the end of February.

• Sample
  – faculty n=19
  – student n=67.
Data Analysis

• Three steps
  – develop a profile of the samples’ computer literacy.
  – assess the samples’ literacy on GSU’s Learning Management System called GeorgiaVIEW (GaVIEW).
  – have the student and faculty sample respondents rate each other on infotechnology literacy.
### Step 1: Computer Literacy

#### I can make a computer do what I want it to.

- **Students A/SA (n=66)**: 98.4%
- **Faculty A/SA (n=19)**: 94.7%

#### When I have a problem using a computer, I usually solve it one way or another.

- **Students A/SA (n=66)**: 91.8%
- **Faculty A/SA (n=19)**: 89.5%

#### I'm in complete control when I use a computer.

- **Students A/SA (n=66)**: 91.1%
- **Faculty A/SA (n=19)**: 73.7%
Step 1: Internet Usage

On average, how many minutes each day are you on the internet?

- Students (n=64)
- Faculty (n=19)
Step 2: GaVIEW Proficiency

- Attaching files to, downloading files from assignments: 96.8% (Students), 78.9% (Faculty)
- Attaching files to, downloading files from email: 95.3% (Students), 63.2% (Faculty)
- Attaching, uploading a file to an assignment: 95.2% (Students), 73.7% (Faculty)
- Creating GaVIEW assessments in Respondus: 95.1% (Students), 73.7% (Faculty)
- Creating/Taking GaVIEW assessments: 95.3% (Students), 95.1% (Faculty)

Student A/SA (n=64) Faculty A/SA (n=19)
Step 3: Cross-Perceptions of GaVIEW Skills

Faculty Rated by Students (n=64):
- None: 6.1%
- Very Minimal: 26.3%
- Average: 59.1%
- Above Average: 9.5%
- Exceptional: 0%

Average/Above: 87.9%

Students Rated by Faculty (n=19):
- None: 6.1%
- Very Minimal: 26.3%
- Average: 26.3%
- Above Average: 5.3%
- Exceptional: 0%

Average/Above: 73.7%

Generally, it’s my impression that my professors/students have WHAT GaVIEW infotechnology skills.
Ratings by Colleges

- **Faculty Above Ave/ Exceptional**
  - COBA: 36%
  - HHS: 12%
  - CIT: 4%
  - CLASS: 44%
  - S&T: 4%

- **Students Above Ave/ Exceptional**
  - COBA: 1%
  - HHS: 0%
  - CIT: 0%
  - CLASS: 0%
  - S&T: 0%
Student Ratings by College

The bar chart shows the GaVIEW Skills Average ratings for different colleges:
- COBA: 3.5
- COE: 3.0
- HHS: 2.0
- CIT: 3.0
- CLASS: 2.7
- S&T: 2.3

These ratings are likely based on student evaluations of professors or teaching quality within each college.
GaVIEW Tools: Class Management

Times/Day

- Never
- Occasionally
- 1-3
- 4-6
- 7-9

Calendar (S) | Calendar (F) | Roster (S) | Roster (F) | Syllabus (S) | Syllabus (F)
GaVIEW Tools: Learning Activities

- Assess (S) - 0%
- Assess (F) - 25%
- Assign (S) - 50%
- Assign (F) - 75%
- Goals (S) - 100%
- Goals (F) - 95%
- LMs (S) - 59%
- LMs (F) - 4-6ti

Times/Day

Never
Occasionally
1-3ti
4-6ti
7-9ti
=>10ti

Georgia’s large-scale, small-feel research university
GaVIEW Tools: Assessments

- 95.3% of students (n=65) have taken/given GaVIEW quizzes/tests.
- 78.9% of faculty (n=19) have taken/given GaVIEW quizzes/tests.
- 5.3% of students (n=65) would never give GaVIEW quizzes/tests.
- 21.9% of faculty (n=19) would never give GaVIEW quizzes/tests.
- Online GaVIEW tests are perceived as more stressful than in a live classroom by 21.9% of faculty (n=19).

Georgia's large-scale, small-feel research university
GaVIEW Tools: Student Performance

My Grades
- 45% Occasionally
- 36% 1-3ti

My Progress
- 45% Occasionally
- 36% 1-3ti

Times/Day

Georgia's large-scale, small-feel research university
eBook Usage, Purchase Intent

Student A/SA (n=66)

- Has used eBook/A: 45
- Has used eBook/SA: 45

Faculty A/SA (n=19)

- Has used eBook/A: 0
- Has used eBook/SA: 1

<table>
<thead>
<tr>
<th></th>
<th>Has used eBook/A</th>
<th>Has used eBook/SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would buy eBook/A</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Would buy eBook/SA</td>
<td>3</td>
<td>17</td>
</tr>
</tbody>
</table>

- If text >$175, would buy eBook ~$50
- If text >$175, would offer ~$50 eBook as primary text.

Georgia's large-scale, small-feel research university
Demographics

• Population: GSU UG Students, Faculty
• Sample Frame
  • Students: 17,044 UG Oct 2010
  • Faculty: Listserve. (n=\(~746\) [Fall 2009])
  • DrD students: email to current, past classes (n=120+\(~560\)=680)
  • Students: colleagues (n=?)
• Sample (sample frame%)
  • Faculty: n=19 (2.5%)
  • Students: n=66 (\(~8.5\)%)

Georgia's large-scale, small-feel research university
Gender

<table>
<thead>
<tr>
<th></th>
<th>Students</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>62%</td>
<td>68%</td>
</tr>
<tr>
<td>Male</td>
<td>38%</td>
<td>32%</td>
</tr>
</tbody>
</table>
Race/Ethnicity

- **Asian**: 4.6%
- **Black/African American**: 16.9%
- **Caucasian**: 15.8%
- **Native American**: 73.8%
- **Pacific Islander**: 4.6%
- **Multi-racial**: 4.6%

**Students (n=66)**

- **Asian**: 4.6%
- **Black/African American**: 16.9%
- **Caucasian**: 15.8%
- **Native American**: 73.8%
- **Pacific Islander**: 4.6%
- **Multi-racial**: 4.6%

**Faculty (n=19)**

- **Asian**: 4.6%
- **Black/African American**: 16.9%
- **Caucasian**: 15.8%
- **Native American**: 73.8%
- **Pacific Islander**: 4.6%
- **Multi-racial**: 4.6%
Colleges

- COBA: Students (n=65) - 42.4%, Faculty (n=19) - 26.3%
- ED: Students (n=19) - 10.5%, Faculty (n=19) - 10.6%
- HHS: Students (n=19) - 10.6%, Faculty (n=19) - 5.3%
- CIT: Students (n=19) - 9.1%, Faculty (n=19) - 5.3%
- CLASS: Students (n=19) - 36.4%, Faculty (n=19) - 36.8%
- S&T: Students (n=19) - 4.5%, Faculty (n=19) - 15.8%
Findings, Limitations

• Limitations
  – n=small
  – Not representative of sample frame strata
  – Questionnaire length, e.g., time required to complete
  – Question redundancy

Next Steps

• Develop formal hypotheses about
  – The infotechnology gap
  – Professors’ uses of infotechnology, specifically the GaVIEW LMS, as a learning tool
  – Students’ expectations for the use of infotechnology, specifically the GaVIEW LMS, as a learning tool

• Perhaps an experiment testing the hypotheses
Questions, Comments, Complaints, Praise, Criticisms. Anybody want to take us to dinner?