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

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)**
  - <60 min: 12.3%
  - 61-120: 35.4%
  - 121-240: 36.8%
  - 241-360: 26.2%
  - 361-480: 21.1%
  - 481-600: 10.5%
  - 601-720: 1.5%
  - 721-840: 1.5%
  - 841-960: 1.5%

- **Faculty (n=19)**
  - <60 min: 5.3%
  - 61-120: 15.4%
  - 121-240: 26.3%
  - 241-360: 15.4%
  - 361-480: 26.2%
  - 481-600: 6.2%
  - 601-720: 1.5%
  - 721-840: 1.5%
  - 841-960: 1.5%

Georgia’s large-scale, small-feel research university
Step 2: GaVIEW Proficiency

![Bar chart showing proficiency levels for various tasks.

- Attaching files to, downloading files from assignments: 96.8% (Student A/SA n=64), 78.9% (Faculty A/SA n=19)
- Attaching files to, downloading files from email: 95.3% (Student A/SA n=64), 63.2% (Faculty A/SA n=19)
- Attaching, uploading a file to an assignment: 95.2% (Student A/SA n=64), 73.7% (Faculty A/SA n=19)
- Creating GaVIEW assessments in Respondus: 95.3% (Student A/SA n=64)
- Creating/Taking GaVIEW assessments: 95.1% (Student A/SA n=64)]
Step 3: Cross-Perceptions of GaVIEW Skills

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**
  - All colleges: 0%
Student Ratings by College

<table>
<thead>
<tr>
<th>College</th>
<th>GaVIEW Skills Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>COBA</td>
<td>3.5</td>
</tr>
<tr>
<td>COE</td>
<td>3.0</td>
</tr>
<tr>
<td>HHS</td>
<td>2.0</td>
</tr>
<tr>
<td>CIT</td>
<td>3.0</td>
</tr>
<tr>
<td>CLASS</td>
<td>2.7</td>
</tr>
<tr>
<td>S&amp;T</td>
<td>2.3</td>
</tr>
</tbody>
</table>
GaVIEW Tools: Class Management

Times/Day

- Calendar (S)
- Calendar (F)
- Roster (S)
- Roster (F)
- Syllabus (S)
- Syllabus (F)

Colors:
- Blue: Never
- Red: Occasionally
- Green: 1-3 Times/Day
- Purple: 4-6 Times/Day
- Teal: 7-9 Times/Day
GaVIEW Tools: Communications

Times/Day

- Never
- Occasionally
- 1-3 times/day
- 4-6 times/day
- 7-9 times/day
- =>10 times/day

Graph showing the usage frequency of various communication tools:

- Announce (S)
- Announce (F)
- Chat (S)
- Chat (F)
- Discussions (S)
- Discussions (F)
- Mail (S)
- Mail (F)
GaVIEW Tools: Assessments

- 95.3% of students (n=65) have taken or given a GaVIEW quiz/test.
- 78.9% of faculty (n=19) have taken or given a GaVIEW quiz/test.

- 5.3% of students (n=65) would never give a GaVIEW quiz/test.
- 21.9% of faculty (n=19) would never give a GaVIEW quiz/test.

- 0.0% of students (n=65) find online GaVIEW tests more stressful than in a live classroom.

- 100% of faculty (n=19) find online GaVIEW tests more stressful than in a live classroom.
GaVIEW Tools: Student Performance

- **My Grades**: 45% for 1-3 times/day, 36% for 4-6 times/day, 25% for 7-9 times/day, 0% for =>10 times/day.
- **My Progress**: 45% for Never, 36% for Occasionally, 25% for 1-3 times/day, 0% for 4-6 times/day, 0% for 7-9 times/day, 0% for =>10 times/day.
eBook Usage, Purchase Intent

### Students
- Total: (n=66)
- Would buy eBook/A: 45
- Would buy eBook/SA: 45

<table>
<thead>
<tr>
<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>
</tr>
<tr>
<td>Would buy eBook/SA</td>
<td>3</td>
</tr>
</tbody>
</table>

### Faculty
- Total: (n=19)
- Would order eBook/A: 45
- Would order eBook/SA: 45

<table>
<thead>
<tr>
<th>Has used eBook/A</th>
<th>Has used eBook/SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would order eBook/A</td>
<td>0</td>
</tr>
<tr>
<td>Would order eBook/SA</td>
<td>0</td>
</tr>
</tbody>
</table>

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

• Population: GSU UG Students, Faculty

• Sample Frame
  • Students: 17,044 UG Oct 2010
  • Faculty: Listserve. (n=\sim746 [Fall 2009])
  • DrD students: email to current, past classes (n=120+\sim560=680)
  • Students: colleagues (n=?)

• Sample (sample frame%)
  • Faculty: n=19 (2.5%)
  • Students: n=66 (~8.5%)
Race/Ethnicity

- **Asian**: 4.6%
- **Black/African American**: 16.9%
- **Caucasian**: 15.8%
- **Native American**: 84.2%
- **Pacific Islander**: 4.6%
- **Multi-racial**: 4.6%

**Students (n=66)**

- **Black/African American**: 16.9%
- **Caucasian**: 73.8%
- **Native American**: 84.2%
- **Pacific Islander**: 4.6%
- **Multi-racial**: 4.6%

**Faculty (n=19)**

- **Black/African American**: 15.8%
- **Caucasian**: 84.2%
- **Native American**: 4.6%
- **Pacific Islander**: 4.6%
- **Multi-racial**: 4.6%
Colleges

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