

# **A Brief Analysis of the ECAR Study of Undergraduate Students and Information Technology 2010**

Joe St Sauver, Ph.D. (joe@uoregon.edu)

3PM, January 26<sup>th</sup>, 2011

<http://pages.uoregon.edu/joe/it-council/>

# The Study

- The 2010 “Study of Undergraduate Students and Information Technology” was the 7th such annual survey administered by ECAR (the EDUCAUSE Center for Applied Research)
- The study is meant to be “an ongoing survey of the IT practices, preferences, preparedness, and performance of college students” and is, at least in part, designed to assess the match between institutions of higher education and the students attending them.
- The home page for the 2010 study is at <http://www.educause.edu/ers1006>

# Understanding the Study

- The results of the full study are available from:  
[www.educause.edu/ir/library/pdf/ERS1006/RS/ERS1006W.pdf](http://www.educause.edu/ir/library/pdf/ERS1006/RS/ERS1006W.pdf)  
(120 pages), hereafter “the study.”
- It is worth noting that this is a **\*LONG\*** and dense survey, running seven pages in printed form, so even offering brief comments on a subset of the items covered results in a rather long briefing.

# Student Participation in the Study

- Out of a cohort of 9,259 UO freshman (Fr) and seniors (Srs), 1,699 (18.3%) elected to participate in the study. (study at PDF page 115) As such, *UO had the highest number of participants of any school in the study* (almost 4.6% of the total sample) for a second year running. The next highest number of participants from a single school was 1,323 participants from UNLV.
- For comparison, some other institutions and their participation:
  - Arizona State: 25,989 Fr/Srs, 500 participants
  - Emory: 3,594 Fr/Srs, 175 participants
  - Indiana University: 16,513 Fr/Srs, 75 participants
  - U Maryland: 12,115 Fr/Srs, 362 participants
  - U Michigan-Ann Arbor: 13,739 Fr/Srs, 304 participants
  - U Wisconsin-Madison: 15,147 Fr/Srs, 292 participants
  - Virginia Tech: 11,457 Fr/Srs, 219 participants

# UO Students Are Very Similar to the Survey Population As a Whole

- While there are often significant differences between UO respondents and overall respondents in other surveys, in the case of this survey, UO's students seem to be strikingly similar to the other respondents in terms of demographic areas such as age. We do see expected differences in majors (e.g., since UO doesn't have an engineering school or school of health, we'd expect to see lower values in those disciplines, and we do).
- An example of how UO's respondents closely follow other respondents can be seen in respondent demographics: our participants were 40.6% male and 59.4% female, other respondents were 38.1% male and 61.9% female (see Q30)
- Similarly, consider respondent age (Q1) as shown on the following slide -- we're not identical, but we're certainly tracking the national distribution quite closely.

## How Old Are You? (q1)

	<b>UO</b>	<b>Other Respondents</b>
<b>18-19</b>	33.9%	36.9%
<b>20-24</b>	52.4%	46.2%
<b>25-29</b>	7.1%	6.8%
<b>30-39</b>	4.5%	5.0%
<b>40-49</b>	1.7%	3.2%
<b>50 and over</b>	0.5%	1.9%
<b>Total</b>	N=1,683	N=30,538

*Notes:* Responses were not accepted from students under the age of 18.  
The sum of cell percentages may not equal 100% due to rounding.

## Disciplinary Differences (q35)

<b>MAJOR</b>	<b>UO</b>	<b>Other 4 year Respondents</b>
<b>Social Sciences</b>	<i>22.6%</i>	<i>17.2%</i>
<b>Humanities</b>	<i>8.7%</i>	<i>9.5%</i>
<b>Fine Arts</b>	<i>8.6%</i>	<i>7.4%</i>
<b>Life/Biological Sci</b>	<i>13.6%</i>	<i>18.0%</i>
<b>Physical Sci/Math</b>	<i>7.5%</i>	<i>5.4%</i>
<b>Education</b>	<i>4.6%</i>	<i>9.4%</i>
<b>Engineering</b>	<i>0.7%</i>	<i>8.2%</i>
<b>Business</b>	<i>17.2%</i>	<i>15.7%</i>
<b>Other</b>	<i>24.5%</i>	<i>18.5%</i>
<b>Undecided</b>	<i>10.2%</i>	<i>6.2%</i>

# Most UO Students Now Own A Computer

- As noted on the next slide, nearly 90% of all UO students own their own **laptop**; many also have a **desktop** system of their own.
- Few students have purchased netbooks (small, inexpensive laptops) or e-book readers, however.



## Do You Have Your Own Computer?

<b>Own A <u>Desktop</u></b>	<b>UO</b>	<b>Other Respondents</b>
<b>Yes</b>	32.5%	41.4%
<b>No</b>	67.5%	58.6%

<b>Own a <u>Laptop</u></b>	<b>UO</b>	<b>Other 4 Year Respondents</b>
<b>Yes</b>	87.1%	85.8%
<b>No</b>	12.9%	14.2%

What about **netbooks**? 86% of UO respondents and 87.1% of other respondents do **NOT** own one...

Uptake of **e-book readers** is even lower: 96.8% of UO respondents do **NOT** own one; 96.9% of others don't own one.

# Do You Own a Handheld Device That Is Capable of Accessing the Internet (Whether Or Not You Use That Capability)? Examples Include iPhone, Treo, Blackberry, PocketPC, etc.

	UO	Other 4 year respondents
<b>Yes</b>	62.2%	62.9%
<b>No, but I plan to purchase one in the next 12 months</b>	9.7%	11.1%
<b>No, and I do NOT intend to purchase one in the next 12 months</b>	26.7%	24.6%
<b>Don't know</b>	1.4%	1.3%

**Note:** 56.4% of UO users use the Internet from their handheld device either “daily” or “several times per week”

# What Do You Do From Your Handheld Device?

	UO	Other 4 year respondents
<b>e. Check information (news, weather, sports, specific facts, etc.)</b>	86.9%	85.5%
<b>b. Email</b>	83.7%	81.6%
<b>d. Use social networking websites (Facebook, etc)</b>	78.1%	77.9%
<b>g. Use maps (find places, get directions, plan routes)</b>	75.5%	68.2%
<b>h. Conduct personal business (bank, shop, etc.)</b>	40.7%	37.6%
<b>l. Download or watch videos online</b>	34.0%	30.1%
<b>a. Instant message</b>	31.8%	37.6%
<b>k. Download/stream music</b>	29.8%	34.6%
<b>m. Download or play games online</b>	25.3%	25.3%
<b>c. Micro-blog (Twitter)</b>	25.2%	21.0%
<b>i. Use Internet photo sites</b>	20.4%	17.7%
<b>f. Read or contribute to blogs</b>	19.3%	14.7%
<b>j. Watch mobile TV</b>	10.6%	11.5%

# Students Spend A Lot of Time Online

- Just as was true last year, over half of all UO respondents spend at least 16 hours a week online -- that seems like quite a bit, however we must note that this time includes school, recreation and also potentially work time.
- That profile is also comparable to other respondents to the study (UO had 52.5% at 16 hours/week or more; other respondents to the study came in with 51.2% at 16 hours/week or more)

## Student Internet Hours/Week for School, Work, or Recreation? (q4)

<b>Hours/Wk</b>	<b>UO</b>	<b>UO Cum %</b>	<b>Other 4 year Respondents</b>
<b>&gt; 40</b>	10.3%	10.3%	9.1%
<b>36-40</b>	4.8%	15.1%	4.5%
<b>31-35</b>	3.6%	18.7%	3.8%
<b>26-30</b>	9.1%	27.8%	8.8%
<b>21-25</b>	9.5%	37.3%	9.3%
<b>16-20</b>	15.2%	52.5%	15.7%
<b>11-15</b>	18.6%	71.1%	17.5%
<b>6-10</b>	21.3%	92.4%	22.1%
<b>0-5</b>	7.6%	100%	9.3%
<b>Total</b>	N=1,325		N=23,612

# **How Do UO Students Feel About Technology?**

- Most appear to welcome technology as part of their education, much as they do elsewhere, and generally view it as contributing positively to their course experience.

# I Prefer Taking Courses That Use Information Technology (q10)...

	<b>UO</b>	<b>Other 4 year Respondents</b>
<b>Exclusively</b>	2.1%	3.8%
<b>Extensively</b>	20.2%	19.8%
<b>Moderate Level of Usage</b>	57.7%	58.8%
<b>Limited Level of Usage</b>	17.5%	15.4%
<b>No Usage</b>	2.6%	2.3%

# Opinions of UO Respondents...

	<b>Strongly Agree, Agree, or Neutral</b>
<b>I get <u>more actively involved</u> in courses that use IT (21a)</b>	76.4%
<b>The use of IT in my courses <u>improves my learning</u> (21b)</b>	85.0%
<b>IT makes doing my course activities <u>more convenient</u> (21c)</b>	90.4%
<b>By the time I graduate, the IT I have used in my courses will have <u>adequately prepared me for the workplace</u> (21d)</b>	81.3%
<b>My institution's <u>IT services are always available when I need them</u> for my coursework (21e)</b>	84.2%
<b>I <u>skip classes</u> when materials from course lectures are available online (21f)</b>	44.0%*

\* Note this is a reversed item where a low value is better



# **Are UO Students Early Adopters, Mainstream Adopters, Laggards or ?**

- UO students appear to embrace technology at approximately the same points and to the same extent as their comparative cohort.

## “Which of the Following Best Describes You?” (q22)

	<b>UO</b>	<b>Other 4 year respondents</b>
I love new technologies and am the first to experiment with and use them	10.0%	10.3%
I like new technologies and use them before most people I know	24.6%	24.6%
I usually use new technologies when most people I know do	51.9%	50.4%
I am usually one of the last people I know to use new technologies	9.2%	10.0%
I am skeptical of new technologies and use them only when I have to	4.2%	4.8%

# So, UO Student Competencies Appear to Be Quite Typical -- With a Couple Exceptions

- From a mastery of online information retrieval, to computer security, UO students appear to be quite typical, although there are difference when it comes to presentation software use and spreadsheet use skills: UO users are over ten points less likely to be “very skilled” or “expert” at use of presentation software products or spreadsheets than their comparative cohort.
- Factors which may drive this difference may include:
  - UO doesn't universally site license an office suite (such as MS Office) for student use
  - UO may not offer (enough) student training in these tools
  - Classes in some disciplines may not use those products
  - UO users may be more self-critical about their proficiency levels (but UO self-assessments track well in other areas, so it seems unlikely that they'd suddenly develop inaccuracies here)

## **“Very Skilled” or “Expert” Skill Self-Assessment Areas (Where Marked by >25% of Respondents)**

	<b>UO</b>	<b>Other 4 year Respondents</b>
<b>Using the Internet to Search for Info (11f)</b>	80.8%	81.1%
<b>Evaluate Reliability/Credibility of Online Info (11g)</b>	57.6%	58.4%
<b>Understand Legal/Ethical Issues re Use of Dig Info(11h)</b>	46.1%	48.1%
<b>Using University Library Website (11a)</b>	45.0%	43.0%
<b>Presentation Software (Powerpoint) (11c)</b>	<b>44.9%</b>	<b>56.6%</b>
<b>Spreadsheets (Excel, etc.) (11b)</b>	<b>29.9%</b>	<b>37.2%</b>
<b>Computer Maintenance (software updates, etc.) (11e)</b>	27.1%	27.2%

**“I like to learn through...”**  
**(“Yes” responses)**

	<b>UO</b>	<b>Other 4 year respondents</b>
<b>Listening to audio or watching video content (23e)</b>	<i>81.2%</i>	<i>80.4%</i>
<b>Running Internet searches (23d)</b>	<i>78.0%</i>	<i>78.8%</i>
<b>Programs I can control, such as video games, simulations, etc. (23b)</b>	<i>50.5%</i>	<i>50.2%</i>
<b>Text-based conversations over e-mail, IM, and text messaging (23a)</b>	<i>41.1%</i>	<i>44.8%</i>
<b>Contributing to websites, blogs, wikis, etc. (23c)</b>	<i>39.5%</i>	<i>36.7%</i>
<b>Creating audio or video content (23f)</b>	<i>30.3%</i>	<i>26.5%</i>

# Online Student Online Activities Appear to Be Quite Routine in Nature

- While it is often popular to think of today's students as using a wide range of progressive online technologies, the activities that students do with a high degree of frequency are actually quite "routine," as shown on the following slide (some activities, such as using the web or doing email, were not specifically assessed as part of this survey, largely because those technologies are assumed to be ubiquitous).

# Relatively-Popular Computer Activities Done “Daily” for School, Work, or Recreation Where Indicated By >10% of Respondents

	<b>UO</b>	<b>Other 4 year respondents</b>
<b>Text Messaging (5b)</b>	73.9%	75.1%
<b>Instant Messaging (5a)</b>	22.5%	23.8%
<b>Use Library Website (5c)</b>	21.2%	18.0%
<b>Twitter (5m)</b>	15.6%	16.2%

# Many “Cutting Edge” Online Activities Still Haven’t Gotten Much Popular Traction

- For example, while there is often great excitement amongst technology evangelists for things such as online virtual worlds, 90.5% of UO respondents report “never” using online virtual worlds for school, recreation or work. (see question 5j)



## Quasi-Obscure Computer Activities “Never” Done for School, Work, or Recreation by 50% or More of Respondents

	UO	Other 4 year respondents
<b>Online Virtual Worlds (Second Life, Forterra, etc.) (5j)</b>	90.5%	91.6%
<b>Multiuser Computer Games (World of Warcraft, poker, etc.) (5i)</b>	73.8%	73.1%
<b>Social Bookmarking/Tagging (del.icio.us, etc.) (5k)</b>	68.8%	74.8%
<b>Contribute Content to Wiki (Wikipedia, course wiki, etc.)(6a)</b>	61.1%	60.3%
<b>Audio Creation Software (Garage Band, Audacity, etc.)(5g)</b>	58.6%	65.%
<b>Contribute Content to Blogs(6b)</b>	55.0%	64.9%
<b>Contribute Content to Video Website (Youtube, etc.)(6c)</b>	55.0%	57.2%
<b>Video Creation Software (MovieMaker, iMovie, etc.)(5h)</b>	54.9%	59.4%
<b>Twitter (5m)</b>	51.9%	56.4%

**IV. UO's Responses to the Study:  
What's The Classroom Environment Like?**

# **Having Learned A Bit About Our Student Respondents, How Do They Perceive Technology In the Classroom at UO?**

- Many UO students (like the survey respondents as a whole) believe that faculty generally use technology effectively, including providing adequate training for their classes, although obviously some students still see gaps, including deficiencies in instructor IT skills.

# **How Many of Your Instructors Use Information Technology Effectively In Courses? (15a)**

	<b>UO</b>	<b>Other 4 year respondents</b>
<b>Almost All</b>	15.5%	18.4%
<b>Most</b>	27.2%	26.2%
<b>About Half</b>	21.2%	20.9%
<b>Some</b>	25.2%	24.5%
<b>Almost None</b>	7.3%	7.1%
<b>Don't Know</b>	3.6%	2.8%

# **How Many of Your Instructors Provide Students With Adequate Training For The IT Used In Courses? (15b)**

	<b>UO</b>	<b>Other 4 year respondents</b>
<b>Almost All</b>	10.0%	12.1%
<b>Most</b>	21.4%	22.2%
<b>About Half</b>	16.6%	14.5%
<b>Some</b>	25.6%	27.1%
<b>Almost None</b>	18.9%	18.8%
<b>Don't Know</b>	6.8%	5.3%

# How Many of Your Instructors Have Adequate IT Skills For Carrying Out Course Instruction? (15c)

	<b>UO</b>	<b>Other 4 year respondents</b>
<b>Almost All</b>	12.5%	16.2%
<b>Most</b>	30.6%	28.7%
<b>About Half</b>	19.3%	17.8%
<b>Some</b>	25.9%	24.7%
<b>Almost None</b>	6.7%	7.7%
<b>Don't Know</b>	5.1%	4.9%

# **Students Appear To Be Broadly Using Our Teaching and Learning System, Blackboard**

- ... although it is somewhat surprising to see that 27.2% of UO students are NOT using Blackboard for any of their courses this term

# Courses Using a Course or Learning Management System (Blackboard, etc.) (q17)

Are you using a course or learning management system for any of your courses this quarter/ semester?	UO	Other 4 year respondents
<b>Yes</b>	72.8%	66.8%
<b>No</b>	27.2%	33.2%

***Some course or learning management system-related notes:***

- a) 78.6% of UO respondents say they use a course or learning management system either “daily” or “several times per week.” (q16)
- b) 83.9% of UO respondents indicate that they are “fairly skilled,” “very skilled” or “expert” at using a course or learning management system. (q18)
- c) Only 6.9% of UO respondents report having had a “negative” or “very negative” overall experience using course or learning management systems. (q19)



# **UO Students Are Using Technology Somewhat Differently Than Our Comparators**

- ... less Powerpoint and Excel
- ... more Photoshop and other graphics software (influence of the AAA school?)
- See the next slide

# Are You Using Any of the Following For Any of Your Courses This Term? (10%+ responses only)

	UO	Other 4 year respondents
University Library Website (12o)	71.2%	71.2%
Presentation Software (Powerpoint) (12b)	52.3%	69.8%
Spreadsheets (Excel, etc.) (12a)	40.1%	46.4%
Wikis (12l)	36.6%	33.3%
Social Networking Sites (Facebook, etc.) (12k)	30.9%	30.2%
E-books or e-textbooks	22.4%	24.7%
Graphics Software (Photoshop, Flash, etc.) (12c)	20.8%	14.5%
Clickers (12r)	20.4%	18.1%
Blogs (12m)	19.3%	11.4%
Instant Messaging (12j)	14.3%	16.6%
Programming Languages (C++, Java, etc.) (12f)	10.9%	12.3%
Course Lecture Podcasts or Videos (12g)	16.2%	21.2%

## **V. UO Responses to the Study: Emerging Issues**

# The Emerging Issues For The 2010 Study

- This year, the emerging issues the 2010 study considered were:
  - E-books or e-textbooks (12q)
  - Web-based and collaborative tools (such as Google Docs) (q13-14)
  - Entirely online courses (q20)
  - Social networking (such as Facebook) (q24)

# Are You Using E-books or E-textbooks For Any Of Your Courses This Quarter/Semester? (12q)

	<b>UO</b>	<b>Other 4 Year Schools</b>
<b>No</b>	77.6%	75.3%
<b>Yes</b>	20.4	18.1%

If students are using E-books or E-textbooks, they're doing so on their laptops or smart phones, because only a handful of respondents report having a dedicated e-book reader such as a Kindle or Nook (96.8% do NOT have such a device at UO, and 96.9% of other 4 year respondents do NOT)

# Are You Using Web Based Tools for Any of Your Courses This Quarter/Semester? (q13)

- a. Web-based **word processor, spreadsheet, presentation** and form applications (e.g., Google Docs): UO: 35.8%, Other: 36.2%
- g. College-related **review/opinion sites** (RateMyProfessors, College Prowler, Unigo, College Confidential, etc.): UO: 25.1%, Other: 29.4%
- b. **Video sharing websites** (e.g., Youtube): UO: 23.7%, Other: 25.1%
- d. Web-based **calendars** (such as Google Calendar): UO: 17.8%, Other: 17.5%
- f. Web-based **citation/bibliography tools** (CiteULike, OttoBib): UO: 17.1%, Other: 17.2%
- i. Textbook publisher resource websites (Pearson, Prentice Hall, McGraw-Hill, etc.):  
UO: 15.3%, Other 26.4%
- j. **Microblogs** (Twitter, etc.): UO: 6.4%, Other 4.3%
- h. College **study support** (Cramster, Turnitin, Essay Checker, ShareNote, etc.):  
UO: 6.1%, Other 11.5%
- e. **Photo-sharing** sites (Flicker, Snapfish, etc.): UO 6.1%, Other: 5.3%
- c. Web-based **to-do lists** (such as Remember the Milk, Ta-da, etc.): UO: 4.6%, Other: 4.3%
- k. **Social bookmarking/tagging** (Delicious, Digg, Newsvine, Twine, etc.):  
UO: 3.5%, Other 2.7%

**Are You Collaborating or Working With Other Students Using Any of the Following Web Based Tools for Any of Your Courses This Quarter/Semester? (q14)**

- h. **Social networking websites** (Facebook, Myspace, etc.): UO: 24.9%, Other: 26.8%
- a. **Web-based word processor, spreadsheet, presentation** and form applications (e.g., Google Docs): UO: 21.6%, Other: 23.6%
- i. **Wikis** (Wikipedia, course wiki, etc.): UO: 11.5%, Other 12.4%
- b. **Video sharing websites** (e.g., Youtube): UO: 10.6%, Other:10.6%
- j. **Blogs**: UO: 9.7%, Other: 5.9%
- e. **Textbook publisher resource websites** (Pearson, Prentice Hall, McGraw-Hill, etc.):  
UO: 5.3%, Other 8.3%
- f. **Microblogs** (Twitter, etc.): UO: 5.1%, Other 3.5%
- d. **Web-based citation/bibliography tools** (CiteULike, OttoBib): UO: 4.2%, Other: 4.9%
- c. **Photo-sharing** sites (Flicker, Snapfish, etc.): UO 4.2%, Other: 3.2%
- g. **Social bookmarking/tagging** (Delicious, Digg, Newsvine, Twine, etc.):  
UO: 2.2%, Other 1.9%
- k. **Online Worlds** (Second Life, Forterra, etc.): UO: 0.8%, Other: 0.9%

# How often do you use social networking sites for school, work or recreation? (q24)

	<b>UO</b>	<b>Other 4 Year Schools</b>
<b>Daily</b>	63.9%	61.7%
<b>Several times per week</b>	13.1%	12.7%
<b>Weekly</b>	8.3%	9.2%
<b>Monthly</b>	4.9%	4.9%
<b>Once Per Quarter or Semester</b>	2.2%	2.0%
<b>Once Per Year</b>	0.8%	1.2%
<b>Never/Don't Use Any Social Networking Sites</b>	6.9%	8.3%

Facebook dominates the sites use with 97.8% of UO /97.2% of other 4 year school respondents using that service (2<sup>nd</sup> place goes to Myspace at just 23.5/21.4%)



## Other Social Networking Factoids

- Students most commonly use social networking to stay in touch with friends (97.0%/96.6%) or to share photos/music/videos/etc. (76.5%/73.0%); only 6.1%/6.3% use college or university administrative services social networking sites.
- Only 36.5%/31.1% have “friended” current or previous college or university instructors
- Only 25.4%/27.5% would like to see “more use of social networking websites in your courses”
- Only 8.1%/6.1% do NOT limit or restrict who has access to their profiles on social networking sites

## **VI. Conclusions**

# One Slide Summary/Take Away Items

- UO undergraduate students are much like the rest of the nation when it comes to information technology
- Most students now come to campus with a laptop
- Most students now come to campus with a cell phone, and many now have Internet capable mobile devices
- Students prefer a moderate amount of technology in their courses
- The computer applications students use are the well known ones (course management systems, the online library web site, office suite applications, text messaging, downloading music/movies) plus social networking sites such as Facebook
- Use of IT in the classroom is currently good at UO, but as always, there are opportunities for improvement.
- UO isn't offering many exclusively online courses.