

A Brief Analysis of the ECAR Study of Undergraduate Students and Information Technology 2009

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<http://www.uoregon.edu/~joe/educause-data-2009/>

Welcome And A Note About These Slides

- It's a real pleasure to be with you all today, and thank you for coming today! I hope you and your friends and families are all looking forward to wonderful winter holidays, a Happy New Year, and victory in Pasadena! Go Ducks!
- I'd like to begin by thanking our CIO, Don Harris, for the opportunity to review the ECAR Study of Undergraduate Students and Technology for 2009, and for his invitation to share the results of that review with all of you today.
- Because some people may be unable to make today's meeting, and because there are a lot of numbers associated with a briefing of this sort, I've built detailed slides for today's talk so that you won't need to try to take notes as we go along.
- Also, although my slides are detailed, I promise not to read them to you, and I hope you'll please feel free to ask any questions that may come to mind as we go along.

I. Introduction

The Study

- The 2009 “Study of Undergraduate Students and Information Technology” was the 6th 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 2009 study is at <http://www.educause.edu/ers0906>

Understanding the Study

- ECAR, in its transmittal letter, warns: “we recommend caution as you read and report on institutional findings and encourage you to review these findings alongside the full ECAR study when it is released”
- Fortunately the results of the full study are now available from: <http://net.educause.edu/ir/library/pdf/ers0906/rs/ers0906w.pdf> (132 pages), hereafter “the study.”
- Given their cautionary note, we’ll begin by summarizing just a few of the study-wide conclusions, as reported in the complete ECAR study results
- It is worth noting that this is a ***LONG*** and dense survey, running nine pages in printed form, so even offering brief comments on a subset of the items covered results in a rather long briefing.

II. Study-Wide Conclusions From The 2009 ECAR Report

This Year Is Much Like Previous Years

- “It’s no surprise that data from the ECAR student studies does not lurch from year to year. This is affirming to us, since it tends to validate past findings. As in the past, this year we found the following [...]” [the study at PDF page 9]

Computer Ownership

- “Students own a variety of information and communication technologies and use them regularly to communicate, find and exchange information on the Internet, do class work, and recreate.”
- “[...] respondent ownership of computers has remained steady at around 98% for the last four years [...]” [study at pdf page 14]
- “[...] students are entering school with newer equipment, since nearly 8 of 10 (79%) freshmen owned a laptop that was one year old or less, and more than half of all respondents (52.3%) said their newest computer, whether laptop or desktop, was one year old or less. Two thirds (67.9%) reported owning a machine two years old or less. [...] many respondents did still own older computers, including 17.9% who said their newest computer was four years old or older.” [study at pdf page 14]

Some Computer Ownership Implications

- If student computer ownership is now ubiquitous, what implications does this have for UO? For example...
 - institutional universal laptop purchase programs (if all students are routinely coming to college with new laptops, should we be attempting to standardize what gets purchased, and the software on those systems? are there opportunities for cost savings?)
 - if all students are now coming to campus with their own systems, what's the appropriate role for campus instructional and drop-in computer labs going forward?
 - do we need a strategy to deal with the roughly ~18% of students who may have geriatric (>4 year old) systems?

Technology and Courses

- ‘Students want a “moderate” amount of technology in their courses.’
- “Freshmen and seniors report different skill levels and different preferences for technology in support of course activities.”
- “The choice of a student’s academic major is closely associated with the student’s perceived skills in certain IT applications and in his or her reported preferences for technology in courses.”
- “Students are overwhelmingly positive about CMSs [course management systems], but they want greater consistency in their use and availability.”
- “Almost a third of respondents (32.2%) regularly used their cell phones or handheld Internet device for non-course activities while in class.”

Technology and Courses: Implications

- If students want a “moderate” amount of technology in their courses, do we potentially have some teachers who are potentially using *too much* technology, as well as *too little*? How do help faculty get their technology usage level *right*?
- Given that “choice of a student’s academic major is closely associated with the student’s perceived skills in certain IT applications and in his or her reported preferences for technology in courses,” how do we reach out to students in majors where IT is less organically embraced, majors which may be particularly common at a liberal arts institution such as ours?
- If students are using their cell phones or handheld Internet device for non-course activities while in class, does this imply students are simply multi-tasking (in a way that isn’t meant to be disruptive or disrespectful?), or are we failing to adequately engage students?

What Do Students Do Online?

- “The vast majority of respondents, 9 out of 10, use the college and university library website (94.6%), with a median frequency of use of weekly, and about 9 in 10 use presentation software (93.8%) and spreadsheets (86.6%), with a median frequency of monthly. Downloading music or videos is also popular; 84.2% said they do it, with a median frequency of weekly.”
- “SNSs [social networking sites] and text messaging were used by about 9 in 10 respondents (90.3% for SNSs and 89.8% for texting) with a median frequency of use of daily for both, whereas 74.0% said they used instant messaging, with a median of several times per week.”

Implications of What Do Students Do Online

- While we often hear about students using cutting edge online applications (such as virtual worlds), the reality (as described by the survey data) is that students are largely using “meat and potato” applications (library web site, office productivity software, text messaging, downloading music and videos). Do we need to ensure that our training offerings are well aligned with student interests and needs? Are we teaching our students the right topics?
- A notable exception to the relatively modest adoption of emerging online applications is use of SNS (social networking sites) such as Facebook. Facebook usage has increased each year since 2006, and now runs an impressive 86.6%. Should UO consider actively engaging students (and potential applicants) on Facebook?
- Note that perhaps the most popular of all applications, e-mail, is so universal that the study no longer even bothers to ask about it.

Mobile Internet Devices

- “About half of the respondents (51.2%) indicated that they own an Internet capable handheld device, and another 11.8% indicated that they plan to purchase one in the next 12 months [...]

“This figure should be understood in the context of near ubiquitous cell phone ownership among students; the ECAR 2007 student study reported simple cell phone ownership at 86.1% of respondents (and smartphone ownership at 12.0%). Though this ubiquity led [Educause] to drop the simple cell phone ownership question in 2008, very high ownership of at least a basic cell phone is implied in our current study finding that 9 out of 10 student respondents (89.8%) were engaged in text messaging, with a median use of daily.”

[study at PDF page 20]

Mobile Internet Devices (cont.)

- Why don't more users use the Internet from mobile devices?
 - (49.9%) "plenty of other ways are available to access the Internet"
 - (46.2%) "cost of the data service"
 - (36.4%) "cost of the device"
 - (24.5%) "device usability issues (small screen, keyboard, etc.)"
 - (15.9%) "network connection too slow"
 - (15.4%) "no compelling reason to access the Internet"
- What Internet activities do users do from their mobile devices?
 - (76.7%) "checking for information such as news, weather, sports, specific facts, etc."
 - (58.7%) "use maps, find places, get directions, or plan routes"
 - (75.1%) email
 - (62.5%) SNSs

Implications of Mobile Internet Device Trends

- If virtually all students have at least basic cell phones, are there opportunities for standardization or economies of scale, or are cell phones already fully economically optimized?
- Given how critical cell phones have become, should UO be more aggressive when it comes to working with all or some carriers to build out cellular infrastructure on and near campus?
- While it is common for the institution to provide staff and faculty with a computer, in part because of federal tax policies (but also because of the cost!), we don't provide most faculty and staff with cell phones. Should that change? Could we eliminate campus wireline and/or VoiP desktop sets? Do we need to adopt a formal institutional cell phone allowance policy consistent with current IRS rules? (one draft policy is available at <http://www.uoregon.edu/~joe/draft-cellular-policy.pdf>)

III. UO's Responses to the Study: Understanding Our Own Respondents

Student Participation in the Study

- Out of a cohort of 9,360 UO freshman (Fr) and seniors (Srs), 1,926 (20.6%) elected to participate in the study. (study at PDF page 128) As such, *UO had the highest number of participants of any school in the study* (almost 6.3% of the total sample). The next highest number of participants from a single school was 988 participants from Central Michigan University.
- For comparison, some other institutions and their participation:
 - Arizona State: 24,597 Fr/Srs, 583 participants
 - Emory: 2,481 Fr/Srs, 150 participants
 - Indiana University: 15,897 Fr/Srs, 68 participants
 - LSU: 11,574 Fr/Srs, 138 participants
 - U Maryland: 12,256 Fr/Srs, 379 participants
 - U Michigan-Ann Arbor: 13,526 Fr/Srs, 635 participants
 - U Wisconsin-Madison: 14,883 Fr/Srs, 305 participants
 - Virginia Tech: 11,281 Fr/Srs, 350 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 rather strikingly similar to the overall survey population 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 the national sample can be seen in respondent demographics: our participants were 39.1% male and 60.9% female, the study group as a whole was 39.0% male and 60.0% female.
- Similarly, consider respondent age, as shown on the following slide...

How Old Are You?

	UO	All Respondents
18-19	35.2%	36.5%
20-24	48.9%	48.1%
25-29	7.7%	6.3%
30-39	5.4%	4.8%
40-49	2.1%	3.0%
50 and over	0.7%	1.4%
Total	N=1,920	N=27,925

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

We Do Have Disciplinary Differences

MAJOR	UO	All Respondents
Social Sciences	<i>24.8%</i>	<i>18.4%</i>
Humanities	9.2%	10.0%
Fine Arts	9.8%	7.6%
Life/Biological Sci	<i>11.5%</i>	<i>17.9%</i>
Physical Sci/Math	7.7%	6.0%
Education	0.7%	1.4%
Engineering	<i>1.1%</i>	<i>9.3%</i>
Business	15.8%	15.8%
Other	<i>25.6%</i>	<i>18.2%</i>
Undecided	9.8%	6.0%

Most UO Students Now Own A Computer

- As noted on the next slide, over 90% of all UO students own their own **laptop**; many also have a **desktop** system of their own.

Do You Have Your Own Computer?

Own A <u>Desktop</u>	UO	All Respondents
Yes	36.2%	43.5%
No	63.6%	56.6%
	N=1,914	N=27,845

Own a <u>Laptop</u>	UO	All Respondents
Yes	90.6%	89.3%
No	9.4%	10.6%
	N=1,914	N=27,844

Notes: The sum of cell percentages may not equal 100% due to rounding.

UO Students Spend A Lot of Time Online

- 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.

Student Internet Hours/Week for School, Work, or Recreation

Hours/Wk	UO	UO Cum %	All Respondents
> 40	8.8%	8.8%	8.9%
36-40	3.8%	12.6%	4.1%
31-35	3.9%	16.5%	3.6%
26-30	9.6%	26.1%	8.9%
21-25	10.4%	36.5%	10.3%
16-20	16.9%	53.4%	16.2%
11-15	18.4%	71.8%	18.6%
6-10	21.0%	92.8%	21.3%
0-5	7.2%	100%	8.2%
Total	N=1,896		N=27,628

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...

	UO	All Respondents
Exclusively	1.5%	3.1%
Extensively	22.9%	20.6%
Moderate Level of Usage	60.5%	60.1%
Limited Level of Usage	13.5%	14.2%
No Usage	1.6%	2.0%

Opinions of UO Respondents...

	Strongly Agree, Agree, or Neutral
I get <u>more actively involved</u> in courses that use IT	84.6%
The use of IT in my courses <u>improves my learning</u>	88.5%
IT makes doing my course activities <u>more convenient</u>	93.1%
By the time I graduate, the IT I have used in my courses will have adequately prepared me for the workplace	82.5%
My institution's IT services are always available when I need them for my coursework	87.4%
I skip classes when materials from course lectures are available online	38.5%*

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

Are UO Students Early Adopters, Mainstream Adopters, Lagards 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?”

	UO	All Respondents
I love new technologies and am the first to experiment with and use them	8.3%	9.8%
I like new technologies and use them before most people I know	30.0%	26.2%
I usually use new technologies when most people I know do	48.9%	51.6%
I am usually one of the last people I know to use new technologies	9.8%	8.7%
I am skeptical of new technologies and use them only when I have to	3.0%	3.8%

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)

	UO	All Respondents
Using the Internet to Search for Info	80.8%	80.1%
Evaluate Reliability/Credibility of Online Info	57.4%	58.0%
Understand Legal/Ethical Issues re Use of Dig Info	45.3%	48.4%
Using University Library Website	43.6%	44.0%
Presentation Software (Powerpoint)	41.8%	54.8%
Computer Maintenance (software updates, etc.)	29%	27.6%
Spreadsheets (Excel, etc.)	27.8%	37.4%

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

	UO	All Respondents
Running Internet searches	80.9%	79.3%
Programs I can control, such as video games, simulations, etc.	50.7%	48.7%
Contributing to websites, blogs, wikis, etc.	42.6%	37.4%
Text-based conversations over e-mail, IM, and text messaging	39.6%	42.9%
Creating or listening to podcasts or webcasts	35.0%	31.2%

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 “mundane” or “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).
- One interesting difference is in the level of instant messaging: the UO campus has traditionally had more of an “email culture” than an “instant messaging culture,” and that's reflected in UO's relatively low use of instant message vis-à-vis other participating schools.

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

	UO	All Respondents
Text Messaging	64.5%	66.7%
Social Networking Sites (Facebook, LinkedIn, etc.)	63.1%	59.1%
Instant Messaging	20.3%	28.3%
Use Library Website	16.9%	16.4%
Download Web Based Music or Videos	12.8%	11.9%

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, nearly 93% of UO respondents report “never” using online virtual worlds for school, recreation or work.

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

	UO	All Respondents
Online Virtual Worlds (Second Life, Forterra, etc.)	92.7%	92.2%
Social Bookmarking/Tagging (del.icio.us, etc.)	79.4%	82.8%
Multiuser Computer Games (World of Warcraft, poker, etc.)	72.1%	73.2%
Podcasts	59.1%	64.6%
Contribute Content to Wiki (Wikipedia, course wiki, etc.)	57.5%	58.4%
Audio Creation Software (Garage Band, Audacity, etc.)	56.4%	64.3%
Video Creation Software (MovieMaker, iMovie, etc.)	55.1%	60.0%
VoIP from Your Computer (Skype, etc.)	54.8%	61.1%
Contribute Content to Blogs	54.3%	63.0%
Contribute Content to Video Website (Youtube, etc.)	53.3%	55.5%

**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 group) 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?

	UO	All Respondents
Almost All	17.7%	18.0%
Most	26.0%	25.5%
About Half	23.8%	21.3%
Some	24.0%	25.2%
Almost None	5.8%	7.3%
Don't Know	2.7%	2.8%

How Many of Your Instructors Provide Students With Adequate Training For The IT Used In Courses?

	UO	All Respondents
Almost All	9.6%	10.9%
Most	22.1%	20.4%
About Half	16.2%	14.3%
Some	27.8%	28.1%
Almost None	18.8%	20.9%
Don't Know	5.5%	5.4%

How Many of Your Instructors Have Adequate IT Skills For Carrying Out Course Instruction?

	UO	All Respondents
Almost All	13.8%	15.3%
Most	29.4%	27.9%
About Half	20.5%	18.0%
Some	24.5%	25.7%
Almost None	7.4%	8.1%
Don't Know	4.4%	4.8%

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

- ... although it is somewhat surprising to see that 15% of UO students are NOT using Blackboard for any of their courses this term

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

Have You <u>Ever</u> Taken A Course That Used One?	UO	All Respondents
Yes	94.0%	89.7%
No	3.6%	7.1%
Don't Know	2.4%	3.2%

How About Any Course You're Taking <u>This Term</u> ?	UO	All Respondents
Yes	84.6%	80.1%
No	15.4%	19.9%

Some course or learning management system-related notes:

- a) 64.4% of UO respondents say they use a course or learning management system either “daily” or “several times per week.”
- b) 89.8% of UO respondents indicate that they are “fairly skilled,” “very skilled” or “expert” at using a course or learning management system.
- c) Only 5.7% of UO respondents report having had a “negative” or “very negative” overall experience using course or learning management systems.

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	All Respondents
University Library Website	<i>71.3%</i>	<i>74.4%</i>
Presentation Software (Powerpoint)	<i>52.9%</i>	<i>67.6%</i>
Spreadsheets (Excel, etc.)	<i>39.6%</i>	<i>47.5%</i>
Wikis	<i>29.7%</i>	<i>25.5%</i>
Social Networking Sites (Facebook LinkedIn, etc.)	<i>27.9%</i>	<i>28.6%</i>
Graphics Software (Photoshop, Flash, etc.)	<i>22.4%</i>	<i>15.6%</i>
Blogs	<i>15.5%</i>	<i>11.6%</i>
Instant Messaging	<i>13.3%</i>	<i>18.7%</i>
Simulations or Educational Games	<i>10.5%</i>	<i>10.2%</i>
Programming Languages (C++, Java, etc.)	<i>10.1%</i>	<i>11.3%</i>

Some Differences in Technology Utilization May Reflect UO's Lack of Some Majors (This is Table 5.2 From the 2009 Report)

Table 5-2. Technologies Used in Courses the Quarter/Semester of the Survey, by Major

	Students in Major	Percentage Using Technology
College or University Library Website		
All other majors*	25,465	76.70%
Engineering	2,733	61.50%
Spreadsheets (Excel, etc.)		
Engineering	2,733	75.90%
Business	4,790	68.60%
Physical sciences	1,786	61.20%
Life/biological sciences	5,547	54.00%
All other majors*	13,342	34.40%
Graphics Software (Photoshop, Flash, etc.)		
Fine arts	2,268	34.50%
Engineering	2,733	20.50%
All other majors*	23,197	12.80%
Audio-Creation Software (Audacity, GarageBand, etc.)		
Fine arts	2,268	17.10%
All other majors*	25,930	4.40%
Video-Creation Software (Director, iMovie, etc.)		
Fine arts	2,268	13.60%
Education	2,857	10.60%
All other majors*	23,073	5.00%
Programming Languages (C++, Java, etc.)		
Engineering	2,733	43.40%
Physical sciences	1,786	27.20%
All other majors*	23,679	6.40%
Discipline-Specific Technologies (Mathematica, AutoCAD, STELLA, etc.)		
Engineering	2,733	45.10%
Physical sciences	1,786	29.10%
All other majors*	23,679	7.20%
E-Portfolios		
Education	2,857	20.20%
All other majors*	25,341	6.10%

*Excludes responses that were not coded as one of the standard majors (e.g., "other" or "undecided").

V. UO Responses to the Study: Emerging Issues

Emergency Notification

- Campus emergency notification capabilities emerged as an important focus in 2007 following the tragic shooting at Va Tech.
- For example, this is something that the Internet2 Salsa-DR (Disaster Recovery) working group considered (see the April 2007 presentation, “Real Time Notification During a Disaster or Other Emergency,” see www.uoregon.edu/~joe/notification/emergency-notification.pdf)
- Emergency notification is also something that has been a local institutional priority, with steps such as the creation of an emergency management website (<http://em.uoregon.edu/>) and deployment of an institutional emergency alert system (see <http://em.uoregon.edu//info/notification-uoalert/>)
- It was thus interesting to see what the ECAR study found in this study...

How Would You Like To First Be Notified Of A Campus Emergency? (10%+ responses)

	UO	All Respondents
Text messaging	56.5%	53.9%
E-mail	15.9%	17.8%
Public address system (sirens, loudspeakers, Intercoms, etc.)	12.6%	12.0%
Voice telephone call	11.4%	12.8%

UO appears to be well positioned to meet user preferences in this area...

Internet Capable Mobile Devices

- We've already talked about mobile devices a bit, but just to show that yet again UO's students are much like the national sample as a whole, consider their adoption rate for Internet capable mobile devices...

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	All Respondents
Yes	49.9%	50.8%
No, but I plan to purchase one in the next 12 months	10.7%	11.7%
No, and I do NOT intend to purchase one in the next 12 months	37.7%	36.0%
Don't know	1.7%	1.5%

Note: 39.2% 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	All Respondents
Email	76.2%	75.0%
Check information (news, weather, sports, specific facts, etc.)	75.0%	77.4%
Use social networking websites (Facebook, Myspace, etc.)	66.4%	63.8%
Use maps (find places, get directions, plan routes)	62.2%	58.9%
Instant message	35.6%	43.0%
Conduct personal business (bank, shop, etc.)	31.0%	26.2%
Download or watch videos online	22.8%	20.4%
Download/stream music	21.9%	22.8%
Download or play games online	18.8%	17.0%
Read or contribute to blogs	16.6%	12.5%
Use Internet photo sites	13.1%	10.9%
Watch mobile TV	12.9%	10.9%

“In the next three years, I expect my use of the Internet from a handheld device will...”

	UO	All Respondents
Greatly increase	21.4%	24.5%
Increase	50.4%	49.0%
Stay the same	24.0%	22.8%
Decrease	2.3%	1.7%
Greatly decrease	2.0%	2.0%

Note: only 15.6% of UO users “often” or “very often” use the Internet from a handheld device even when a networked computer (laptop or desktop) is easily available.

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, or at least some sort of computer
- Most students now come to campus with a cell phone, and at least half 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.

Thanks for the Chance To Talk Today!

- Are there any questions?