We're Going Mobile…
Apps, Activities, and Adventures

Curt Bonk, Professor, Indiana University
President, CourseShare, LLC
cjbonk@indiana.edu
http://mypage.iu.edu/~cjbonk/

The world's hottest smartphones, CNN, September 20, 2012
http://www.cnn.com/2012/09/10/tech/gallery/smartphone-list-our-mobile-society/index.html?iid=article_sidebar

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The world's hottest smartphones, CNN, September 20, 2012
http://www.cnn.com/2012/09/10/tech/gallery/smartphone-list-our-mobile-society/index.html?iid=article_sidebar

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February 2012
Smartphones: Teaching Tool or Brain Candy?, Campus Technology

Smartphones: Teaching Tool or Brain Candy?
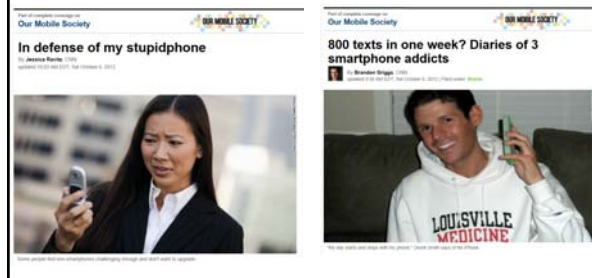
BRAIN CANDY

Poll #1:
Do you have own smartphone?

A. Yes, one
B. Yes, two or more
C. No, none

October 6, 2012
In defense of my stupidphone, CNN, Jessica Ravitz
http://www.cnn.com/2012/10/05/living/our-mobile-society-stupidphone/index.html?iid=article_sidebar

In defense of my stupidphone

800 texts in one week? Diaries of 3 smartphone addicts

September 10, 2012
CNN Radio
How mobile tech affects the family
Have smartphones killed boredom?
http://cnnradio.cnn.com/2012/09/10/how-mobile-tech-affects-the-family/?iid=article_sidebar

Seven ways mobile phones have changed lives in Africa, CNN, Stephanie Busari, September 14, 2012
http://www.cnn.com/2012/09/13/world/africa/mobile-phones-change-africa/index.html?iid=article_sidebar

Seven ways mobile phones have changed lives in Africa, CNN, Stephanie Busari, September 14, 2012
http://www.cnn.com/2012/09/13/world/africa/mobile-phones-change-africa/index.html?iid=article_sidebar

Cell phone culture: How cultural differences affect mobile use, CNN, Naomi Canton, September 28, 2012
http://www.cnn.com/2012/09/27/tech/mobile-culture-usage/index.html?iid=article_sidebar

Cell phone culture: How cultural differences affect mobile use, CNN, Naomi Canton, September 28, 2012
http://www.cnn.com/2012/09/27/tech/mobile-culture-usage/index.html?iid=article_sidebar

Cell phone culture: How cultural differences affect mobile use, CNN, Naomi Canton, September 28, 2012
http://www.cnn.com/2012/09/27/tech/mobile-culture-usage/index.html?iid=article_sidebar

Poll #2:
Do use the Internet when on a plane, train, or when in the airport?

January 23, 2011
As the Web Goes Mobile, Colleges Fail to Keep Up, Chronicle of Higher Ed, Josh Keller
http://chronicle.com/article/Colleges-Search-for-Their/126016/

"I used it to sign up for classes. I used it to check e-mails," says Laura Patterson, a junior at Nevada State College, about her iPhone. "I used it all the time, for everything."More than 40 percent of all college students, like Nevada State's Laura Patterson, used mobile devices to get on the Internet every day last year, compared with 10 percent in 2008.

March 13, 2011
iPads for Learning

MCCSC 6th-graders to get iPads
By Bethany Nolan

At Pepperdine U. Timothy Lucas, an assistant professor of mathematics, shows a class how to use iPads for calculus. Linda Johnson, an assistant professor of biology at Chatham U., for her plant-physiology

Lessons on iPad
(e.g., ShowMe: http://www.showme.com/)

November 2011
AERA Journals Go Mobile (e.g., Ed Researcher)

User-Designed E-Books. Sept 18, 2012
How to turn Wikipedia into an e-book, John D. Sutter
http://www.cnn.com/2012/09/18/tech/mobile/wikipedia-e-book/index.html?hpt=hp_t3

Social Books (e.g., Subtext)

May 4, 2012
**Flexible displays bend what's possible for computers,
Jon Swartz, USA Today**
http://mediagallery.usatoday.com/Flexible+screen+displays/G3657,A12064

Components of the wrist-worn display prototype developed at HP Labs
are shown in this illustration. When completed, the device will
incorporate a working flexible display powered by solar cells.

May 4, 2012
**"Top Gear presenter James May meets
his virtual self", BBC**
http://news.bbc.co.uk/2/hi/programmes/click_online/9718563.stm
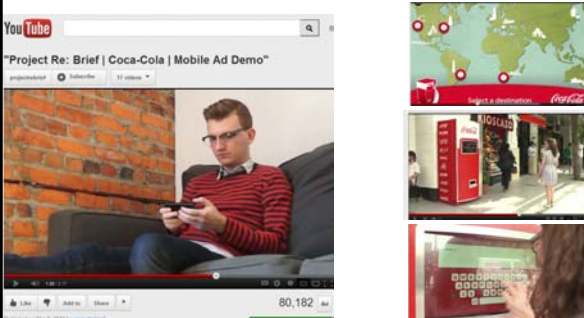
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May 8, 2012
"Project Re: Brief | Coca-Cola | Mobile Ad Demo"
http://www.youtube.com/watch?v=45Z-GevoYB8&feature=relmfu

March/April 2011
**Educause Review Mobile Devices,
Jim Davis and Rosemary A. Rocchio**

**"Mobile use of the Internet is on target
to surpass fixed use by 2014. Three-
fourths of all college/university
students have purchased or intend to
purchase an Internet-enabled
handheld device within the next year.
The smartphone market is changing
almost monthly."**

May 13, 2011
The Digital Campus
The Chronicle of HE
http://chronicle.com/article/Info-Tech-on-Campuses/127405/
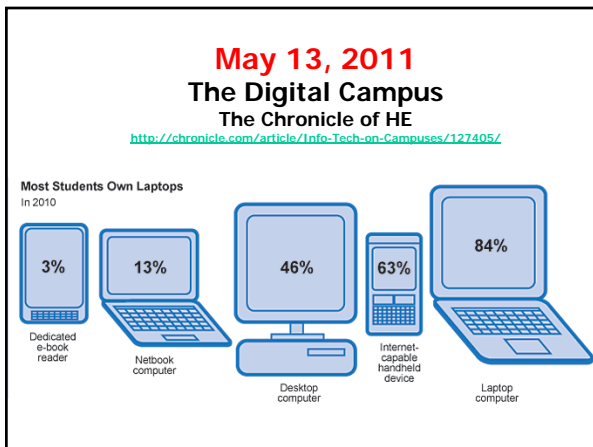
**Poll #3:
Do we need laptops anymore?**

Judy Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012
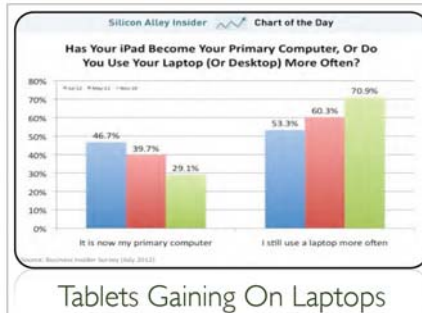
**September 4, 2012
The truth about India's $35 computer
Deccan Herald, Prasanto K. Roy,**
http://www.deccanherald.com/content/83738/truth-indias-35-computer.html

**June 27, 2012
Google Glass
ABC News, Google I/O Conference: Project Glass Prototype For Sale**
http://abcnews.go.com/Technology/google-project-glass-prototypes-offered-google-io-conference/story?id=16663176
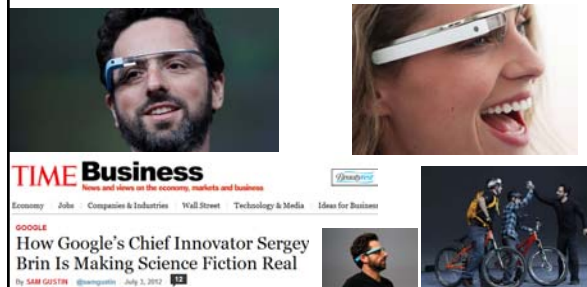
Judy Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012
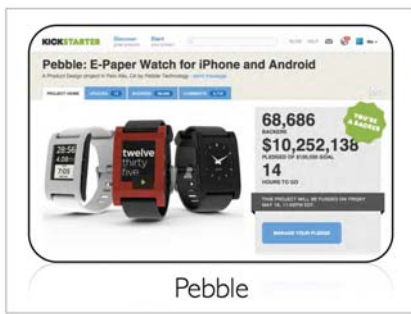
Judy Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012

Judy Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012

Did You Know...

Mobile is the fastest growing industry ever
88% American adults have cellphone, 57% laptop, 19% eBook reader, 19% tablet
Smartphones are used by 50.4% of US consumers
Data now over 85% of the mobile traffic in the US
66% of organizations are investing in mobile technologies for their employees
We spend > 1/3 of our time on mobile apps than desktop web
The average person has cellphone within reach 14 hours a day
US mobile phone owners pick up device 150x per day
US smartphones have average 41 apps - up from 32 last year

Judy Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012

Rate Of Change

- 1.4 M PCs worldwide - 1.4 M mobile phones annually
- By 2016 there will be approximately 7.3 billion people on earth -- and 10 billion mobile connected devices [Cisco]
- It took Japan's most popular social network (mixi) 4.5 years to move from 14% to 85% mobile traffic [Kleiner Perkins]
- October 2011 1.1 billion page views on The Weather Channel and 1.3 billion on mobile
- At the start of 2009 13% using Facebook on mobile - just over 2.5 years later over 50% [TechCrunch]

Judy Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012

Percent of American cell phone owners who use their phones to access the Internet, 2009-2012
Source: Pew Internet & American Life Project

April 2012: 53%

April 2009: 25%

Mobile Internet Usage

Judy Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012

iPods Changed Media Industry...iPhones Ramped Even Faster...iPad Growth (3x iPhone) Leaves "Siblings" in Dust

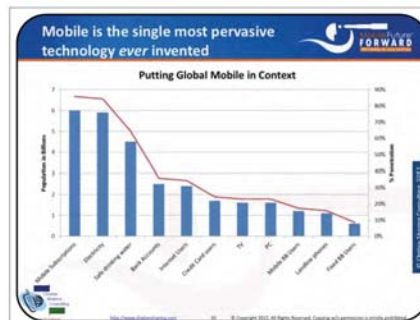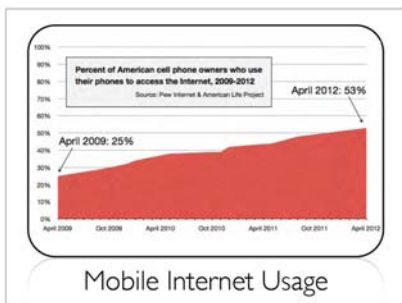First 8 Quarters Cumulative Unit Shipments, iPod vs. iPhone vs. iPad

KPCB

Judy Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012

Here Today

- 360° cameras
- Anticipation
- Augmented reality
- Biometrics
- Charging options
- Face recognition
- Gestures
- Gimbal Geofence
- Language translation
- Location-aware
- M2M
- NFC
- QR codes
- Sensors
- Voice recognition
- Wearable

Judy Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012

Types of Learning Content Available via Mobile Access

Reference material — 67.9%
Performance support — 50.7%
Video — 47.1%
Full courses — 30.0%
Other — 10.0%
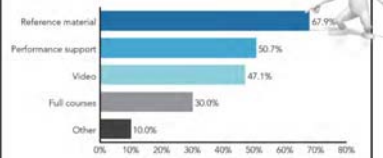
Source: ASTD & i4cp

Judy Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012

How Phones Function In Our Lives

Current Usage

Judy Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012
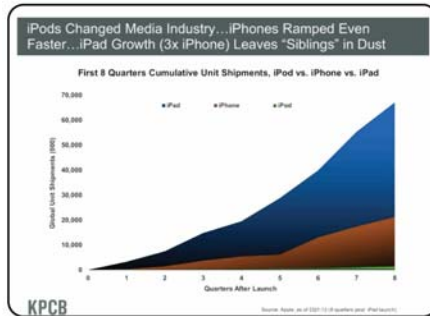
SEPARATION ANXIETY
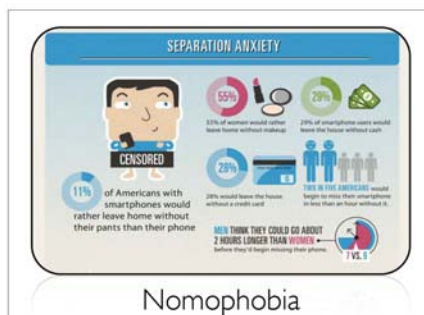
Nomophobia

**Poll #3:
Do you suffer from nomophobia?**
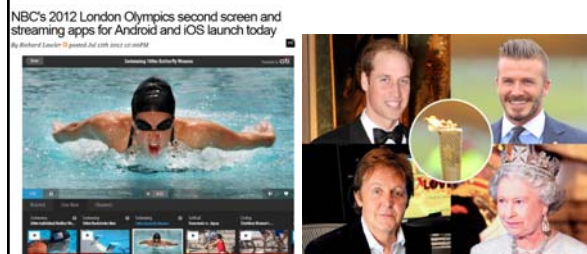
NBC's 2012 London Olympics second screen and streaming apps for Android and iOS launch today

Judy Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012

	Beijing 2008	London 2012
Smartphones	139.3 million	657 million
Facebook	90 million	901 million
Twitter	<1 million	300 million
Tweets / day	1.1 million	140 million
Tablets	0	54.8 million
App store downloads	300+ million	25+ billion

Sources: Nielsen, eMarketer, Forrester, Apple

Museum of London's Streetmuseum App Puts Historic Photos in Perspective
Written by Chris Cameron, June 1, 2010
"Hundreds of images from the Museum of London's extensive collections showcase both everyday and momentous occasions in London's history, from the Great Fire of 1666 to the swinging sixties"

iPhone Screenshots

Carnaby Street

Digital Tools, Almanac of HE 2012
Chronicle of HE, August 31, 2012
http://chronicle.com/article/Almanac-2012-Technology/133769/
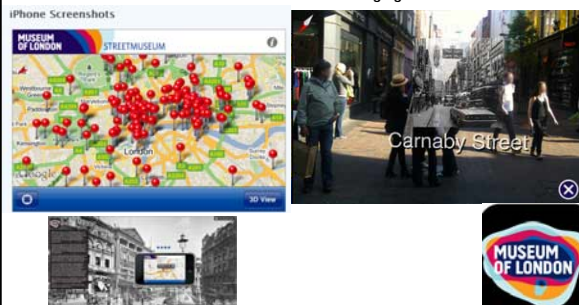
Student Ownership of High-Tech Devices, 2011
Laptops are nearly ubiquitous on campuses, and just over half of students own desktop computers. In addition, 8 percent of students had acquired iPads by June 2011, even though the devices had been available for only 14 months at the time of the survey.

Device	Percent
Laptop	87%
iPod	62%
HDTV	56%
Smartphone	55%
Digital camera	55%
Webcam	55%
Desktop computer	53%
Netbook	11%
iPad	8%
Other tablet	2%

Note: Results are from a survey of a nationally representative sample of 3,000 college students from 1,179 institutions, conducted in June 2011.
Source: Educause Center for Applied Research

Digital Tools, Almanac of HE 2012
Chronicle of HE, August 31, 2012
http://chronicle.com/article/Almanac-2012-Technology/133769/

Use of Mobile Devices by College Presidents, 2011
Attraction to new technology might seem to skew young, but campus leaders adopted the iPad much more quickly than students did.

Device	Percent
iPhone	50.7%
iPad	42.6%
BlackBerry	29.2%
Android	14.8%
Don't know	7.2%
Other tablet	1.9%

Note: Results are based on responses to a survey conducted in the summer of 2011. Data were gathered from a representative sample of 209 higher-education institutions. Multiple responses were allowed.
Source: Educause Center for Applied Research

College tech 'catching up' with students
Kathleen Gray & Robin Erb, USA TODAY,
October 6, 2009

Abilene Christian University: …about 2,800 students and 70% of the 250 professors use the Apple technology for instructional purposes.
- **Art students use app to draft sketch** and send it to the teacher and other students for advice before starting the real art pieces.
- **A drama teacher takes video of the lead dancer** in a production and sends that along to other students for rehearsal.

The Slow-Motion Mobile Campus
Josh Keller, The Digital Campus, The Chronicle of HE,
May 8, 2011

DUKE UNIVERSITY
Duke gave iPods to all incoming students in 2004 but scaled back the program two years later. Tracy Futhey, chief information officer, says campus officials are now focusing on improving Duke's mobile application and making existing campus data available on new platforms.

SETON HILL UNIVERSITY
April 10, 2010: Seton Hill University, Greensburg, PA, 2,100 students an iPad and freshmen a 13-inch MacBook Pro laptop ($500 student tech fee).
Josh Keller, The Digital Campus, The Chronicle of HE,
May 8, 2011

Some Ideas from Educause Review
March/April 2011, Scott Perkins and Michael Casdorph, Georgia Health Sciences University, *"The Digital Swiss Army Knife"*

1. Attendance
2. Class roster
3. Class assignment due dates
4. Course calendar
5. Deliver course videos
6. Digital flashcards
7. Course blogging
8. Internet searching

Poll #4:
Which of these mobile ideas do you use?

A. Class roster
B. Course calendar
C. Digital flashcards
D. Course blogging
E. Internet searching

Top Smartphone Apps to Improve Teaching, Research, and Your Life
By Jeffrey R. Young, January 2, 2011, Chronicle of HE

1. **Taking Attendance** (David M. Reed, a computer-science professor at Capital U.). Calling roll may not seem like an activity that needs an upgrade…"I used to use a piece of paper," he said. "What would happen is invariably I would lose that piece of paper halfway through the semester."

Top Smartphone Apps to Improve Teaching, Research, and Your Life
By Jeffrey R. Young, January 2, 2011, Chronicle of HE

2. **Collecting Data**

A professor at the University of California at Davis is asking drivers to help him with his research on roadkill by logging any dead squirrel, possum, or other critter they see along the highway…the research team built an iPhone app to let citizen-scientists participate at the scene. It's more convenient, and it gives the researchers better data, because a phone's GPS feature can send along exact location coordinates (and the app encourages users to take a picture with the phone's camera).

Top Smartphone Apps to Improve Teaching, Research, and Your Life
By Jeffrey R. Young, January 2, 2011, Chronicle of HE

3. **Reading Scholarly Articles**

"Instead of clicking print when saving an article for later reading, many professors now send the document to their phone or tablet computer. Those I talked with cited a range of apps designed for the task, though Dropbox was cited most frequently. The commercial app is available for iPhones, iPads, and for smartphones or tablets running Google's Android operating system. David Parry, an assistant professor of emergent media and communications at the University of Texas at Dallas, said he uses Dropbox for both scholarly reading and keeping track of documents for the courses he teaches. " (for syllabus storage and deadlines)

Top Smartphone Apps to Improve Teaching, Research, and Your Life
By Jeffrey R. Young, January 2, 2011, Chronicle of HE

4. **Recording Notes**

Aaron Delwiche, an associate professor of communication at Trinity, often uses the camera built into his Android phone to snap a picture of his whiteboard before he erases it. When he breaks the class into groups for a project, the photos remind him who was on each team and what they came up with. High-end whiteboards offer a function to print out or e-mail their contents, but some professors say their phone cameras do just as well.

Top Smartphone Apps to Improve Teaching, Research, and Your Life
By Jeffrey R. Young, January 2, 2011, Chronicle of HE

5. **Using Textbook Tools**

Cellphone screens are tiny…CourseSmart, a company that sells electronic versions of textbooks from major publishers, offers a free iPhone app to read books purchased through its service. It may not be ideal for long reading sessions, but it could be a handy way for professors to look over the material to remember what their students are reading.

CourseSmart

Are Mobile "Classroom" Apps the Future of Collegiate Learning?

Top Smartphone Apps to Improve Teaching, Research, and Your Life
By Jeffrey R. Young, January 2, 2011, Chronicle of HE

6. **Planning Lectures**

Brainstorming for classroom talks has gone high-tech with "mind mapping" software that encourages arranging thoughts and ideas in nonlinear diagrams…the touch-screen interface of smartphones or tablet computers enhances the process, letting scholars toss around ideas with a flick of the finger. Gerald C. Gannod, director of mobile learning at Miami University, in Ohio, recommends Thinking Space for Android devices, MindBlowing for the iPhone, and Popplet for the iPad. Mr. Delwiche, of Trinity University, likes MindJet. "It's great when organizing papers or project ideas," he said.

Top Smartphone Apps to Improve Teaching, Research, and Your Life
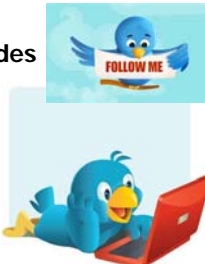By Jeffrey R. Young, January 2, 2011, Chronicle of HE

7. Multimedia study guides on the go.

A cellphone screen may seem too small to use as a study aid. But then again, those screens are about the same size as standard 3 by 5 index cards, an age-old format for flashcards. So the space can be just right when it's time to cram for a test. Unlike paper flashcards, though, a smartphone can display video clips, audio, and interactive features that go far beyond flipping a card over to see an answer.

Poll #5:
Which of these mobile activities did you like best?

A. **Collect Data**
B. **Multimedia Study Guides**
C. **Plan Lectures**
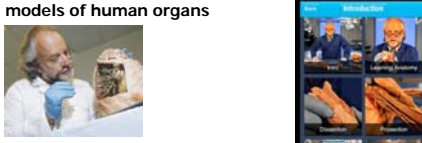D. **Record Notes**
E. **Take Attendance**

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8. Medical Training

Top Smartphone Apps to Improve Teaching, Research, and Your Life,
By Jeffrey R. Young, January 2, 2011, Chronicle of HE

Peter H. Abrahams, a professor of clinical anatomy at the University of Warwick, in England, recently released a video reference-manual app called Aspects of Anatomy for the iPhone. The software quizzes students by presenting them with medical scenarios, and asks them to name the relevant body part…It includes 38 short films of Dr. Abrahams guiding viewers through anatomical models of human organs

An app called Aspects of Anatomy brings flashcards into the YouTube age. Designed by a professor the U. of Warwick, in Britain, the software includes three- to seven- minute videos. Medical students can, say, review a dissection of the thorax and upper limb while on a break.

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iPads in Medical Training: Videos of Procedures
The Slow-Motion Mobile Campus, Josh Keller, The Digital Campus, The Chronicle of HE, May 8, 2011

- Stanford's School of Medicine lent iPads to all new students…Medical students spend most of their third and fourth years in hospitals, working with patients…can watch a video in the hospital showing how to conduct a complex procedure right before they are about to perform it…in an emergency, they can pull up a cheat sheet on an iPad showing the steps they should follow.

Top Smartphone Apps to Improve Teaching, Research, and Your Life
By Jeffrey R. Young, January 2, 2011, Chronicle of HE

9. Clickers/Student Response Systems

Professors at the mobile-device summit at Abilene Christian stressed that more study needs to be done on whether these services improve education and are worth the cost. Some research done at Abilene Christian on the clicker application, for instance, showed that while students liked the ability to take quizzes by phone, their grades did not improve compared with those of a control group that did not use the clicker approach.

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10. Mobile Dictionaries
(September 2010, Chronicle of HE)

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11. Mobile Referenceware
August 18, 2011, HowStuffWorks, iPhone App, USA Today, Marc Saltzman

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12. Language Training
(October 27, 2011)

December 16, 2010
Introducing Word Lens
http://www.youtube.com/watch?v=h2OfQdYrHRs

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13. Twitter

Some Ideas from Educause Review March/April 2011, David Parry, "Teaching Mobile Literacy"

1. In class say "I am not sure, look it up."
2. Have students tweet on class activities.
3. Have students text each other during class.
4. Have students take pics with phone to document cameras in their daily life, share those photos with each other, and make a map of all the cameras (http://cameraseverywhere.us/)

Some Ideas from Educause Review March/April 2011, David Parry, "Teaching Mobile Literacy"

14. Custom News (Zite and Flipboard)
(Personalized Online News and Magazine on iPad, March 9, 2011 and August 10, 2010, USA Today)
http://www.zite.com/
http://www.usatoday.com/printedition/money/20100811/flipboard11_st.art.htm

15. Military Mobile Learning (See: the U.S. Army Learning Concept for 2015; 2011, January 15).
http://www.youtube.com/watch?v=KD9NGAV3-3k (4:26 minutes)

Judy Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012

The Army sees mobile computing as a game-changer:

"Memorizing is less important than referencing information so perishable knowledge (such as infrequently used procedural information) should not be taught in the schoolhouse, but instead converted to applications." (p.22)

http://www-tradoc.army.mil/tpubs/pams/tp525-8-2.pdf

Army Learning Concept 2015

16. Tutoring and Mentoring
April 7, 2011, Expert Tutors as Mobile Apps (e.g., Tutor.com)

Will expert advice (and happiness) be a button away?
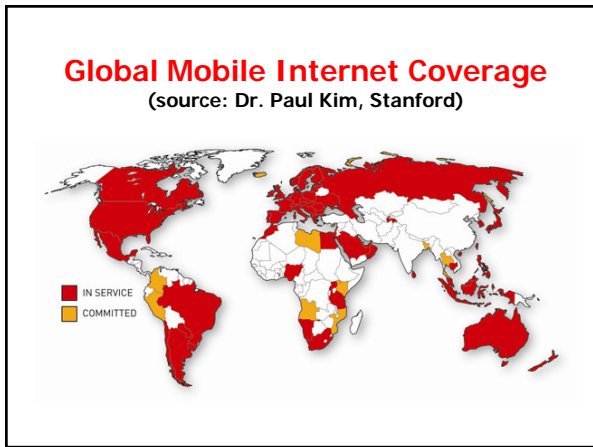**(e.g., Live Happy Practitioner Directory)**

June 3, 2012
Tutor/Mentor Connection (Chicago)
http://www.tutormentorprogramlocator.net/InteractiveMap.aspx

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17. Discounts for Attending Classes
The Slow-Motion Mobile Campus
Josh Keller, The Digital Campus, The Chronicle of HE,
May 8, 2011

Stanford University: Weston McBride (right) and Andrew Bellay created an **iPhone application that rewards students for attending class.** Students with better attendance records will **receive cheaper campus meals, and eventually discounts on bigger-ticket items like student loans and car insurance.** The application, which is supported by Stanford, verifies attendance by checking students' GPS locations when they check in to class.

Poll #6:
Which of these mobile activities did you like best?

A. **Custom News**
B. **Language Training**
C. **Mobile Referenceware**
D. **Mobile Tutoring**
E. **Twitter**

Global Mobile Internet Coverage
(source: Dr. Paul Kim, Stanford)

IN SERVICE
COMMITTED

Pushing Mobile Around the Global…

August 2011
Seeds for Empowerment in Argentina
http://tecnologia.iprofesional.com/notas/120526-Telecom-y-la-cuna-de-Google-y-Yahoo-prueban-smartphones-educativos-en-escuelas-argentinas


Alex in Dar es Salaam

February 2012
Pocket School and SMILE: Stanford Mobile Inquiry-based Learning Environment

February 14, 2012
Per Paul Kim, Director, Seeds for Empowerment: "Children in Newala, Tanzania learning English with mobile videos and writing stories. (Mobile Task Based Learning Workshop - Seeds of Empowerment). No electricity for 3 straight days, but we keep going!!"

Seeds of Empowerment, India, Paul Kim, Stanford
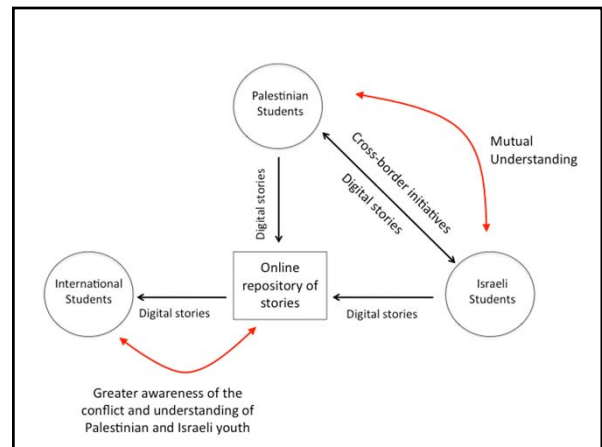
Powering the device on bicycle

PocketSchool on Two Wheels

K-12 Applications

Five ways readers are using iPads in the classroom, eSchool News, May 27, 2011,
http://www.eschoolnews.com/2011/05/27/five-ways-readers-are-using-ipads-in-the-classroom/print/

"Kids have grown up their whole lives with computers, but they need to be taught how to harness the technology for education," says Mitchell Salerno, principal of the Master's Academy in Florida.

Five ways readers are using iPads in the classroom
eSchool News, May 27, 2011

1. For intervention.
"I found an app called Math Drills, to help students with their math facts. After a school-wide math fact program, there were a certain number of students that still didn't know their addition facts. Essentially, they had trouble with 'at a snap' recall of facts," she explained.

Five ways readers are using iPads in the classroom
eSchool News, May 27, 2011

1. For intervention.
"I put those few students on the iPad app, which gave them the opportunity to practice and then to test themselves. It kept track of their scores and showed their improvement. I've had students BEG me to allow them to practice their facts—under normal circumstances, what fifth-grader do you know [who] WANTS to practice their facts? I'll take it! Each student has showed improvement in the quick recall of facts, and they want to. It can't get much better than that."

Five ways readers are using iPads in the classroom
eSchool News, May 27, 2011
2. For Enrichment.
"There are several apps out there for the 'smart kids.' I found one for the iPhone, which I use on the iPad, called Miss Spell's Class," she said. "It gives students a series of challenging vocabulary words, and they need to decide if it's spelled correctly or incorrectly. I've seen my gifted kids get so frustrated (it shows them that they're not always No. 1), and consequently, so proud of themselves because they've finally conquered it. The success is made much sweeter when you have to work for it."

Five ways readers are using iPads in the classroom (seating charts, 2Do, marking goals)
eSchool News, May 27, 2011

"Teacher's Assistant allows my students on behavior plans to mark their own progress as they meet (or don't meet) their goals. They are responsible for it, and are eager to earn points during the day simply so that they can enter it on the iPad."

Five ways readers are using iPads in the classroom
eSchool News, May 27, 2011

3. For assistive technology.

One reader, Eva, said she uses the iPad to help a boy in her classroom who has autism. Supposedly, the iPad was the only tool that could engage him for any length of time with his speech therapist.

"Upon first seeing it, he stared at it for a few seconds then reached for it," she explained. "We gave him the iPad and he immediately started mimicking us by pushing all the right buttons to see the interactive app. We love it so much that his mother, with the help of a therapist, wrote a mini-grant to one of the local organizations so that he could have one of his own."
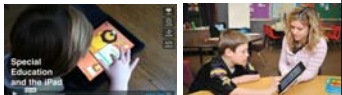
Where are we headed?

Smaller, thinner, lighter, and new interfaces for mobile

Smartphone of the future will be in your brain, CNN, Stewart Scott-Curran and Tim Lampe, October 6, 2012
http://www.cnn.com/2012/10/05/opinion/curran-lampe-mobile-phones/index.html

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Readers: Are we headed for a smartphone zombie apocalypse?, CNN, Nicole Saidi, October 4, 2012
http://www.cnn.com/2012/10/03/tech/smartphone-zombie-apocalypse-comments/index.html?iid=article_sidebar

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Questions and Comments?