

# 1. The Role of Mobile Devices in Pre-Service Teacher Education Programs

[Kim Lawrence](#) & [Norm Vaughan](#)

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## Overview

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## 1. DEFINITION

The Now Network – YouTube Video Clip

bnnn



<http://www.youtube.com/watch?v=TwkPPo6-i9M>

## Mobile Learning

How do you define this term?

increase access  
flexibility  
anytime, anywhere  
24/7  
  
personalization of learning  
portable

. . . the exploitation of ubiquitous handheld technologies, together with wireless and mobile phone networks, to facilitate, support, enhance and extend the reach of teaching and learning

<http://www.molenet.org.uk/about/>

### EDUCAUSE Learning Initiative

#### *Highly mobile devices*

- Cell-phone sized devices that can fit in a pocket: feature phones (supporting cell and SMS service only), smartphones, and other devices like Flip cameras.

#### *Very mobile devices*

- Slates, pads, and netbooks.

#### *Mobile devices*

- Larger devices such as laptops

<http://net.educause.edu/ir/library/pdf/ELI3022.pdf>

### Mobile Learning: Transforming the Delivery of Education and Training

#### *M-learning*

- Delivery of electronic learning materials, with built-in learning strategies, on mobile computing devices to allow access from anywhere and at anytime.

#### *E-learning*

- Delivery of electronic learning materials on desktop and notebook computers.

Edited by Dr. Mohamed Ally, Professor, Athabasca University, 2009

[http://www.aupress.ca/books/120155/ebook/99Z\\_Mohamed\\_Ally\\_2009-MobileLearning.pdf](http://www.aupress.ca/books/120155/ebook/99Z_Mohamed_Ally_2009-MobileLearning.pdf)

## 2. TRENDS

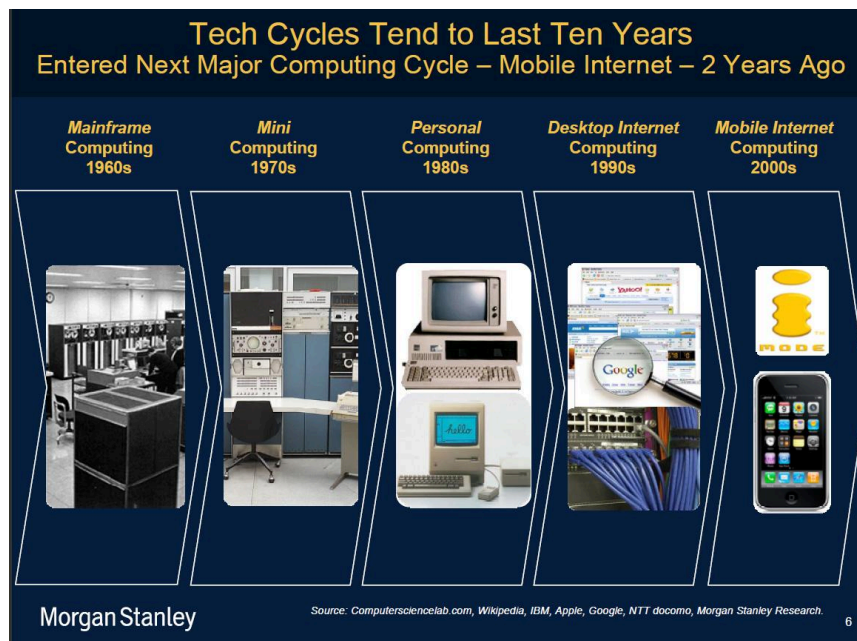
### Mobile Phone Trends

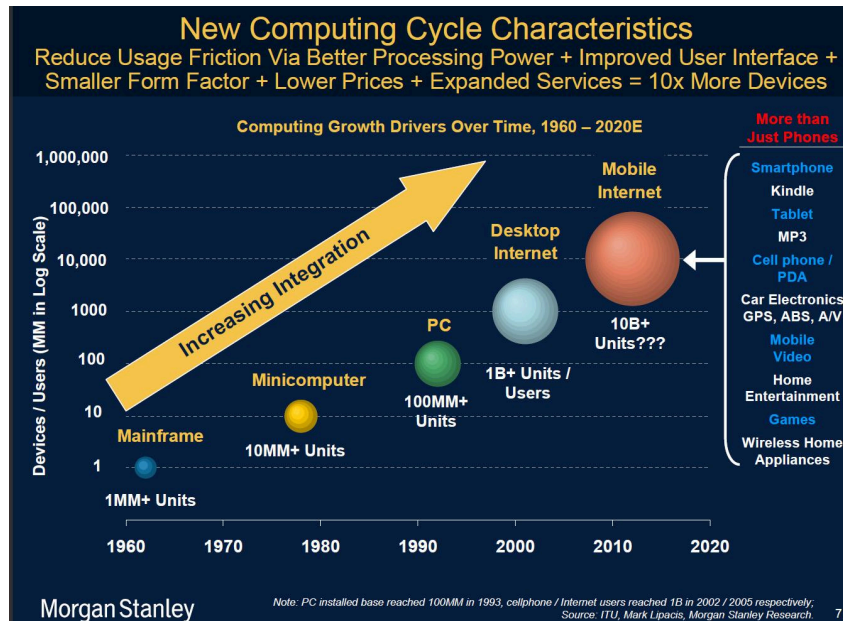
- 4.6 billion subscriptions – 68% of planet
- 3.4 billion unique users – half the planet
- 1.2 billion PCs (including notebooks)
- 3 x as many camera phones in use today than any kind of stand-alone camera, digital or film-based – ever manufactured
- 1.39 billion handsets sold last year compared to 270 million new PCs
- More internet users on mobile than on personal computers
- Saudi Arabia - 39.5 million subscriptions in total, a 138% penetration rate

Tomi Ahonen Almanac, 2010

<http://www.tomiahonen.com/ebook/almanac.html>

### Technology Cycles





Morgan Stanley

[http://www.morganstanley.com/institutional/techresearch/pdfs/Internet\\_Trends\\_041210.pdf](http://www.morganstanley.com/institutional/techresearch/pdfs/Internet_Trends_041210.pdf)

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Blackboard Collaborate

One to One Laptops

Project Server

SMART

Student Mail

Video Conferencing

CBE Web Filter

Digital Citizenship

► For Principals/Designate

► Frequently Asked Questions

► **Mobile Research Project**

► Resources

Mobile Research Project

What is Happening?

The CBE is engaged in a research project around digital citizenship and mobile learning with the University of Calgary. Key questions to be explored are as follows:

1. How can the use of mobile devices inform the CBE's digital citizenship strategy?
2. How might mobile learning support the personalization of learning?
3. What impact on student achievement will these devices have?

Five schools across the Calgary Board of Education have been equipped with class sets of iPod Touch devices. These schools are Bowness, Catherine Nichols Gunn, Annie Gale, Westgate and Robert Warren. Each classroom also has a Bretford syncing cart that allows teachers to add and control the apps on each iPod device.

The teachers in each school have completed special training in digital citizenship and mobile learning. Their students are using the iPods to enhance their learning and practice the safe and responsible use of digital technologies. The teachers meet regularly in both online and face2face environments to share their experiences.

This pilot is an opportunity to promote digital citizenship and enhance student learning. Today's world is highly connected and networked. 21st-century skills demand that students have a strong content knowledge base as well as the ability to connect, communicate, create and collaborate in a digital environment. It is vital that our students learn to use digital technologies in a safe and ethical manner. The pilot will ask students to practice using the technologies they may be using on a daily basis in a manner that is thoughtful, compassionate and moral.

Mobile learning through the use of mobile devices such as cell phones, iPods, and notebooks.

<http://www.innovativelearning.ca/sec-learntech/webdig-mobile.asp>

## Calgary Catholic School District

**Calgary Catholic School District**

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**Bishop Carroll High School students receive laptops for new program starting this school year**

**Aug. 17, 2010**

**Calgary, Alberta** – Media are invited to join Bishop Carroll students tomorrow from 9:30 to 11:00 a.m. at the school (4626 Richard Rd. SW) as they pick up their new laptops purchased for the Learning with Laptops program being introduced for the first time this fall.

Learning with Laptops offers students the ability to use technology to transform their learning environment. Students will have their own laptop computers for use throughout their school day and at home. A crucial part of Learning with Laptops is integrating technology into all courses. By integrating the core curriculum with technology, Bishop Carroll is preparing students for learning beyond high school, preparing them for post-secondary schooling and their future careers. The program removes physical barriers to learning allowing students to access infinite materials and resources instantly, thereby expanding classroom resources.

Learning with Laptops is being introduced to Grade 10 students for the 2010-2011 school year with the intent to expand to Grade 11 and 12. Students were given the choice to purchase a new laptop or to use their own laptop at school. Each laptop will come equipped with programs and applications among other features. Students who do not wish to use a laptop will also be accommodated.

Learning with Laptops builds on Bishop Carroll's unique self-directed learning model and will give students opportunities to increase engagement, motivation and confidence towards educational technology.

*The Calgary Catholic School District is the largest Catholic school district in Alberta, serving over 45,000 students in Calgary, Airdrie, Cochrane, Chestermere and the Municipal District of Rocky View. This learning organization educates and empowers students from kindergarten to Grade 12 to reach their full potential, meet life's challenges, serve their community, and journey in faith.*

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[http://www.cssd.ab.ca/default.asp?MARK\\_SEARCH=YES&SEARCH\\_ID=s1&V\\_ITEM\\_ID=1741](http://www.cssd.ab.ca/default.asp?MARK_SEARCH=YES&SEARCH_ID=s1&V_ITEM_ID=1741)

## Rocky View Schools

**Rocky View Schools**

Search Site  60 only in current section

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**Engaging 21st Century Learners**

The skills needed to successfully negotiate and thrive in our new technically-literate society reach far beyond the basics of reading, 'riting, and 'rithmetic. As noted by one of the leading research groups in the education field, the Metiri group believes "success in the **21st Century** makes it critical that students attain proficiency in science, technology and culture, as well as gain a thorough understanding of information in all its forms."

In order to move schools and classrooms towards an education system that prepares students for the **21st Century**, Rocky View Schools is building a collection of resources to assist its communities in securing a common understanding of **21st Century** learning. Return often to this section to find out what's been added.

<http://www.rockyview.ab.ca/home/engaging-21st-century-learners>

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### 3. OPPORTUNITIES & CHALLENGES

#### Seven Principles of Good Practice in Undergraduate Education

1. encourages contact between students and faculty,
2. develops reciprocity and cooperation among students,
3. encourages active learning,
4. gives prompt feedback,
5. emphasizes time on task,
6. communicates high expectations, and
7. respects diverse talents and ways of learning.

Chickering and Gamson (1987)

<http://www.tltgroup.org/programs/seven.html>

Opportunities	Challenges

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### 4. STUDY QUESTION

#### Exploratory Study

- If and how mobile devices can be used to support student learning in a pre-service teacher education program?
1. What kind of mobile devices do students and faculty currently own and what kind of applications do they use on these devices?
  2. How do students and faculty perceive that these devices could be used to support the draft *Alberta Professional Practice Competencies for K to 12 teachers*?
  3. What recommendations and strategies do students and faculty have for effectively using mobile devices to support learning in a pre-service teacher education program?



### Participatory Action Research

- . . . a reflective process of progressive problem solving led by individuals working with others in teams or as part of a "community of practice" to improve the way they address issues and solve problems (Wikipedia, 2011, n.p.)
- Engages people who have traditionally been called subjects as active participants in the research process
- Results in some practical outcome related to the lives or work of the participants (Stringer, 1999, p.xviii)

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## **5. CONTEXT**

- Mount Royal University - Bachelor of Education Elementary Program
  - 4 year directed entry from high school
- EDUC2325 - Understanding Current and Emerging Pedagogical Technologies
- Education students and faculty *actively participated* in this study during the fall 2011 semester

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## **6. METHODOLOGY – FALL 2011**

### Education Students

- All students enrolled in the EDUC2325 course had access to a *Dell ViewSonic Tablet* for the entire semester
- Completed a pre-course online survey
- Added on-going ideas to a "research wiki"
- Will also complete a post-course online survey and hopefully participate in a post-course focus group
- n = 14

### Education Faculty

- Education faculty participated in 30 minute interviews
- Added on-going ideas to a "research wiki"
- n= 6

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## 7. PRELIMINARY FINDINGS

### SMART Phone Ownership

	Students	Faculty
SMART Phone Ownership (web-enabled)	92%	33%
Type of SMART Phone	Blackberry 64% iPhone 36%	Blackberry 100%

Vendor	2010 Unit Shipments	2010 Market Share	2009 Unit Shipments	2009 Market Share	Year-over-year Change
Nokia	453.0	32.6%	431.8	36.9%	4.9%
Samsung	280.2	20.2%	227.2	19.4%	23.3%
LG Electronics	116.7	8.4%	117.9	10.1%	-1.0%
ZTE	51.8	3.7%	26.7	2.3%	94.0%
Apple	47.5	3.4%	25.1	2.1%	89.2%
Others	439.4	31.6%	342.9	29.3%	28.1%
Total	1388.6	100.0%	1171.6	100.0%	18.5%

International Data Corporation (IDC), 2011 (millions of units)

<http://www.engadget.com/tag/idc>

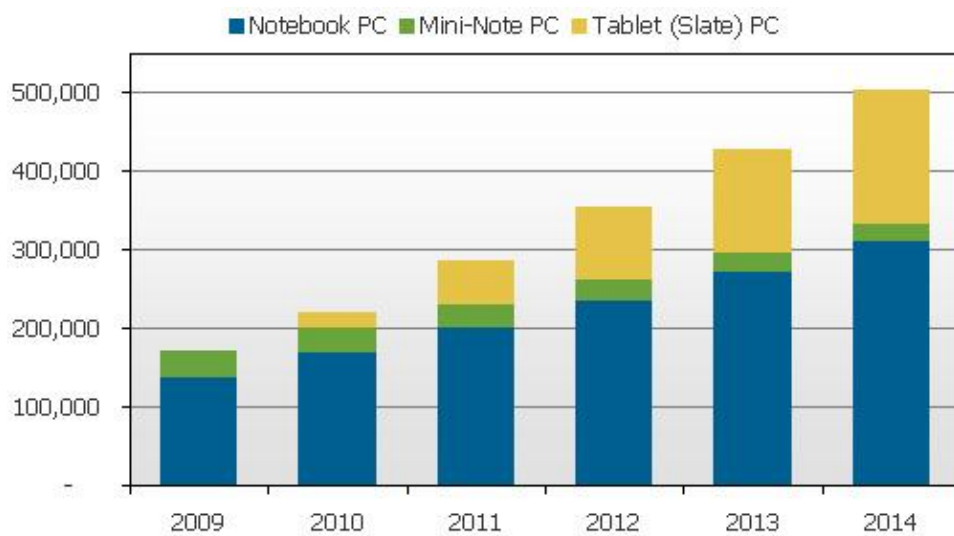
### Tablet Ownership

	Students	Faculty
Tablet Ownership	7%	33%



Type of Tablet	iPad	100%	iPad	100%
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### Tablet PCs



1000s of units

Consumer Lifestyle News

<http://www.cln-online.org/>

India launches \$35 tablet computer

CTV News, October 5, 2011

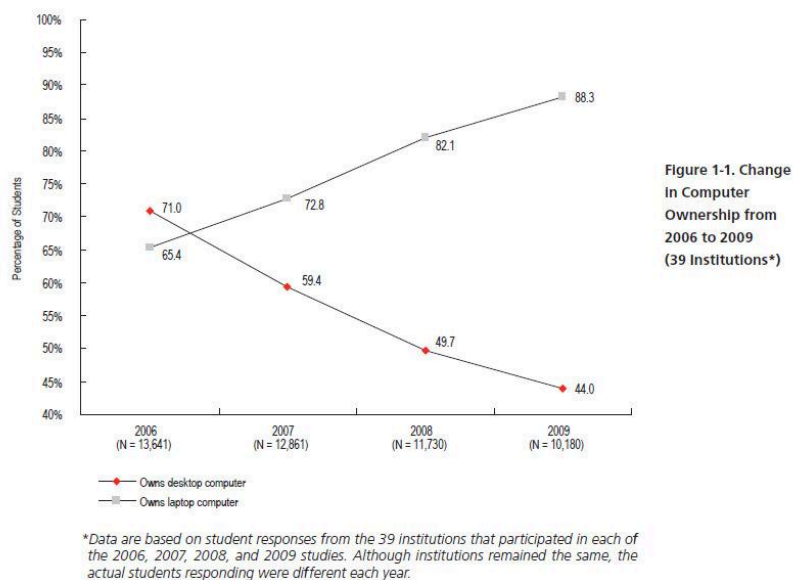
<http://www.ctv.ca/CTVNews/TopStories/20111005/india-cheap-tablet-computer-launch-111005/>

### Laptop Ownership

	Students		Faculty	
Laptop Ownership	100%		100%	
Type of Laptop	Apple	43%	iDell	67%
	Sony	17%	Apple	33%
	HP	8%		
	Dell	8%		

	Gateway	8%	
	Asus	8%	
	Acer	8%	

### Laptop vs Desktop Ownership



### ECAR Study of Undergraduate Students And Information Technology (2009)

<http://www.educause.edu/Resources/TheECARStudyofUndergraduateStu/187226>

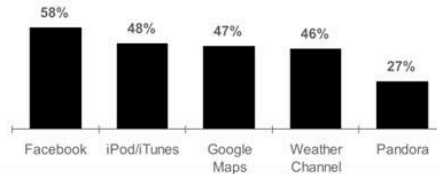
### Mobile Apps and Websites

	Students	Faculty
Web-enabled phone ownership	86%	33%
Frequently used mobile app or web site	Facebook 92% Google 75% myMRU 50% Twitter 33% YouTube 25% CBC 8% NHL.com 8% StumpleUpon 8%	myMRU 100% GPS 50%

Facebook, Google Maps, Weather Channel most popular apps across smartphones

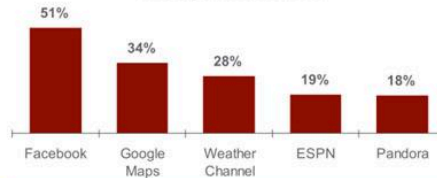
#### Most Popular Used Apps on the iPhone OS

Past 30 Day App Downloaders (n=1,121)



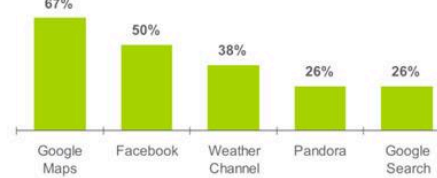
#### Most Popular Used Apps on the BlackBerry OS

Past 30 Day App Downloaders (n=665)



#### Most Popular Used Apps on the Android OS

Past 30 Day App Downloaders (n=62)



### Your Turn

<p><b><u>Apple Apps</u></b>  <a href="http://www.apple.com/iphone/apps-for-i-&lt;br/&gt;phone/">http://www.apple.com/iphone/apps-for-i- phone/</a></p>	<p><b><u>Android Apps</u></b>  <a href="https://market.android.com/?hl=en">https://market.android.com/?hl=en</a></p>
<p><b>Unit Converter</b></p> <p><b>Evernote and Daily Note</b></p> <p><b>Popplet</b></p> <p><b>Dragon Dictation</b></p>	<p><b>Layar</b> Augmented Reality</p>

<p><b>Drop Box</b> Ability to share files between devices (e.g. phone and computer)</p> <p><b>Photosynth</b> Ability to take 360 degree panorama pictures</p> <p><b>GoodReader</b> Multi-format file viewer</p> <p><b>Evernote</b> For note taking on multiple platforms</p> <p><b>Instapaper</b> Read it later</p> <p><b>Twitter</b></p> <p><b>Facebook</b></p> <p><b>Reeder</b> RSS reader</p> <p><b>iBooks</b> Reading textbooks, class notes,... etc.</p> <p><b>1Password</b></p> <p><b>Kindle</b> eBook reader</p> <p><b>QuickVoice</b> If an idea strikes you while you're out and about, use this app to make a voice note</p> <p><b>BookShelf</b> Download this app to turn your iPhone into a book reader</p> <p><b>Edmodo</b></p>	<p><b>Drop box</b> Ability to share files between devices (e.g. phone and computer)</p> <p><b>Socrative</b> Clicker or personal voting app for classroom use</p> <p><b><u>Gradebook</u></b> Edit your grade book directly from your phone!</p> <p><b>Attendance</b> A simple and efficient way to take attendance with your Android device! All attendance results are saved to a Google Spreadsheet.</p> <p><b>Grade Rubric</b> Simple tool to help professors and teachers make grade tallying more efficient</p> <p><b>Grade Ticker</b> Simple tool grading tool for professors and teachers who use a grading rubric for assignments. Option to auto-generate an email with detailed grade report for student.</p> <p><b><u>Chemical Equation Balancer Pro</u></b> Cost: \$1.00 Features: Enter the reactants and products and then press balance, and this app instantly delivers results. Best For: Science teachers looking to demonstrate problem examples to their students.</p> <p><b><u>CoursePro</u></b> Cost: \$2.99 Features: Using a to-do style list, CoursePro allows users to define assignment types and keep track of weighted grades. Best For: Students looking for a way to organize their homework assignments, school projects, and grades.</p> <p><b><u>Flash Card Maker Pro</u></b></p>
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<p>For iPhone makes it easy for teachers and students to stay connected and share information</p> <p><b>Dictionary.com</b></p> <p><b>Human Anatomy</b></p> <p><b>Leafsnap</b> This free mobile app uses visual recognition software to help identify tree species from photographs of their leaves</p> <p><b>My Math Flash Cards</b> Mastering basic elementary math facts</p> <p><b><u>Word Lens</u></b> Best for: Language Classes Cost: Free Features: Instantly translates signage from one language to another through the camera application How to Use: Language teachers can use this program for scavenger hunts</p> <p><b><u>Molecules</u></b> Best for: Science Classes Cost: Free Features: Allows users to view and manipulate three-dimensional models of different molecules How to Use: Visual learners can see how protein molecules are composed and can download new molecules from the RCSB Protein Data Bank</p> <p><b><u>Blackboard Mobile Learn</u></b> Best for: Students and teachers whose campuses already use Blackboard Cost: Free Features: Course listings, organizations users are involved in as well as access to any readings How to Use: Users can enroll in any classes or organizations that they have registered for and</p>	<p>Cost: \$2.95 Features: With text-to-speech capability and advanced gesturing functions, Flash Card Maker Pro uses multi-sensory learning techniques to help improve memory. Shake to hide memorized cards, look at multiple decks at one time, or time how long it takes you to complete a deck. Best For: Students or educators exploring new ways to retain information. Teachers can use this program and create flash cards to help their students prepare for large exams, or put lesson planning notes on them.</p> <p><b><u>Google Sky Map</u></b> Cost: Free Features: With the ability to turn your Android device into a —window to the night sky, ll SkyMap shows the stars, planets, and other celestial objects in view when you point your device towards the sky. Best For: Teachers trying to use more compelling visuals during their astronomy units.</p> <p><b><u>Gutenberg eReader</u></b> Cost: \$2.99 Features: This app gives the user access to the entire Project Gutenberg eBook library, allowing users to search by author, subject, and titles to find the book they need quickly. Best For: Teachers looking for an easy way to share passages with their classroom, or students who want to research a topic without purchasing a book.</p> <p><b><u>Grade Book for Professors PRO</u></b> Cost: \$4.99 Features: Use the primary grade book on Google spreadsheets and sync it to all of your devices. Easily eMail grades to students and PIN-protect grades against accidental loss. Best For: Teachers who want a new way to</p>
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<p>download any assignments their instructors have posted</p> <p><b><u>Today in History</u></b>  Best for: History Classes  Cost: Free  Features: Lists notable events in history as well as important figures who were born or died on a specific date  How to Use: Use for trivia quizzes or facts of the day</p> <p><b><u>Math Ref Free</u></b>  Best for: Math Classes  Cost: Free  Features: A free version of Math Ref, this app offers 600 out of over 1,300 formulas, figures, tips, and examples  How to Use: Use as a formula study guide or to view graphs of different equations</p> <p><b><u>PI83 Graphing Calculator</u></b>  Best for: Math Classes  Cost: \$0.99  Features: With over 100 math functions, the graphing calculator is a clone of the TI-83 without the \$70 price tag  How to Use: Use in place of any calculator to input data, make graphs or matrices</p> <p><b><u>Star Walk</u></b>  Best for: Astronomy Classes  Cost: \$2.99  Features: An astral telescope; Star Walk adapts its view to wherever the user holds it up to, highlighting constellations and planets  How to Use: Use for guided tours of the night sky or to find the location of any specific astral objects</p> <p><b><u>Cram</u></b>  Best for: Anyone in need of test prep  Cost: \$3.99  Features: Both teachers and students can</p>	<p>streamline the grading process and a way to consistently backup their grades.</p> <p><b><u>Tick!</u></b>  Cost: Free  Features: A timer with an easy interface.  Best For: Educators looking for a way to count down the time left in a task for students to complete.</p> <p><b><u>Trippo Mondo</u></b>  Cost: Free  Features: A language translator, Trippo Mondo translates any phrase and speaks it out loud in the language chosen.  Best For: Foreign language instructors looking to increase students' knowledge of common phrases. Encourage students to translate different common phrases they hear during the day to increase knowledge of colloquial terms.</p> <p><b><u>Where's My Droid?</u></b>  Cost: Free  Features: After hooking up your eMail account, this app allows you to locate any lost Android devices within a 30-foot area, complete with a Google Maps display of the location.  Best For: Teachers who want to be able to monitor the location of their electronic devices.</p>
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<p>create flashcards and tests and import and share them with others</p> <p>How to Use: Use to study for standardized tests or exams, or create study materials for students</p> <p><b><u>Essay Grader</u></b></p> <p>Best for: Teachers pressed for time</p> <p>Cost: \$5.99</p> <p>Features: Essay grader comes with a bank of pre-written comments and helps teachers cut down on grading time without writing the same comments over and over again by hand</p> <p>How to Use: After assigning a grade, teachers can then eMail the grade sheet directly to the student or export it to the computer for editing and printing</p> <p><b><u>eClicker</u></b></p> <p>Best for: Teachers looking for classroom feedback</p> <p>Cost: \$9.99</p> <p>Features: Providing instant results, eClicker charts the class responses, showing which areas are understood and which need more work</p> <p>How to Use: Students select a response to a question composed by the instructor and are then able to participate without fear of being wrong, since only the teacher views the results</p>	
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### Mobile Digital Images

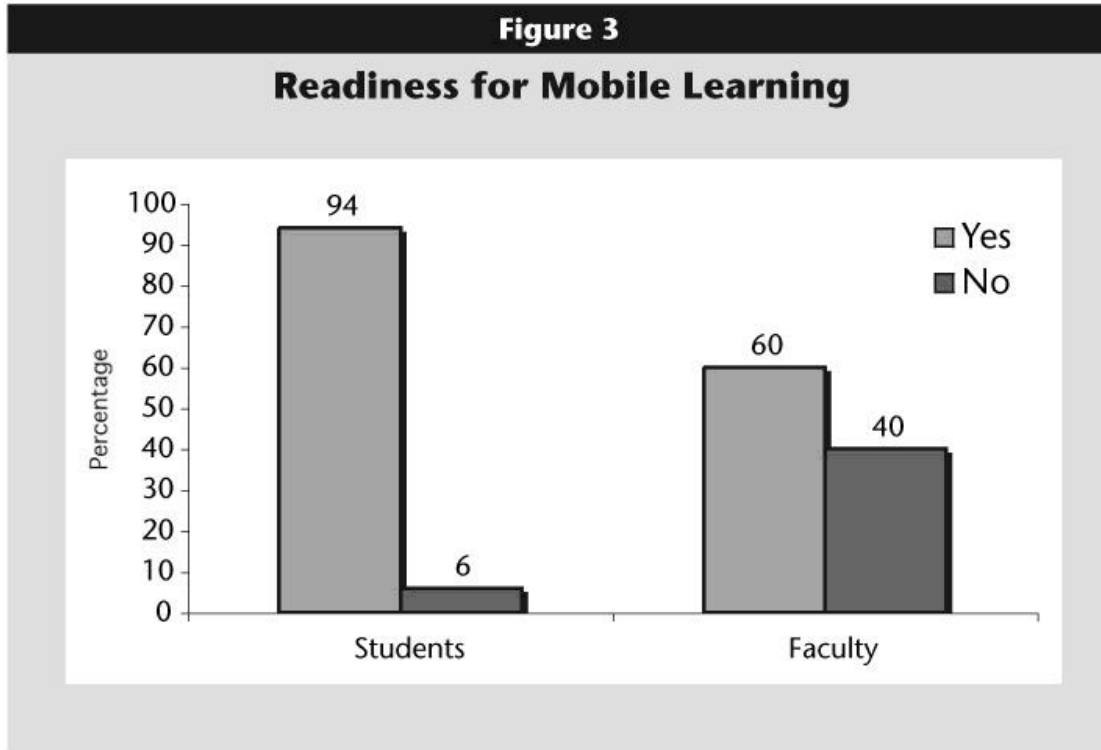
	Student	Faculty
Camera phone	93%	33%

Types of digital images captured	Friends 61% Family 46%	Family 100%
Uploaded to the web and shared	Facebook 29%	0% <i>Need to figure out how to download Pictures for publication</i>

#### Mobile Digital Videos

	<u>Students</u>	<u>Faculty</u>
Video phone	79%	33%
Types of digital videos captured	Friends 64% Family 36%	
Uploaded to the web and shared	Facebook 10%	0% <i>Haven't used it yet Art techniques</i>

University of Texas, Brownsville, USA



Are You Ready for Mobile Learning?


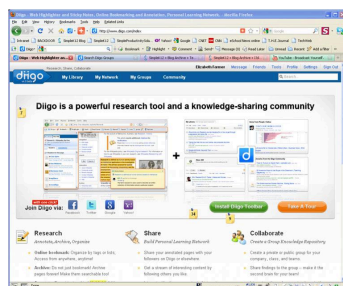
<http://net.educause.edu/ir/library/pdf/EQM0726.pdf>

## 8. COURSE-BASED ACTIVITIES

Ideas on how to use mobile devices in education courses

Students	Faculty
<ul style="list-style-type: none"> <li>• <i>Extend the classroom</i></li> <li>• <i>Quick access to information</i></li> <li>• <i>Enhance communication between students and teachers</i></li> <li>• <i>Document learning through videos and pictures</i></li> <li>• <i>Convenience – fits in my pocket</i></li> </ul>	<p><b>Documenting learning</b></p> <ul style="list-style-type: none"> <li>• <i>Videotaping the process/pictures of writing or visual artwork</i></li> <li>• <i>Lots of documentation of learning. Kids look at images of selves and better reflect.</i></li> <li>• <i>Document learning in school placements- pictures, videos, audio on student work, interviewing teachers</i></li> </ul> <p><b>Access to programs and information</b></p>

	<ul style="list-style-type: none"> <li>•Students can use to access different programs that are valuable.</li> <li>•Texting for language development</li> <li>•Music apps</li> </ul> <p><b>Communication</b> Can keep in touch with students. Texting, emailing</p> <p><b>Research</b> Could be used for research</p> <p><b>Other</b> No clue</p>
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Application	Image
<a href="#">Google Apps</a>	 <p>The image shows the Google Apps logo at the top. Below it are three icons: a red envelope icon for Gmail, a calendar icon for Google Calendar, and a document icon for Docs &amp; Spreadsheets.</p>
<a href="#">Diigo</a>	 <p>The image is a screenshot of the Diigo website. It features a navigation bar with links like 'My Library', 'My Research', and 'My Groups'. Below the navigation bar, there's a main content area with a header that says 'Diigo is a powerful research tool and a knowledge-sharing community'. The page is divided into sections for 'Research', 'Share', and 'Collaborate', each with a list of features and links.</p>

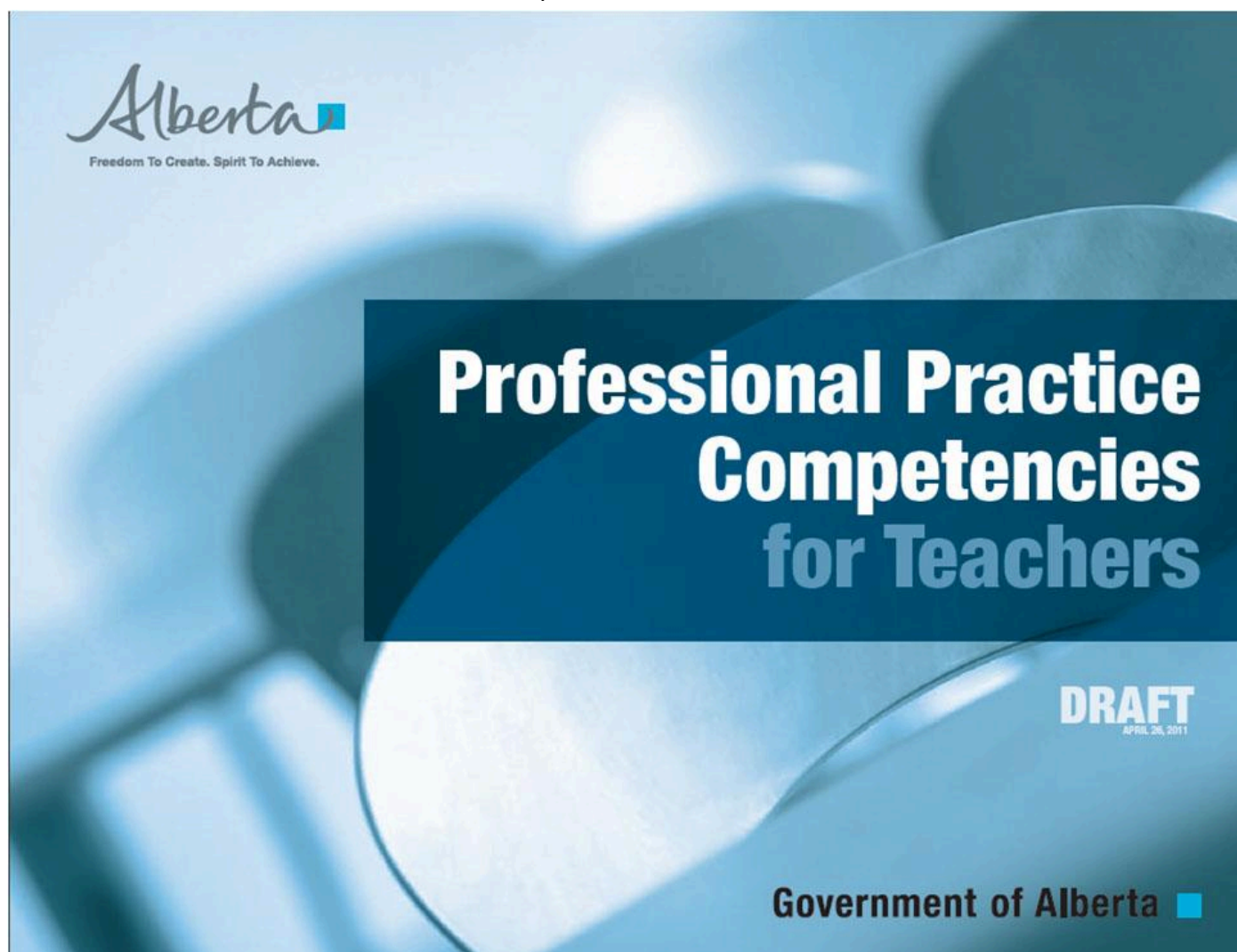
<a href="#">Picassa</a>	
<a href="#">Voice Recorder</a>	
<a href="#">YouTube</a>	
<a href="#">Googlios (ePortfolio)</a>	

### Your Ideas

### Other Ideas

33 ways to use mobile phones in education

[https://docs.google.com/presentation/edit?id=0AcIS3lrIFkCIZGhuMnZjdjVfODgzZnNucW5zZGM&hl=en\\_US](https://docs.google.com/presentation/edit?id=0AcIS3lrIFkCIZGhuMnZjdjVfODgzZnNucW5zZGM&hl=en_US)



Pre-April 2011	Post-April 2011
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1.Planning for learning (e.g. lesson planning)	1.Creates a Caring, Safe and Respectful Inclusive Learning Environment
2.Assessing and evaluating student learning (e.g., marking)	2.Plans, Prepares and Assesses to Engage Students
3.Facilitating student learning (e.g., different approaches to teaching)	3.Communicates Effectively to Build Positive Relations
4.Managing the learning environment (e.g., classroom management)	4.Applies Creativity and Innovation in Teaching and Learning
5.Working as a professional educator (e.g., career-long learning)	5.Carries out Professional Responsibilities

#### Working as a professional educator

	Student	Faculty
<b>Important/ Very Important</b>	93%	83%
<b>Related Comments</b>	<i>It keeps you updated on the current and emerging technology. As a future K to 12 teacher this is very important not only to keep you up to date but to keep your class engaged by using technology that relates to their generation.</i>	<i>Convenience-anywhere anytime.  Blogs- looking at other teachers and following people- if you follow the right people it will help keep you in the loop (twitter).  Instant access to all kinds of teaching videos and recordings.  Tools of the trade—important to know “first hand” the pros and cons of using mobile devices in K to 12 education.</i>

#### Facilitating student learning

	Student	Faculty
Important/ Very Important	86%	83%
Related Comments	<p><i>Every student has a unique way of learning and by varying the method one uses to teach, teachers can meet the needs of more students.</i></p> <p><i>Mobile devices give us so many different ways to facilitate student learning. There are computer games designed for students to work hands on with all different types of curriculum. They also allow students access to more sources than just their teacher.</i></p>	<ul style="list-style-type: none"> <li>•<i>Students learn in different ways and we teach in different ways</i></li> <li>•<i>Facilitating student learning in different ways - making videos to help students (ex: philosophy, a math probe)</i></li> <li>•<i>It's what the students are used to</i></li> <li>•<i>Students' familiarity with these devices can potentially be valuable.</i></li> <li>•<i>Planned research and planned documentation. Need to know why you are playing with it and how you will use it.</i></li> <li>•<i>Being able to have everything at your fingertips.</i></li> </ul>

#### Planning for learning

	Student	Faculty
Important/	64%	67%

<b>Very Important</b>		
<b>Related Comments</b>	<p><i>Mobile devices are essentially computers. They allow teachers to lesson plan anywhere in the world. Teachers can do research or search for information at any time during the day.</i></p>	<p><i>Ready access to so many resources</i></p> <p><i>Quickly search for books</i></p> <p><i>Alberta Education Program of Studies Guides and Resources are all web-based – just a click away</i></p> <p><i>Caution: just because it's on the web doesn't mean it's valuable. Need to look at and know it is well researched.</i></p>

#### Assessing and evaluating student learning

	<b>Student</b>	<b>Faculty</b>
<b>Important/ Very Important</b>	50%	83%
<b>Related Comments</b>	<p>Could be used to perform tests or surveys</p> <p>This will come in handy if instead of written comments, students can see their teacher or peers evaluating them through video for example.</p> <p>This could be a great way of inputting current grades into electronic form, especially if you are out of town (not near</p>	<p>•<i>These devices can be used to give richer feedback- e.g., video tape the student teachers doing the teaching. And then sit down and discuss video or can review their research paper and provide audio rather than text-based feedback.</i></p> <p>•<i>Focus on process rather than just product. Have a video of a group working on things. Used</i></p>

	a computer) or if you're home computer decides to crash on you.	<i>to tape grade ones reading and let them listened to it to see what they needed to work on. Self-assessment. Watch video of self (presentation)</i> •See work in process- experiment, writing, visuals.  •Need to look at how secure, cut out problems with cheating
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### Managing the learning environment

	Student	Faculty
<b>Important/ Very Important</b>	29%	33%
<b>Related Comments</b>	<p><i>Could be a distraction for children</i></p> <p><i>Could be a useful tool because the students can easily stay engaged using various devices and they are many different options when using technology to control the classroom.</i></p>	<p><i>Distracting, kids online when should be paying attention</i></p> <p><i>Can make it more complex. Adding another diversion.</i></p> <p><i>Debating whether value of the tool overcomes some of the classroom management difficulties/problems</i></p> <p><i>Can see some minor advantages in change of pace. Special needs e.g., Brail iPad.</i></p> <p><i>Potentially could help manage learning environment. Have more personalized learning environment: meaningful projects, less discipline problems.</i></p>

Educational advantages of using mobile devices in education courses

Students	Faculty
<ul style="list-style-type: none"><li>• <i>Quick access to information</i></li><li>• <i>Staying “connected”</i></li><li>• <i>Learning how to use emerging technologies</i></li></ul>	<ul style="list-style-type: none"><li>• <i>Access to so much more information, websites, programs, faster, easier</i></li><li>• <i>Plays into what the students are used to</i></li><li>• <i>Visual. See firsthand what students learned</i></li><li>• <i>Reflection and self learning</i></li><li>• <i>Probably a lot, don’t know of any</i></li></ul>

Educational disadvantages of using mobile devices in education courses

Students	Faculty
<ul style="list-style-type: none"><li>• <i>Distraction – 79% of responses</i></li><li>• <i>Cost</i></li><li>• <i>Reliability</i></li></ul>	<p><b>Distraction</b> <i>Divides students’ attention - can cause to be off task if teacher doesn’t use in a focused manner</i></p> <p><b>Surface vs Deep Learning</b> •<i>Perception (to little children) that it’s all about games</i> •<i>Superficial communication rather than deep and meaningful engagement with others</i></p> <p><b>Cost &amp; Technical Problems</b> •<i>Devices are expensive because of the locked-in service plans</i> •<i>Blurred images</i> •<i>Also battery can die</i></p> <p><b>Ethics</b> <i>FOIP - can’t take pictures of each other</i></p>

Additional comments about using mobile devices in education courses

Students	Faculty
<ul style="list-style-type: none"> <li><i>I am extremely happy that we have been chosen to use the mobile devices because it will be a new and engaging learning experience and it will greatly aid us in the near future during our teaching careers.</i></li> </ul>	<p><b>Future Trend</b></p> <ul style="list-style-type: none"> <li><i>We will use them more. great way for students to document learning and experiences and being able to reflect on them</i></li> <li><i>It's the way of the future and the teachers being trained need to learn to make the most of advantage of the devices</i></li> <li><i>Emerging technology—need to have a conversation with education students in all courses— How to use in a professional manner to support learning and how do we use in an ethical manner to make sure that we are professionals and not endangering our job?</i></li> </ul>

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## 9. NEXT STEPS

- Post-study student survey – Dec 2011
- Analyze data and prepare report – Winter 2012
- [WestCAST](#) (Canadian Association of Student Teacher) Conference Presentation – Feb 2012
- [CSSE](#) (Canadian Society of Studies in Education) Conference Presentation – May 2012
- [AERA \(American Educational Research Association\)](#) - submit paper for presentation – July 2012
- [IJMBL](#) (International Journal for Mobile & Blended Learning) – submit paper for publication – July 2012

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## 10. FINAL THOUGHTS





- In his *Mobile World Congress* keynote address, Google CEO Eric Schmidt describes the mobile ecosystem as a confluence of:
  - **computing power**
  - **connectivity**
  - **cloud computing**
 and proclaims a new focus for the industry: putting **mobile first**.

Eric Schmidt at Mobile World Congress

[http://www.youtube.com/watch?v=ClkQA2Lb\\_iE](http://www.youtube.com/watch?v=ClkQA2Lb_iE)

[Pomegranate Phone](#)

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## 11. RESOURCES

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