MOBILE LEARNING EXPERIENCES

Unwrapping a Campus Wide Initiative

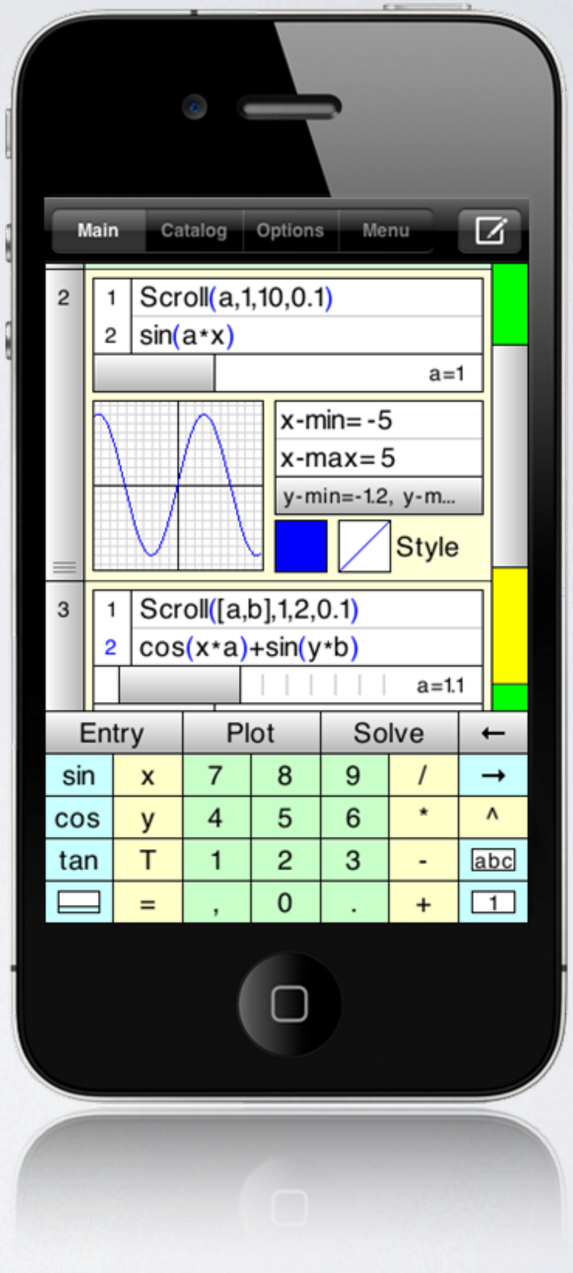
TWENTY-FOURTH ANNUAL
International Conference on Technology in Collegiate Mathematics

ICTCM

acu connected

A LITTLE BACKGROUND

The ACU Mobile Learning Initiative



ACU CONNECTED

Mobile Learning Innovation

ACU MOBILE LEARNING TIMELINE

February 2007-August 2012

Mobile Learning Initiative Begins
April 18, 2007

The first meeting for what will become ACU's mobile learning initiative takes place in the Adams Center.

Incoming Freshmen To Receive iPhone or iPod Touch
August 16, 2008

Official announcement: "ACU to give an iPhone or iPod touch to every entering freshman."

ACU Distributes iOS Devices to Incoming Freshmen
August 16, 2008

ACU begins distributing iPhone and iPod touch devices to incoming freshmen. 612 iPhone 3G activations in the first 24 hours.

ACU Hosts First Connected Summit
February 27, 2009

ACU hosts its first Connected Mobile-Learning Summit, attended by more than 400 people from 119 institutions in 30 states and 6 countries.

Second Class of Freshmen Receive iOS Devices
Aug 15, 2009

ACU distributes iPhone and iPod Touch devices to incoming freshmen. Campus saturation at 50%.

Course Blog System Rolls Out
Aug 22, 2009

Two hundred and ninety one course blogs were used by 180 faculty members to enhance the learning experience for 3,064 students.

First Mobile Learning Report Released
August 22, 2009

Release of ACU's 2008-2009 Mobile Learning Report summarizing the first year of the mobile-learning program, Connected, reveals improved student productivity and campus connectedness.

ACU Expands Initiative to Digital Texts
Dec 8, 2009

ACU's Adam Center for Teaching and Learning release version 2.2 of the white paper "Code X: Considering the Future of Publishing and Learning in a Converged World," an assessment of the future of digital books and road map of educational possibilities for this new medium.

First Student Newspaper Published on the iPad
April 6, 2010

ACU's The Optimist becomes the first student newspaper to publish an app for Apple's new iPad.

ACU Gains Digital Publishing Partners
April 12, 2010

CAMBRIDGE UNIVERSITY PRESS
ABILENE CHRISTIAN UNIVERSITY
Alcatel-Lucent

ACU announces a joint research project with Cambridge University Press and Alcatel-Lucent Bell Labs to explore the future of digital publishing and to develop technologies for digital books.

Full Saturation of Mobile Devices
August 22, 2010

ACU decides to distribute iOS devices not only to new first year students, but to all students and faculty on campus.

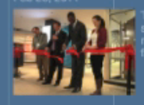
ACU's Second Mobile Learning Report Released
August 23, 2010

Release of ACU's 2009-2010 Mobile Learning Report summarizing the second year of the mobile learning program, Connected, reveals the campus impact of the iPad on the future of digital texts.

ACU Receives Contribution From AT&T
May 11, 2010

AT&T contributes $1.8 million to ACU to expand the mobile learning initiative by developing the Learning Studio for creating new media, the K-12 Digital Learning Institute, and an expansion of ACU's Mobile-Learning Fellows research program.

Learning Studio Premieres
Feb 28, 2011



The AT&T Learning Studio ribbon-cutting is attended by several hundred students, faculty, and members of the media. Many eager attendees are given tours of the new facility.

K-12 Digital Learning Institute Launched
Jun 11, 2011

ACU's K-12 Digital Learning Institute launches first summer session to train K-12 teachers to integrate mobile technologies and develop 21st century skills in the classroom.

Third Mobile Learning Report is Released
August 22, 2011

Release of ACU's 2010-2011 Mobile Learning Report summarizing the third year of the mobile-learning program, Connected, reveals the research efforts of a variety of faculty campus wide.

What's Next For ACU?
August 22, 2012

As ACU closes in on its fourth year of the mobile learning initiative, the university has an eye forward...Is the new iPad in the future?

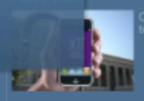
2008 2009 2010 2011 2012 2013

ACU Mobile Learning Initiative

Mobile Learning Initiative Begins
April 18, 2007

The first meeting for what will become ACU's mobile learning initiative takes place in the Adams Center.

Incoming Freshmen To Receive iPhone or iPod Touch
August 16, 2007



Official announcement: "ACU to give an iPhone or iPod touch to every entering freshman."

ACU Distributes iOS Devices to Incoming Freshmen
August 16, 2008

ACU begins distributing iPhone and iPod touch devices to incoming freshmen. 612 iPhone 3G activations in the first 24 hours.

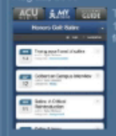
ACU Hosts First Connected Summit
February 27, 2009

ACU hosts its first Connected Mobile-Learning Summit, attended by more than 400 people from 119 institutions in 30 states and 6 countries.

Second Class of Freshmen Receive iOS Devices
Aug 15, 2009

ACU distributes iPhone and iPod Touch devices to incoming freshmen. Campus saturation at 50%.

Course Blog System Rolls Out
Aug 22, 2009



Two hundred and ninety one course blogs were used by 180 faculty members to enhance the learning experience for 3,064 students.

First Mobile Learning Report Released
August 22, 2009

Release of ACU's 2008-2009 Mobile Learning Report summarizing the first year of the mobile-learning program, Connected, reveals improved student productivity and campus connectedness.

ACU Expands Initiative to Digital Texts
Dec 8, 2009

ACU's Adam Center for Teaching and Learning release version 2.2 of the white paper "Cede X: Considering the Future of Publishing and Learning in a Converged World," an assessment of the future of digital books and road map of educational possibilities for this new medium.

First Student Newspaper Published on the iPad
April 6, 2010

ACU's The Optimist becomes the first student newspaper to publish an app for Apple's new iPad.

ACU Gains Digital Publishing Partners
April 12, 2010

ACU announces a joint research project with Cambridge University Press and Alcatel-Lucent Bell Labs to explore the future of digital publishing and to develop technologies for digital books.

ACU Receives Contribution From AT&T
May 11, 2010

AT&T contributes $1.8 million to ACU to expand the mobile learning initiative by developing the Learning Studio for creating new media, the K-12 Digital Learning Institute, and an expansion of ACU's Mobile-Learning Fellows research program.

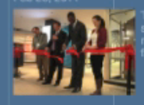
Full Saturation of Mobile Devices
August 22, 2010

ACU decides to distribute iOS devices not only to new first year students, but to all students and faculty on campus.

ACU's Second Mobile Learning Report Released
August 23, 2010

Release of ACU's 2009-2010 Mobile Learning Report summarizing the second year of the mobile learning program, Connected, reveals the campus impact of the iPad on the future of digital texts.

Learning Studio Premieres
Feb 28, 2011



The AT&T Learning Studio ribbon-cutting is attended by several hundred students, faculty, and members of the media. Many eager attendees are given tours of the new facility.

K-12 Digital Learning Institute Launched
Jun 11, 2011

ACU's K-12 Digital Learning Institute launches first summer session to train K-12 teachers to integrate mobile technologies and develop 21st century skills in the classroom.

Third Mobile Learning Report is Released
August 22, 2011

Release of ACU's 2010-2011 Mobile Learning Report summarizing the third year of the mobile-learning program, Connected, reveals the research efforts of a variety of faculty campus wide.

What's Next For ACU?
August 22, 2012

As ACU closes in on its fourth year of the mobile learning initiative, the university has an eye forward...Is the new iPad in the future?

2008 2009 2010 2011 2012 2013

ACU Mobile Learning Initiative

Mobile Learning Initiative Begins
April 18, 2007

The first meeting for what will become ACU's mobile learning initiative takes place in the Adams Center.

what will become ACU's mobile
es place in the Adams Center.

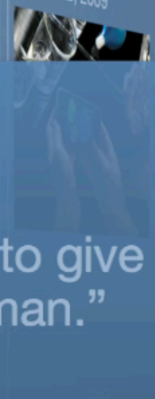
Incoming Freshmen To Receive iPhone or iPod Touch
Feb 25, 2008

Official announcement: "ACU to give an iPhone or iPod touch to every entering freshman."

ACU Hosts First Connected Summit
February 27, 2009

ACU hosts its first Connected Mobile-Learning Summit, attended by more than 400 people from 119 institutions in 30 states and 8 countries.

First Mobile Learning Report Released
August 22, 2009



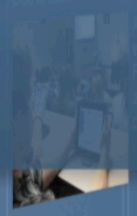
Release of ACU's 2008-2011 Mobile Learning Report summarizing the second year of the mobile learning program, Connected, reveals the campus impact of the iPad on the future of digital texts.

ACU Distributes iOS Devices to Incoming Freshmen
August 16, 2008

ACU begins distributing iPhone and iPod touch devices to incoming freshmen. 612 iPhone 3G activations in the first 24 hours.

ACU's Second Mobile Learning Report Released
August 23, 2010

Release of ACU's 2009-2010 Mobile Learning Report summarizing the first year of the mobile learning program, Connected, reveals the campus impact of the iPad on the future of digital texts.



2009
2010
2011

n To Receive iPhone or iPod Touch

Official announcement: "ACU to give an iPhone or iPod touch to every entering freshman."

ACU Distributes iOS Devices to Incoming Freshmen
August 16, 2008

ACU begins distributing iPhone and iPod touch devices to incoming freshmen. 612 iPhone 3G activations in the first 24 hours.

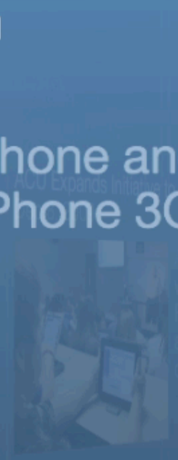
2009

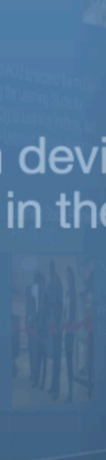
First Mobile Learning Report Released
August 22, 2009

Release of ACU's 2008-2009 Mobile Learning Report summarizing the first year of the mobile-learning program, Connected, reveals improved student productivity and campus connectedness.

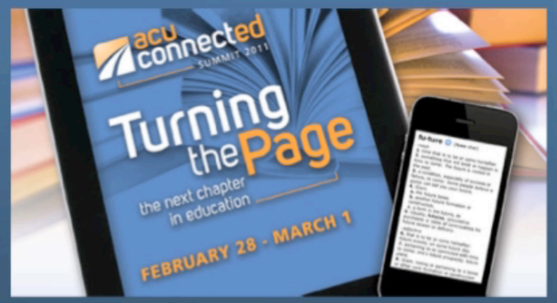
Release of ACU's 2009-2010 Mobile Learning Report summarizing the second year of the mobile learning program, Connected, reveals the campus impact of the iPad on the future of digital texts.

2010





ACU Hosts First Connected Summit
February 27, 2009



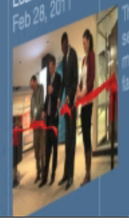
ACU hosts its first Connected Mobile-Learning Summit, attended by more than 400 people from 119 institutions in 30 states and 8 countries.

Release of ACU's 2008-2009 Mobile Learning Report summarizing the first year of the mobile-learning program. Connected, reveals improved student productivity and campus connectedness.

ACU Receives Contribution From AT&T
May 11, 2010

AT&T contributes $1.8 million to ACU to expand the mobile learning initiative by developing the Learning Studio for creating new media, the K-12 Digital Learning Institute, and an expansion of ACU's Mobile-Learning Fellows research program.

Learning Studio Premieres
Feb 28, 2011



The AT&T Learning Studio ribbon-cutting is attended by several hundred students, faculty, and members of the media. Many eager attendees are given tours of the new facility.

Third Mobile Learning Report is Released
August 22, 2011

Release of ACU's 2010-2011 Mobile Learning Report summarizing the third year of the mobile-learning program, Connected, reveals the research efforts of a variety of faculty campus wide.

ACU Expands Initiative to Digital Texts

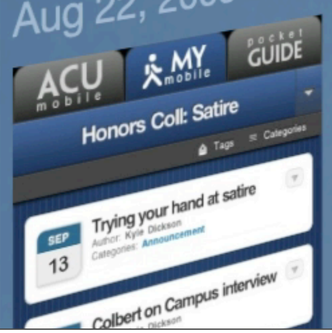
2012

2013

Second Class of Freshmen Receive iOS Devices
Aug 15, 2009

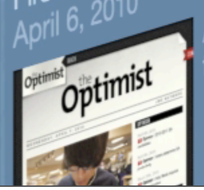
ACU distributes iPhone and iPod Touch devices to incoming freshmen. Campus saturation at 50%.

Course Blog System Rolls Out
Aug 22, 2009



Two hundred and ninety one course blogs were used by 180 faculty members to enhance the learning experience for 3,064 students.

First Student Newspaper Published on the iPad
April 6, 2010

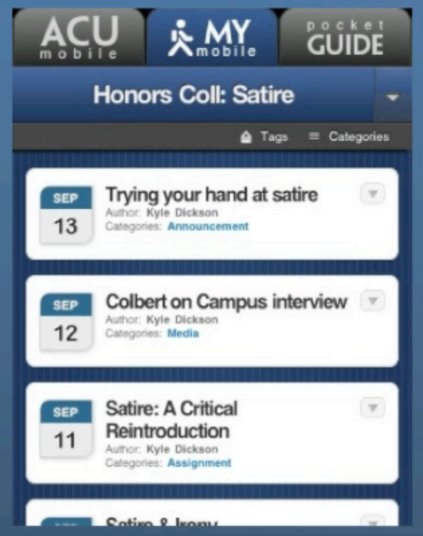


ACU's The Optimist becomes the first student newspaper to publish an app for Apple's new iPad.

iOS Devices

ACU distributes iPhone and iPod Touch devices to incoming freshmen. Campus saturation at 50%.

Course Blog System Rolls Out
Aug 22, 2009



Two hundred and ninety one course blogs were used by 180 faculty members to enhance the learning experience for 3,064 students.

First Student Newspaper Published on the iPad
April 6, 2010

ACU's The Optimist becomes the first student newspaper to publish an app for Apple's new iPad.

ACU Gains Digital Publishing Partners
April 12, 2010

CAMBRIDGE UNIVERSITY PRESS

ACU announces a joint research project with Cambridge University Press and Alcatel-Lucent Bell Labs to explore the future of digital publishing and to develop technologies for digital books.

nnected Summit

ACU hosts its first Connected Mobile-Learning Summit, attended by more than 400 people from 119 institutions in 30 states and 8 countries.

First Mobile Learning Report Released
August 22, 2009

Release of ACU's 2008-2009 Mobile Learning Report summarizing the first year of the mobile-learning program, Connected, reveals improved student productivity and campus connectedness.

ACU decides to distribute iOS devices not only to new first year students, but to all students and faculty on campus.

ACU's Second Mobile Learning Report Released
August 23, 2010

Release of ACU's 2009-2010 Mobile Learning Report summarizing the second year of the mobile-learning program, Connected, reveals impact of the iPad on the future of digital texts

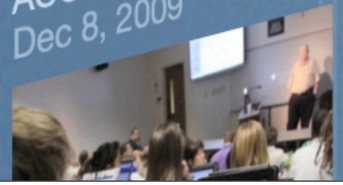
ACU Receives Contribution From AT&T
May 11, 2010

AT&T contributes $1.8 million to ACU to expand the mobile learning initiative by developing the Learning Studio for creating new media, the K-12 Digital Learning Institute, and an expansion of ACU's Mobile Learning Fellows Research program.

Learning Studio Premieres
Feb 28, 2011

The AT&T Learning Studio ribbon-cutting is attended by several hundred students, faculty, and members of the media. Many eager attendees are given tours of the new facility.

ACU Expands Initiative to Digital Texts
Dec 8, 2009



ACU's Adam Center for Teaching and Learning release version 2.2 of the white paper "Code X: Considering the Future of Publishing and Learning in a Converged World," an assessment of the future of digital books and road map of educational possibilities for this new medium.

2012

2013

ACU Mobile Learning Initiative

ch devices to
first

...mobile-learning program,
...improved student productivity and
...connectedness.

...Learning Report

ACU Receives Contribution From AT&T
May 11, 2010

AT&T contributes $1.8 million to ACU to expand the mobile learning initiative by developing the Learning Studio Program, an expansion of ACU's Mobile Learning Fellows research...

...Impact of the

K-12 Digital Learning Institute Launched
Jun 11, 2011

ACU's K-12 Digital Learning Institute launches first summer session to train K-12 teachers to integrate mobile technologies and develop 21st century skills in the classroom.

Third Mobile Learning R...

ACU Expands Initiative to Digital Texts
Dec 8, 2009

ACU's Adam Center for Teaching and Learning release version 2.2 of the white paper "Code X: Considering the Future of Publishing and Learning in a Converged World," an assessment of the future of digital books and road map of educational possibilities for this new medium.

2010

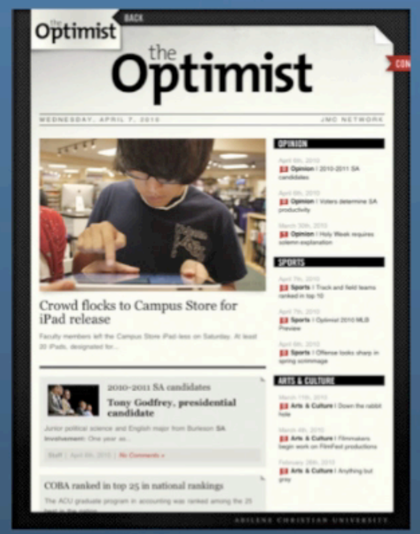
2011

2012

undred and ninety one course blogs were used by
culty members to enhance the learning experience
064 students.

First Student Newspaper Published on the iPad

April 6, 2010



ACU's The Optimist becomes the first student newspaper to publish an app for Apple's new iPad.

ACU Gains Digital Publishing Partners

April 12, 2010

CAMBRIDGE UNIVERSITY PRESS

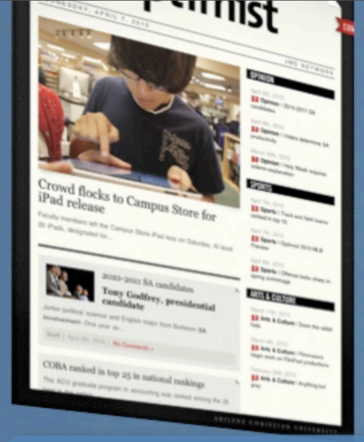
ACU

ABILENE CHRISTIAN UNIVERSITY

ACU announces a joint research project with Cambridge University Press and Alcatel-Lucent Bell Labs to explore the future of digital publishing and to develop technologies for digital books.

of Mobile Devices

to distribute iOS devices not only to new all students and faculty on



ACU's The Optimist becomes the first student newspaper to publish an app for Apple's new iPad.

ACU Gains Digital Publishing Partners

April 12, 2010

CAMBRIDGE UNIVERSITY PRESS

ABILENE CHRISTIAN UNIVERSITY

Alcatel·Lucent

ACU announces a joint research project with Cambridge University Press and Alcatel-Lucent Bell Labs to explore the future of digital publishing and to develop technologies for digital books.

Full Saturation of Mobile Devices

August 22, 2010

ACU decides to distribute iOS devices not only to new first year students, but to all students and faculty on campus.

Learning Report Released

2009-2010 Mobile Learning Report

of the mobile learning

impact of the

d

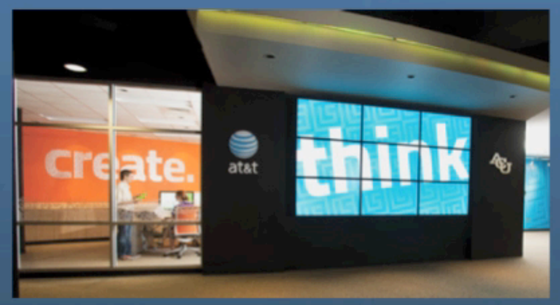
ACU's 2008-2009 Mobile Learning Report
g the first year of the mobile-learning program,
reveals improved student productivity and
nnectedness.

Release of ACU's 2009-2010 Mobile Learning Report summarizing the second year of the mobile learning program, Connected, reveals the campus impact of the iPad on the future of digital texts.

K-12 Digital Learning Institute Launched
Jun 11, 2011

ACU's K-12 Digital Learning Institute launches first summer session to train K-12 teachers to

ACU Receives Contribution From AT&T
May 11, 2010



AT&T contributes $1.8 million to ACU to expand the mobile learning initiative by developing the Learning Studio for creating new media, the K-12 Digital Learning Institute, and an expansion of ACU's Mobile-Learning Fellows research program.

nitiative to Digital Texts

ACU's Adam Center for Teaching and Learning release version 2.2 of the white paper "Code X: Considering the Future of Publishing and Learning in a Converged World," an assessment of the future of digital books and road map of educational possibilities for this new medium.

Learning Studio Premieres
Feb 28, 2011

The AT&T Learning Studio ribbon-cutting is attended by several hundred students, faculty, and members of the media. Many eager attendees are given tours of the new facility.

2012

2013

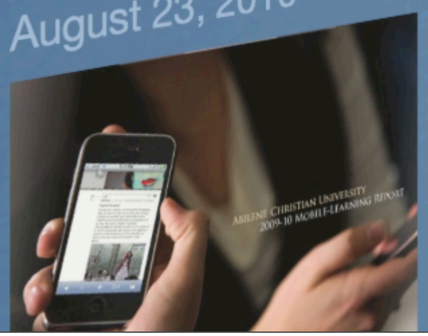
ACU Mobile Learning Initiative

ACU announces a joint research project with Cambridge University Press and Alcatel-Lucent Bell Labs to explore the future of digital publishing and to develop technologies for digital books.

Full Saturation of Mobile Devices
August 22, 2010

ACU decides to distribute iOS devices not only to new first year students, but to all students and faculty on campus.

ACU's Second Mobile Learning Report Released
August 23, 2010



Release of ACU's 2009-2010 Mobile Learning Report summarizing the second year of the mobile learning program, Connected, reveals the campus impact of the iPad on the future of digital texts.

K-12 Digital Learning Institute Launched
Jun 11, 2011

ACU's K-12 Digital Learning Institute launches first summer session to train K-12 teachers to integrate mobile technologies and develop 21st century skills in the classroom.

ACU decides to distribute iOS devices not only to new first year students, but to all students and faculty on campus.

ACU's Second Mobile Learning Report Released
August 23, 2010

Release of ACU's 2009-2010 Mobile Learning Report summarizing the second year of the mobile learning program, Connected, reveals the campus impact of the iPad on the future of digital texts.

K-12 Digital Learning Institute Launched

ACU's K-12 Digital Learning Institute launches its summer session to train K-12 teachers to integrate mobile technologies and develop 21st century skills in the classroom.

Mobile Learning Report
e mobile-learning program,
student productivity and

Contribution From AT&T

utes $1.8 million to ACU to expand the mobile
veloping the Learning Studio for
Digital Learning Institute, and
Follows research

Third Mobile Learning Report is Released
August 22, 2011

Release of ACU's 2010-2011 Mobile Learning Report summarizing the third year of the mobile-learning program, Connected, reveals the research efforts of a variety of faculty campus wide.

What's Next For ACU?
August 22, 2012

As ACU closes in on its fourth year of the mobile learning initiative, the university has an eye forward... is the new iPad in the future?

ACU Mobile Learning Initiative

Learning Institute launches first
session to train K-12 teachers to integrate mobile
technologies and develop 21st century skills in the
classroom.

$1.8 million to ACU to expand the mobile
by developing the Learning Studio for
ia, the K-12 Digital Learning Institute, and
ACU's Mobile-Learning Fellows research

Third Mobile Learning Report is Released
August 22, 2011

Release of ACU's 2010-2011 Mobile Learning Report
Connected, reveals the research efforts of a variety of
faculty campus wide.

elease
ring the
d World,"
road map

Learning Studio Premieres
Feb 28, 2011

The AT&T Learning Studio ribbon-cutting is attended by several hundred students, faculty, and members of the media. Many eager attendees are given tours of the new facility.

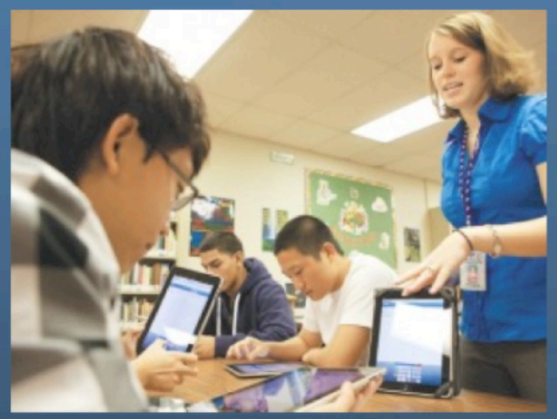
2011

2012

cased

2009-2010 Mobile Learning Report
second year of the mobile learning
ted, reveals the campus impact of the
of digital texts.

K-12 Digital Learning Institute Launched
Jun 11, 2011



ACU's K-12 Digital Learning Institute launches first summer session to train K-12 teachers to integrate mobile technologies and develop 21st century skills in the classroom.

o expand the mobile
rning Studio for
arning Institute, and
g Fellows research

Third Mobile Learning Report is Released
August 22, 2011

Release of ACU's 2010-2011 Mobile Learning Report summarizing the third year of the mobile-learning program, Connected, reveals the research efforts of a variety of faculty campus wide.

ribbon-cutting is attended by
and members of the
of the new

What's Next For ACU?
August 22, 2012

As ACU closes in on its fourth year of the mobile learning initiative, the university has an eye forward...is the new iPad in the future?

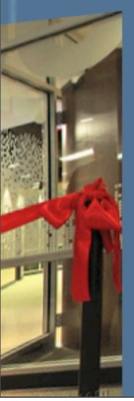
ACU Mobile Learning Initiative

stitute Launched

ACU's K-12 Digital Learning Institute launches first summer session to train K-12 teachers to integrate mobile technologies and develop 21st century skills in the classroom.

obile
r
, and
arch

emieres



The AT&T Learning Studio ribbon-cutting is attended by several hundred students, faculty, and members of the media. Many eager attendees are given tours of the new facility.

Third Mobile Learning Report is Released
August 22, 2011

Release of ACU's 2010-2011 Mobile Learning Report summarizing the third year of the mobile-learning program, Connected, reveals the research efforts of a variety of faculty campus wide.

What's Next For ACU?
August 22, 2012

ACU Mobile Learning Initiative

2013

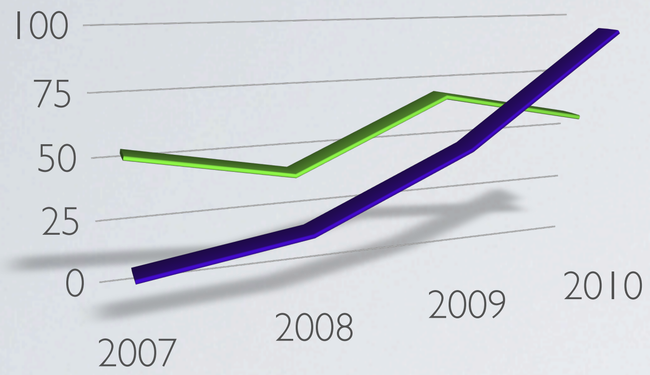
obile Learning Report
e mobile-learning program,
n efforts of a variety of

What's Next For ACU?
August 22, 2012

As ACU closes in on its fourth year of the mobile learning initiative, the university has an eye forward…is the new iPad in the future?

ACU Mobile Learning Initiative

2013



USAGE STATISTICS

750

750 wireless access points campus wide

385,000

385,000 wireless connections per day

70%

70% of connections made are from iOS devices

52,000

52,000 connections at peak time between 10:00-11:00 AM

84%

84% of faculty use a mobile device regularly in class

50%

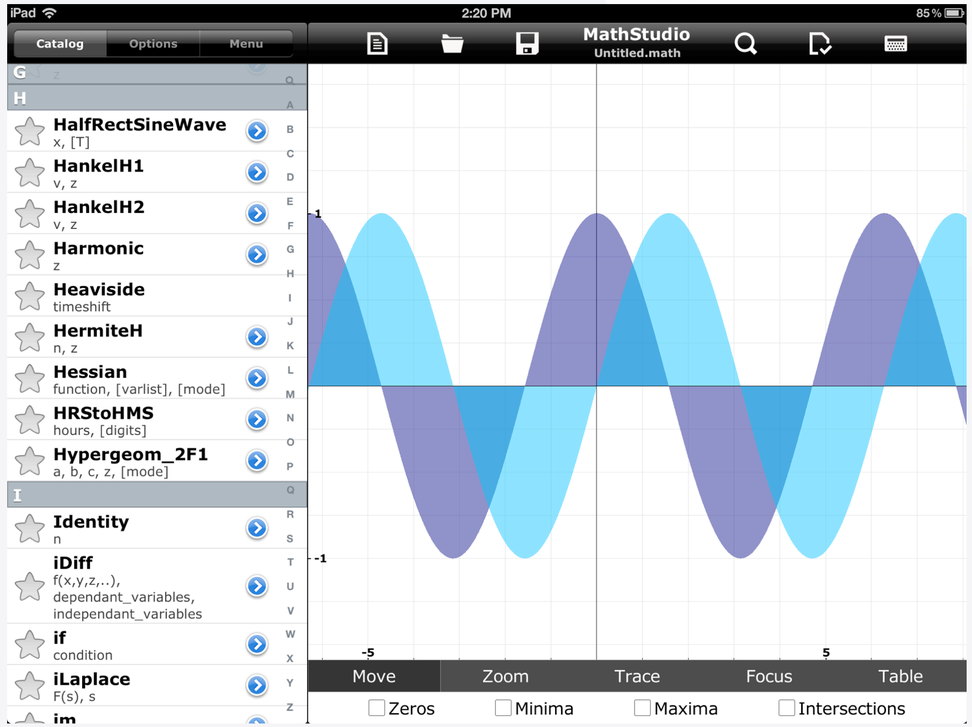
50% of faculty use a mobile device everyday in class

624

624 class blogs were created during the 2010-2011 school year

87%

87% of students report an increase in communication with teachers



WHAT THE STUDENT SEES

A Walkthrough of the First Day in Math Class

FROM DEVELOPMENT TO IMPLEMENTATION

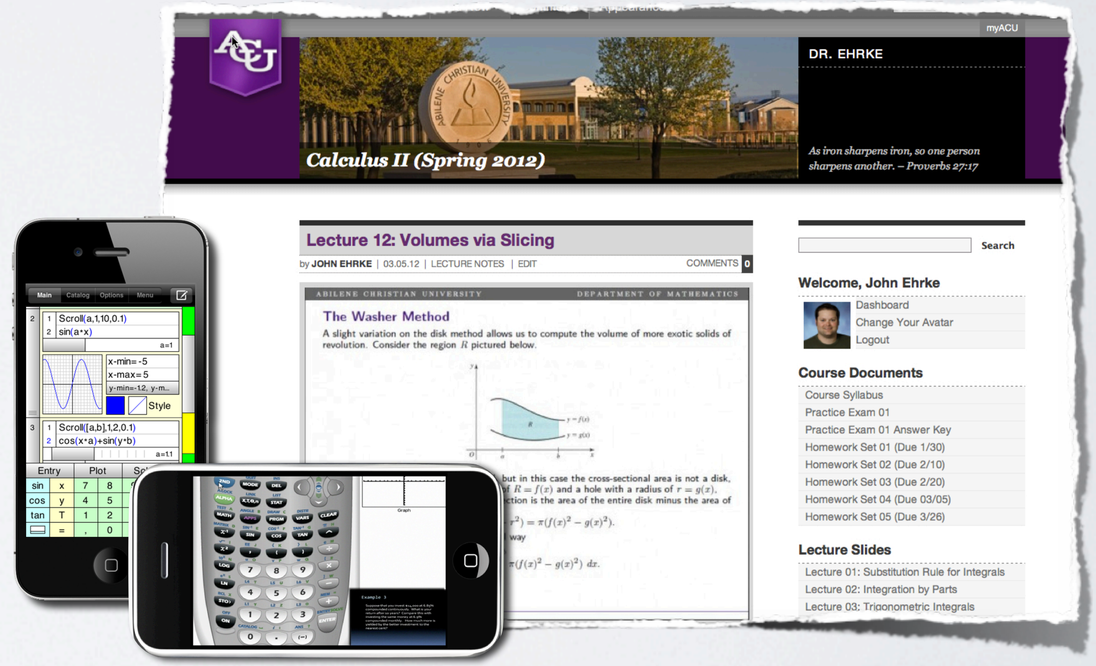
ESTABLISHING A WORKFLOW

Development Workflow

1. Identify your contact points.
2. Create content for each point.
3. Refine content to work across multiple devices and platforms.
4. Aggregate content in a single location that facilitates implementation.

Implementation Tips

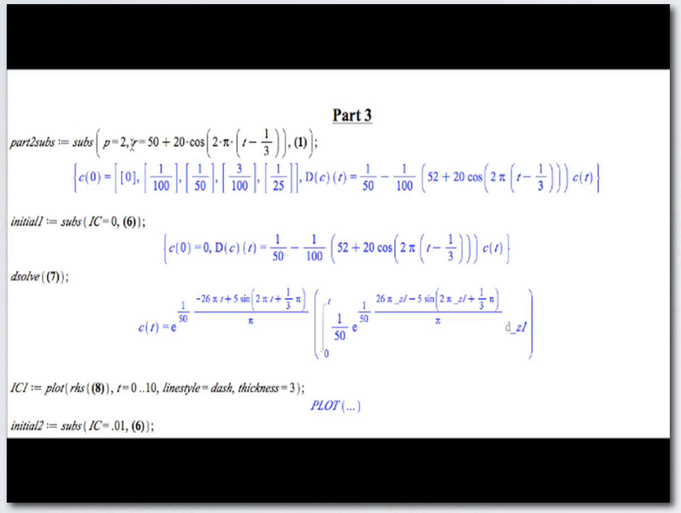
1. Release content incrementally.
2. Determine what topics you can outsource.
3. Reflect the preferred workflow for assessment.
4. Build face to face time around engagement that encourages content consumption.
5. Always have a back up plan.



FROM IMPLEMENTATION TO ASSESSMENT

Designing Appropriate Assessment Pathways

ASSESSMENT OPTIONS

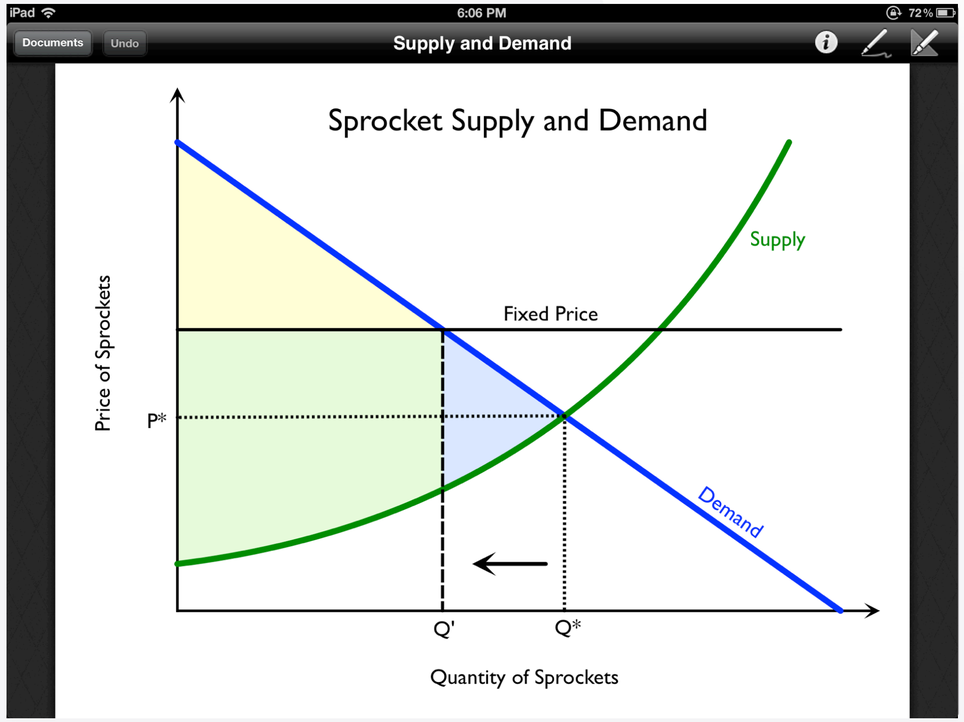


Peer Reviewed
Student Screen Casts

ResponseWare
Real Time Assessment

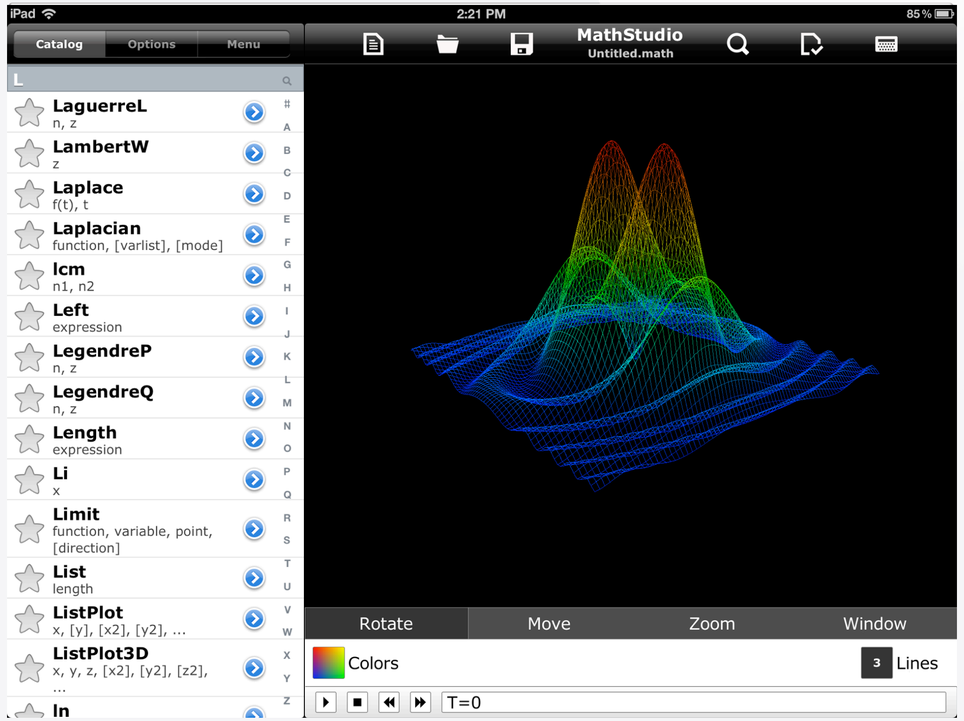
Student Maintained
Portfolio Blogs

AT&T DIGITAL LEARNING STUDIO



PERSONAL EXPERIENCES

Dr. Phyllis Bolin



PERSONAL EXPERIENCES

Dr. John Ehrke

MOBILE LEARNING CASE STUDY

- This research was supported by the University Mobile Learning Fellows Program during the time from 2010-present.

- The study was conducted over the Fall 2010 and Fall 2011 semesters.

- Treatment consisted of differentiated instruction based on the use of a mobile computing app, SpaceTime™ (now MathStudio™) versus traditional instruction based on the Texas Instrument TI-84 Plus graphing calculator.

- Treatment group consisted of n = 41 subjects chosen from sections of a general education mathematics course. The control group consisted of n = 39 subjects chosen from different sections of the same course.

Assessing the Efficacy of Mobile Computing Platforms via a Mobile Learning Usability Scale

Results of a Two Year Study

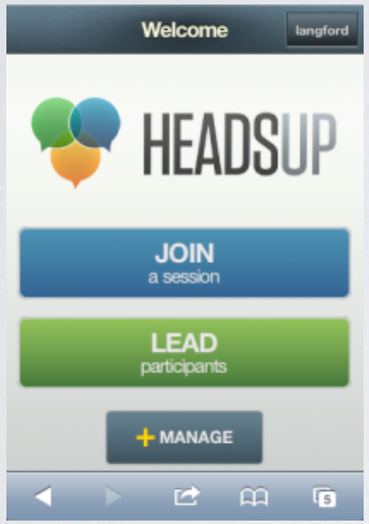
Friday 10:30 - 11:15
Oceanic 7

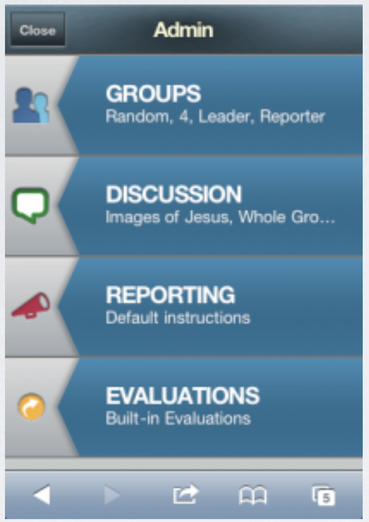
I wish I had this calculator in high school. It is so much more easier to use.

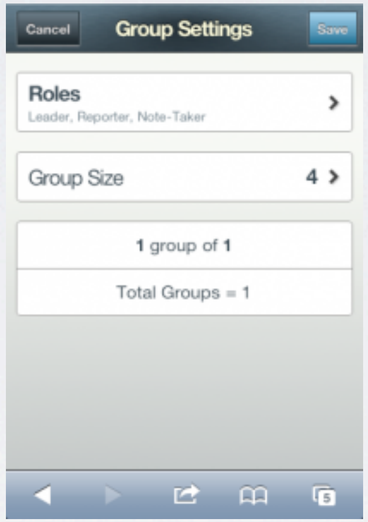
Replace your old graphing calculator! by AppShouter
This app really goes beyond your typical graphing calculator as well. How? By allowing you to interact with the graphs that you generate by touching them! I could go on and on about this app, but If you're still reading this review, let's just say that you're probably not going to find a better graphing calculator than this in the App Store.

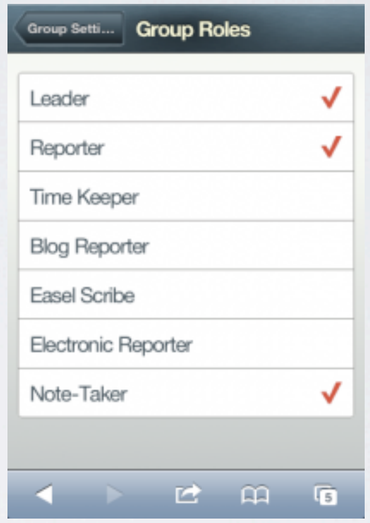
This calculator is easy to use, but so is my TI-83. I would rather have saved $10 and used my 83.

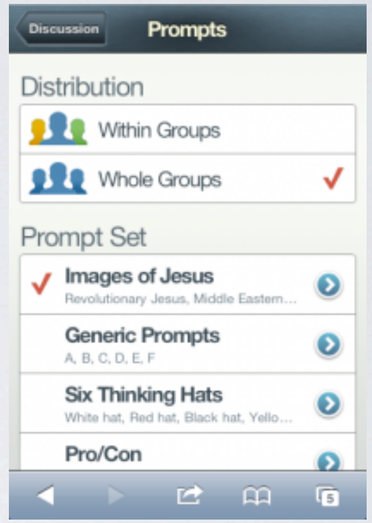
HEADS UP PILOT











Facilitates cooperative learning...

Assigns group roles...

Choose a prompt set...

Provide opportunities for peer evaluations...

Set up instructions for group reporting...

Change groups on the fly...

IN THE TRENCHES

What to do about cheating?

Which device is best?

What do students think about all of this?

Is mobile learning actually improving learning?

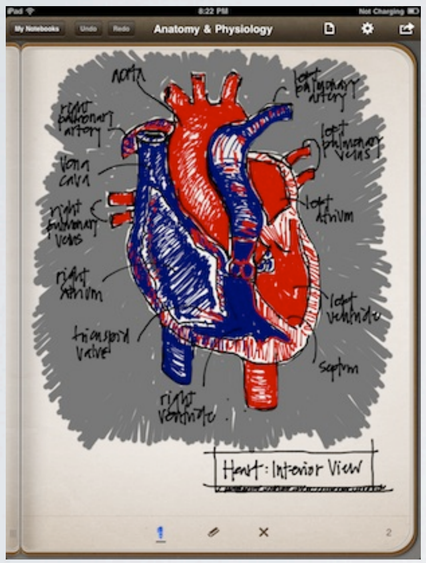
What are the potential land mines if I want to do this?

How does the teacher's role change in a mobile learning environment?

How does the classroom change in a mobile learning environment?

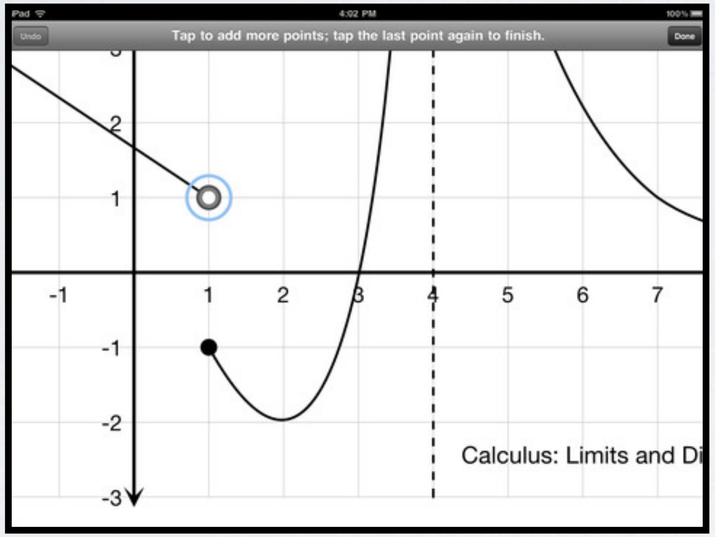
THERE'S AN APP FOR THAT

Taking Notes



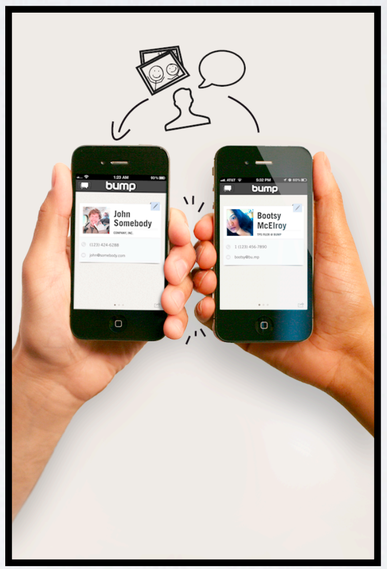
Penultimate

Sketching Graphs



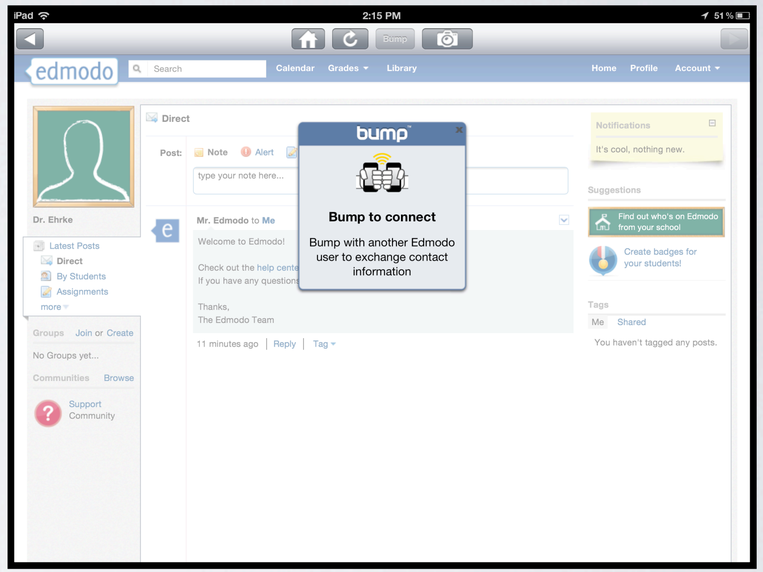
Omni Graph Sketch

Sharing Contact Info



Bump

Blogging Support



Edmodo