
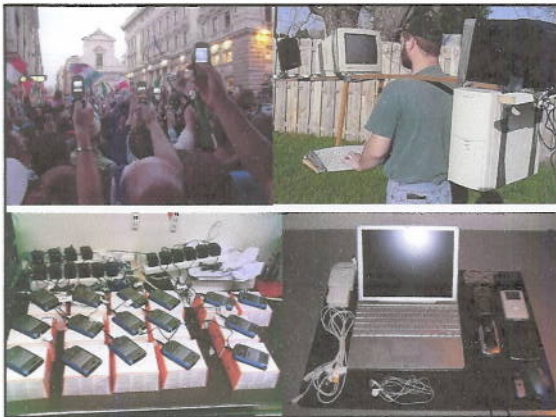


## Blended and Mobile Learning in a Connected World: Problems and Solutions

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



## Will we become increasingly mobile learners?

**Force is with new GPS units**  
June 9, 2010



**TwitterPeek:**  
Restricted to Twitter.

**WikiReader: Updating can be a pain.**

## Judy Brown

### Your Learners ARE Mobile: Is Your Learning

<http://www.slideshare.net/judyb/your-learners-are-mobile-is-your-learning-3404505>

**Your Learners ARE Mobile. Is Your Learning?**

**Tomi Ahonen Almanac 2010**

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

## We Are Going Mobile!


**40,000 new mobile subscribers a week in Rwanda;** Rwanda Newtimes report, January 2009  
**Africa is the continent with the fastest growth,** International Telecommunications Union (ITU), March 2009

**India:** In January, 2009, the number sky rocketed to 15.4M  
 Globally: 60,000 new mobile subscriptions every hour!!!

(per Paul Kim, Stanford, 2009); Nokia Research Lab  
[http://news.yahoo.com/s/afp/20090308/bs\\_afp/indiaconomytelecom](http://news.yahoo.com/s/afp/20090308/bs_afp/indiaconomytelecom)

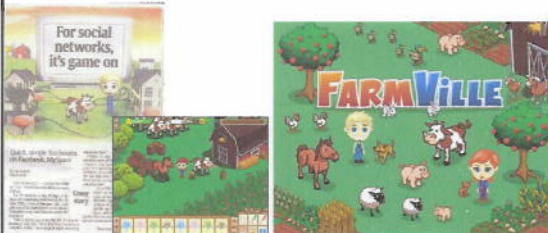


## e-Book Readers




## Social Networking Gaming (e.g., Farmville)

For social networks, it's game on, USA Today, Jon Swartz, Thursday October 15, 2009




## Smartphones



## Mobile Learning and Blended Learning Exploding

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

- At 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.

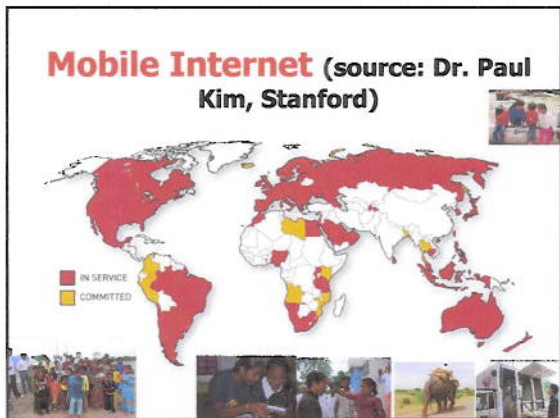
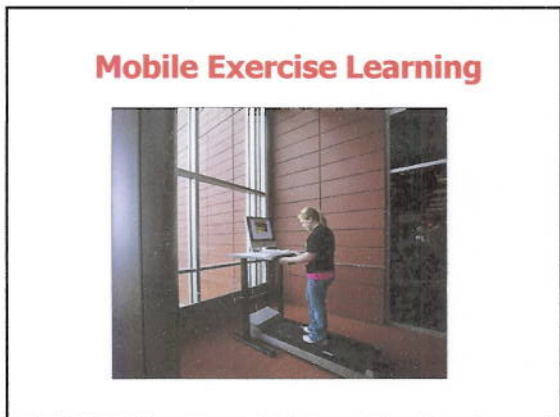
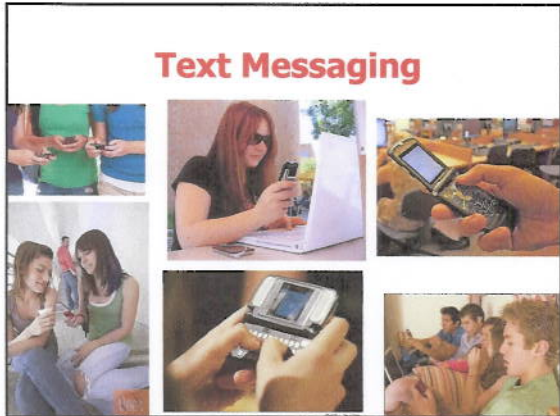


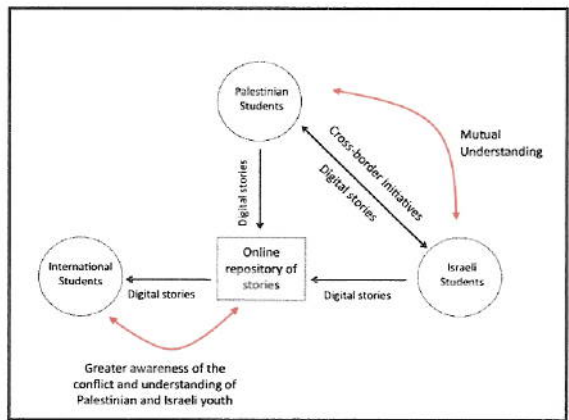
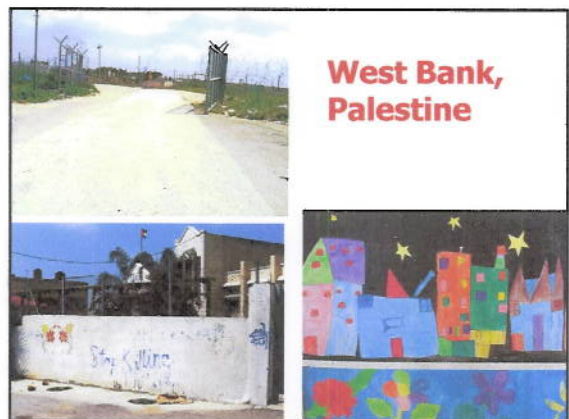
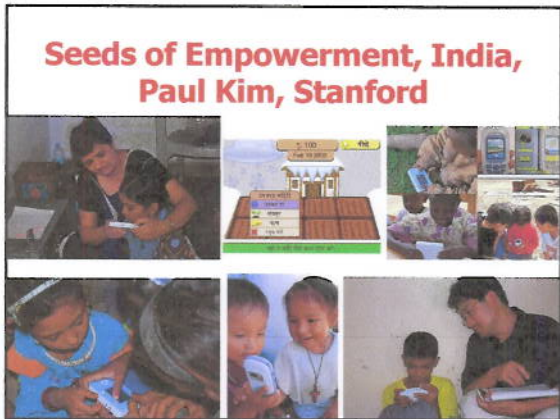
## Museum of London's Streetmuseum App Puts Historic Photos in Perspective

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







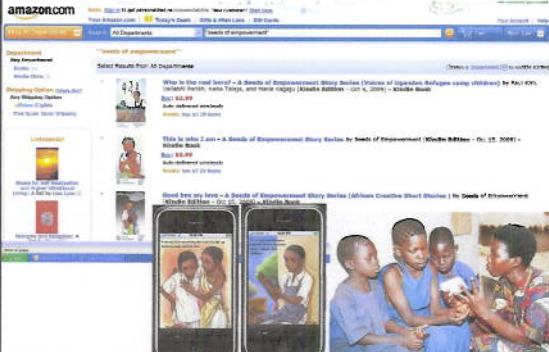


**Powering the device on bicycle**

**PocketSchool on Two Wheels**





**Stories about love, forgiving, unity, peace, reality in Africa**



**Part II. Blended Learning**

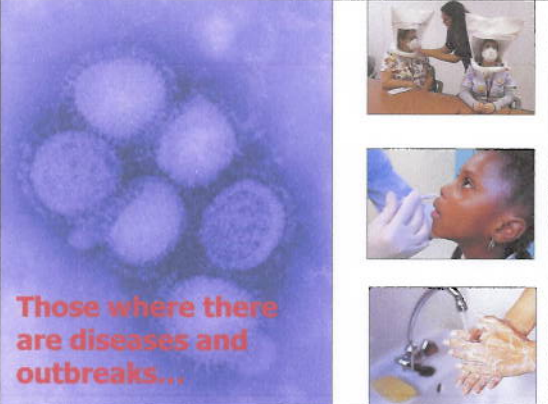
- 1. Models and Frameworks**
- 2. Problems and Solutions (i.e., examples)**




**Who is demanding fully online and blended learning?**



**Those where there are diseases and outbreaks...**



**Those in hurricanes!**



### Those in earthquakes!

The collage features several images: a large building that has collapsed, a street scene with rubble, a map of Haiti with an 'Earthquake epicenter' marked near Port-au-Prince, a map of China with an 'Earthquake epicenter' marked near Chengde, and various other scenes of destruction and rescue efforts.

### Those affect by volcanos...

The collage includes images of a volcanic eruption with lava flows, people evacuating, a Ryanair airplane, and a map of Europe with yellow dots indicating volcanic activity. The text 'fish cloud' and 'Lava' is visible on some of the volcanic images.

### Those in blizzards and ice storms... Snowmegeddon, DC winter of 2010

The collage shows various winter scenes: a snowman, a person skiing, a car stuck in snow, a snow-covered street, and the US Capitol building covered in snow.

### Blending Online Is the Solution!

Two blenders filled with red liquid, with one blender splashing liquid out of its lid.

### What I will discuss...

1. Definitions of blended learning
2. Advantages and disadvantages
3. Models of blended learning
4. Examples of blended learning
5. Implications for blended learning

The slide includes a numbered list of five topics, a small image of a person's face, the cover of the book 'The Handbook of Blended Learning', a group photo of people, and a photo of two people sitting at a table.

### Handbook of Blended Learning (HOBLe, Bonk & Graham, 2006)

- University of Phoenix, Capella University, JIU, National University
- Microsoft, IBM, Sun, Cisco, Macromedia, Oracle, WebCT
- The World Bank, the DOD in USA
- In Canada: York University and the University of Calgary
- Other universities in Japan, Korea, Malaysia, Singapore, China, NZ, South Africa, Israel, Mexico, Australia, Wales, England, USA

The slide features a bulleted list of institutions and companies associated with the book, the book's cover, and the JAZZ logo.

## Blended Learning Defined and Explained

**Myth #1: People will know what I am saying when I say "blended learning."**  
**Myth #2: Blended is the same as "hybrid."**  
**The Sloan Consortium**

Proportion of content delivered online	Type of Course	Typical Description
0%	Traditional	Course with no online technology used - content is delivered in writing or orally.
1 to 29%	Web facilitated	Course which uses web-based technology to facilitate what is essentially a face-to-face course. Might use Blackboard or WebCT to post the syllabus and assignments, for example.
30 to 79%	Blended/Hybrid	Course that is a blend of the online and face-to-face course. Substantial proportion of the content is delivered online, typically uses online discussions, typically has some face-to-face meetings.
80+%	Online	A course where the vast bulk of the content is delivered online. Typically has no face-to-face meetings.

**Myth #3: Knowing "how much" to blend is vital.**  
**Range of Blends in Pew Cases**

**KEY**

- Technology enhanced
- ▲ Reduced F2F contact time
- Entirely Distributed
- △ Optional F2F sessions

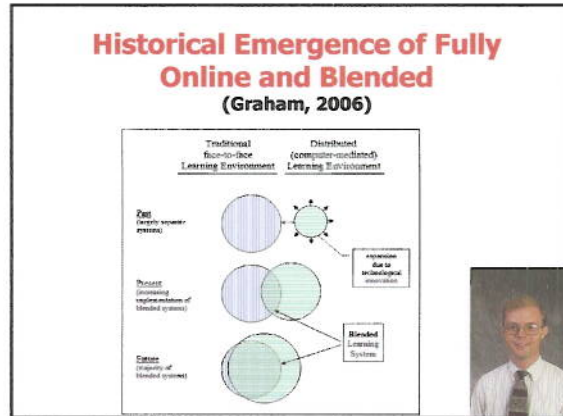
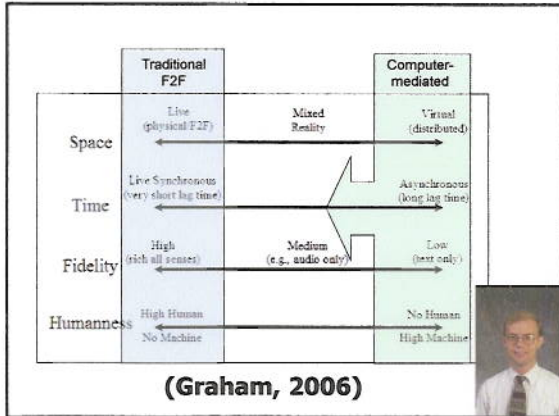
Source: Graham, C. R., & Allen, S. (2005). Blended learning: An emerging trend in education. In C. Howard & J. V. Bontechio (Eds.), *Justice & K. D. Schenk & P. L. Rogers & G. A. Berg (Eds.), Encyclopedia of Distance Learning* (pp. 172-179). Hershey, PA: Idea Group Inc.

**Myths #4: Blended learning is easy to define.**  
**Myth #5: Blended learning is hard to define.**  
**Blending Online and F2F Instruction**

- "Blended learning refers to events that combine aspects of online and face-to-face instruction" (Rooney, 2003, p. 26; Ward & LaBranche, 2003, p. 22)


**Trying to Define it is a Trap!!!**  
**A Rebel From Another Galaxy, March 14, 2010**  
**By Andrea Fuller**

**A vision for a blended virtual ecosystem**





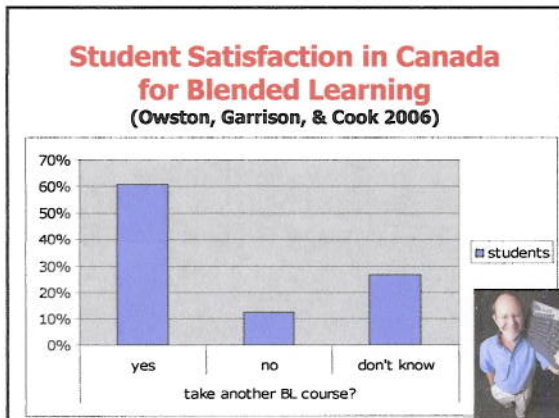
**Myth #6: Blended learning works everywhere. Where is Blended Beneficial?**

- Large Classes (spanish, intro psych, algebra, elementary statistics, biology)
- Classes with working students
- Students spread over a distance
- Classes with certification
- Classes with need for standardization
- New requirements for a profession
- Writing intensive classes
- Theory classes




### Examples of Blended Learning Margaret Driscoll, IBM

- Put assessments/reviews online
- Follow-up in community of practice
- Put reference materials on Web
- Deliver pre-work online
- Provide office hours online
- Use mentoring/coaching tool
- Access experts live online
- Use e-mail and instant messaging

**Myth #7: People learn more in face-to-face settings than blended or fully online ones. Fully Online and Blended Learning Advantages**

1. Increased Learning (better papers, higher scores)
2. More effective pedagogy and interaction
3. Course access at one's convenience and flexible completion (e.g., multiple ways to meet course objectives)
4. Reduction in physical class or space needs, commuting, parking
5. Increased opportunities for human interaction, communication, & contact among students
6. Introverts participate more





**Myth #8: Faculty can have a logical discussion with administrators about blended learning.**

**Models of Blending**  
Blending occurs at the following four levels:

Activity Level  
Course Level  
Program Level  
Institutional Level

Instructor stakeholders  
Administrator stakeholders

**1. Activity- and Course-Level Blends**  
Blended learning systems: Definitions and directions (Osguthorpe & Graham, 2003)

Learning Activities  
Students  
Instructors

Face-to-face  
Online

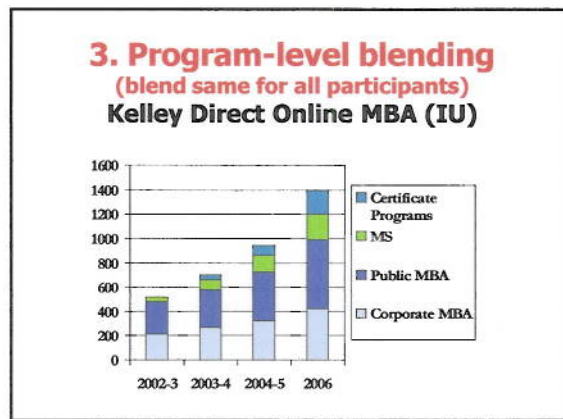
Face-to-face  
Online

Face-to-face  
Online

Key  
Face-to-face classroom  
Student  
Instructor  
Online Interaction

**2. Course-Level Blend: Using CMS to blend distance and F2F learners (Rogers, Graham, et al., 2003)**

Face-to-Face Classroom  
Online



**4. Institutional Blend (e.g., The Open U Malaysia) (Abtar Kaur, 2006)**

- Started August 2001 : approx. 800 students
- Total students (2005): approx. 33,000
- Total students (2010): over 85,000
- Total full-time academic staff : 60
- Total part-time academic staff (tutors): approx 3,000
- 33 Learning Centres (7 Regional Centres)
- Pedagogical approach: Blended Learning

OPEN UNIVERSITY  
MALAYSIA

Enrollment Growth at the OUM

**Categories of Blends**

<b>A. Enabling Blends</b>	Enabling blends primarily focus on addressing issues of access and convenience; provide similar learning experiences.
<b>B. Enhancing Blends</b>	Enhancing blends allow for incremental changes to the pedagogy; additional or supplementary online resources.
<b>C. Transforming Blends</b>	Transforming blends are blends that allow for a radical transformation of the pedagogy and learner construction of knowledge.

**Myth #9: There is a best model of blended.**  
**AMA Special Report, Effectively Implementing a Blended Learning Approach**  
 (Steven Shaw & Nicholas Igneri, 2006)

Source: American Management Association, AMA at Work.

**Institutional-level Blending**  
 (Brian Linquist, University of Phoenix)

- Completely online courses
- Residential F2F courses
- Blended Courses
  - *Local Model* = 5 week courses with first and last week F2F
  - *Distance Model* = 5 week courses with half first and half last week F2F (the last meeting of one course is coordinated to be back-to-back with the first meeting of the next 5 week course)

**The IBM Four Tier Learning Model**  
 Blending Learning for Business Impact – IBM's case for learning success, Lewis & Orton, 2006

**Myth #10: If you read the enough research you will be able to know the impact of blended learning.**

1. Improved Pedagogy
  - Interactive vs. Transmissive environments
  - Authenticity integration into work
2. Increased Access/Flexibility
  - Reduced seat time courses – UCF M courses
3. Increased Cost Effectiveness
  - Corporate: ROI – IBM 47:1, Avaya, Microsoft
  - Higher Ed: PEW Grants

**Part II: 13 Fully Online and Blended Learning Problems and 43 Solutions**

**Problem Situation #1: Brief FTF Experiences**

- Face-to-face (FTF) experiences are brief, one-week journeys. Need to need to build self-confidence, create social supports, teams, camaraderie, etc.



- Blended Solution #1+.  
Sample Activities for Brief Meetings**
1. Assign web buddies, email pals, critical friends based on interests, confidence, location, etc.
  2. Ice breakers—paired introductions, corners.
  3. Solve case in team competitions with awards.
  4. Test technology in a lab.
  5. Assign teams and exchange info for small teams using text messaging.
  6. Library (digital and physical) scavenger hunt.
  7. Do a podcast documenting the meeting.
  8. Have everyone create a blog on the experience.
  9. Open an e-portfolio for each student
  10. Brainstorm how might use technology in program.

**Problem Situation #2:  
Student Absenteeism**

- Students miss class to attend a conference or event or a personal problem arises. Or students asks to watch the class a second time.

Blended Class Schedule for 2010						
Blended Course Number	Day	Time	Room	Instructor	Section	Notes
10000	Tu	10:00-11:00	100	Robert S. Jones	10000-001	
10000	Th	10:00-11:00	100	Robert S. Jones	10000-002	
10000	Mo	11:00-12:00	100	Robert S. Jones	10000-003	
10000	Wed	11:00-12:00	100	Robert S. Jones	10000-004	
10000	Fr	11:00-12:00	100	Robert S. Jones	10000-005	
10000	Sa	11:00-12:00	100	Robert S. Jones	10000-006	
10000	Su	11:00-12:00	100	Robert S. Jones	10000-007	
10000	Mo	12:00-1:00	100	Robert S. Jones	10000-008	
10000	Tu	12:00-1:00	100	Robert S. Jones	10000-009	
10000	Wed	12:00-1:00	100	Robert S. Jones	10000-010	
10000	Th	12:00-1:00	100	Robert S. Jones	10000-011	
10000	Fr	12:00-1:00	100	Robert S. Jones	10000-012	
10000	Sa	12:00-1:00	100	Robert S. Jones	10000-013	
10000	Su	12:00-1:00	100	Robert S. Jones	10000-014	

**Blended Solution #2. Webcast  
Specific Instructor Lectures  
(Tegrity, Echo360, Mediasite, etc.)**

**Blended Solution #3. Post Courses  
in YouTube and iTunes**

**Problem Situation #3:  
Facilities and Time**

- Limited facilities or rooms for teaching. Or students cannot make it to class every week or are working full time.

### Blended Solution #4. Alternating FTF and Online Classes

- Freshman English at BYU: Students are required to meet F2F once a week instead of three times a week. Same in a multimedia class at Beijing Normal University (BNU)

### Problem Situation #4: Web Supplemental Activities

- Fail to finish class discussion or other activity in time. Or desire to integrate the Web more in your face-to-face instruction or outside of class. Want to provide course resources and activities for students to explore.

### Blended Solution #5. Using Open Access Journals (e.g., PLOS, JIOL, IRRODL)

The International Review of Research in Open and Distance Learning  
A refereed e-journal to advance research, theory and best practice in open and distance learning worldwide  
Athabasca University

### Blended Solution #6. United Nations World Digital Library

<http://www.wdl.org/en/>

### Blended Solution #7. Online Portal Explorations

### Blended Solution #8. Shared Online Video (e.g., the Khan Academy; videos on math, bio, trig, chemistry, money and banking, economics, statistics, etc.)

### Blended Solution #9. Open Ed Resources & OpenCourseWare

The image shows a collage of educational resources. At the top left is the OpenCourseWare website interface with a search bar and course listings. Below it is a YouTube video player showing a lecture titled 'Lec 3 | MIT 18.06 Linear Algebra, Spring 2005'. To the right is a Google Video search interface with a video thumbnail of a person at a podium.

### Problem Situation #5: Student Learning Control

- Want to give students more control and ownership over their own learning. Want to foster student generative learning or being authors of their own knowledge.

An illustration of a student sitting at a desk with a computer, wearing a graduation cap. To the right, there are small icons of a person and a graduation cap.

### Blended Solution #10. Learner Video Production

<http://www.youtube.com/watch?v=xiwSiryPzsQ>  
[http://www.youtube.com/watch?v=x3FJyi4Pn\\_E](http://www.youtube.com/watch?v=x3FJyi4Pn_E)  
<http://www.youtube.com/watch?v=eD1awpaSuP0>

A collage of student-produced content. It includes several YouTube video thumbnails, a Facebook post with a video, and a 'Flip-Mini' product image. The videos show students in various settings, some presenting and some in group activities.

### Blended Solution #11. Video Blogging and Reflections

A collage of video blogging and social media content. It features several YouTube video thumbnails, a Facebook post, and a 'TechCrunch' article snippet. The content shows students reflecting on their learning experiences through video and text.

### Blended Solution #12. Photo Festivals and Competitions (e.g., COFA at UNSW, flickr, etc.)

A collage of photo festivals and competitions. It includes a 'Country Contact' Flickr page, an 'OMNIUM' logo, and various photographs of nature, people, and events. The images are arranged in a grid-like fashion.

### Problem Situation #6: Preparedness for the Profession

- Students are not prepared for their professions when they graduate. Or want to better apprentice students into their chosen profession. What to provide opportunities to work with practitioners, experts, mentors, and coaches in authentic learning environment.

An illustration of a student with a graduation cap, standing next to a globe. The text 'THE REAL WORLD' is written in a stylized, hand-drawn font next to the globe.

### Blended Solution #13. Online Accounting Lessons (e.g., Lyryx; <https://lifa.lyryx.co>)

The screenshot shows the Lyryx website interface. On the left, there is a video player showing a woman speaking. On the right, there is a quiz interface with a question and a red 'INCORRECT' message. Below the video, there are navigation buttons and a list of topics.

### Blended Solution #14. Listen and Reflect on Book Author Podcasts

The screenshot shows the MIT Press Podcasts website. It features a header with 'The MIT Press' logo and a navigation menu. Below the header, there is a section titled 'Welcome to the MIT Press Podcast Archive!' and a list of podcasts with author names and titles. There are also several small portrait photos of authors.

### Blended Solution #15. Pubcasts! (videos of scientific papers and science) NSF, the Public Library of Science, and the San Diego Supercomputing Center created a YouTube for scientists to help demystify important research papers. See SciVee.

The screenshot shows the SciVee website. It features a header with the SciVee logo and a navigation menu. Below the header, there is a video player showing a woman speaking. To the right of the video, there is a list of scientific papers with titles and authors.

### Blended Solution #16. Online Cases (e.g., Mark Braun, IU)

The screenshot shows a pathology case website. It features a header with 'PATHOLOGY QUIZZES - CLINICAL CASES' and a navigation menu. Below the header, there is a list of cases with titles and authors. To the right of the list, there is a grid of microscopic images.

### Blended Solution #17. Real World Problems (PBL online) (e.g., Real-time Business Cases)

The screenshot shows the REACTIVE website. It features a header with 'REACTIVE case study' and a navigation menu. Below the header, there is a video player showing a woman speaking. To the right of the video, there is a list of business cases with titles and authors.

### Problem Situation #7: Collaborative Skill Deficit

- Students need collaboration and teamwork skills. Want to build virtual teaming skills in class activities or work with learners in other locales or situations.

The illustration shows a group of stylized human figures in various colors (yellow, red, white) standing together. In the center, there is a blue Skype logo. To the right, there is a red banner with the text 'Collaborative Skill Deficit'. There are also several icons representing different aspects of collaboration and teamwork, such as a person with a speech bubble, a person with a gear, and a person with a lightbulb.

### Blended Solution #18. Global Teams Solving Cases

### Blended Solution #19. Mock Tour Packages (e.g., Univ of Illinois and Korea Tourism classes)

Students getting hands-on experience designing unique tours

### Blended Solution #20. Online Role Play (Tulane University, Exercise for Renewable Energy, Freeman Sch. of Business, roles include power traders, electric utility analyst, independent power producers & utility dispatchers)

### Problem Situation #8: Student Reflections and Connections

- Students are not connecting content. They are just turning pages and going through the motions. Minimal student reflection is seen.

### Blended Solution #21. Expert Video Reflections and Scaffolds online (E-Reading First Ohio)

showcases

12

Department: *Psychiatry*  
Academics: Prof. Michael Gil, Dr. Brian Fitzmaurice, Katie Armstrong

*Psychiatric Interviews: The Interview*

### Blended Solution #22. Watch or Listen to Online Conferences

**Problem Situation #9:  
Learning Community**

- There is a preference for creating an online learning community in order to increase student learning and retention in the program. Such a community might be in a single class or across a series of classes.



**Blended Solution #23. Create an Online Community (e.g., in Ning, Google Groups, or Yahoo Groups)**



**Blended Solution #24. Cross-Institutional Wikibook Project (e.g., IU and the University of Houston)**



**Blended Solution #25. Global Videoconferencing**



**Problem Situation #10:  
Need to Visualize Content**

- Content is highly visual in nature and difficult to simply discuss in class. Or students have a preference for visual learning.



**Blended Solution #26. Simulations and Virtual Worlds Online (e.g., OpenSimulator)**





### Blended Solution #27. World Trends and Indices (e.g. Worldmapper)

### Blended Solution #28. Anchored Instruction Discussions (TED, YouTube, YouTube EDU, CNN, BBC, TeacherTube, CurrentTV)

### Blended Solution #29. Virtual Tours and Timelines (i.e., HyperHistory; <http://simile.mit.edu/timeline/>)

### Problem Situation #11: Need for Hands-On Learning

- To learn the material requires that students try it out in a lab or real-world situation. Or students prefer hands-on learning activities.

### Blended Solution #30. Online Psychology Experiments

### Blended Solution #31. Tour a Museum (e.g., British Museum, Smithsonian, Louvre)

### Blended Solution #32. Concept Mapping and Timeline Tools

(e.g., VUE, Bubbl.us, Cmap, Freemind, Gliffy, Mindmeister, or Mindomo)

The image shows two screenshots. On the left is the interface of 'collaborative online mind mapping' with a dark theme and various tool icons. On the right is the 'bubbl.us' logo and a sample mind map diagram with a central node and several branches.

### Blended Solution #33. Reuse Blog Posts, Chat Transcripts, Interviews, Online Presentations

The image is a collage of various digital content. It includes a video of a man in a suit speaking, a blog post snippet, a presentation slide titled 'Future Of Education: Is It Possible To De-School Society George Siemens', and other smaller images related to digital learning and technology.

### Blended Solution #34. Educational Simulations

The image shows three screenshots of educational simulation environments. The top one shows two students in a virtual lab setting. The bottom left shows a virtual simulation of a person in a wheelchair. The bottom right shows a student wearing a headset interacting with a computer screen.

### Blended Solution #35. Podcasts for students of pronunciation class

(e.g., Tzu-Su Chen, Taiwan)

The image shows a collage of content related to podcasts. It includes a screenshot of a podcast player with the text 'Hey Jude, don't make it bad Take a sad song and make it better', a 'podomatic' logo, and a social media page with Chinese text.

### Problem Situation #12: Preference for Auditory Learning

- The content is heavily verbal or words. Or students have a preference to listen to a lecture or hear an instructor deliver a lecture.

The image contains illustrations of three stylized human figures and a photograph of a young woman with dark hair reading a book.

### Blended Solution #36. Podcasting Medical Lectures (School of Dentistry, University of Michigan)

The image shows two screenshots. The left one is a screenshot of a computer interface displaying a podcast player for 'IT Bootcamp'. The right one is a diagram titled 'Audio Acquisition via Computer' showing the process of recording audio from a microphone to a computer.

### Blended Solution #37. Podcast Paper Reflections

Logos and titles for various podcasts: NursingShow.com, LND Medicast, CVMD The Cardiovascular Multimedia Information Network, English in the Real World weekly podcasts, WOMEN'S HEALTH CONNECTION 2008, and DISCUSSION TECHNOLOGY.

### Blended Solution #38: Teaching with Twitter A. Course announcements and following people (e.g., microblogging)

A screenshot of a Twitter profile for 'education' showing tweets and a 'Follow me!' graphic with a blue bird icon.

### Blended Solution #39: Free Podcast Shows; Language Learning (e.g., ChinesePod)

Screenshots of podcast websites for Ken Carroll and Jenny Zhu, showing episode lists and audio player interfaces.

### Blended Solution #40. Podcasts, Audio Portals, etc. (e.g., Basic Acoustics of Musical Instruments; Univ. of New South Wales)

A screenshot of a website titled 'Introduction to the acoustics of brass instruments' featuring text, images of brass instruments, and a musical score.

### Blended Solution #41. Indexing Sounds in Cities with Google Maps

A screenshot of Google Maps showing sound indexing overlays on a city map, with a small video inset of a person speaking.

### Problem Situation #13: Lack of Instructor Presence

- Students need to see or hear from the instructor. They need a sense that the instructor is supporting their learning. They prefer face-to-face but are willing to try online.

An illustration of a teacher pointing with a stick and a close-up photograph of a student wearing glasses, looking thoughtful.

### Blended Solution #42. Video Course Intros (examples from Northern Virginia Community College and IU online MBA program)

### Blended Solution #43. Class Synchronous Sessions and Archives (Breeze/Adobe Connect Pro, Elluminate, WebEx, Dim Dim)

### Trends, Implications, and Challenges for Blended Learning

1. Faculty and students are more mobile.
2. Students more choices.
3. Student expectations rise.
4. Greater self-determined learning.
5. More corporate university partnerships.
6. Courses increasingly modular.
7. Less predefined schedules.
8. When teaching less clear; when learning less clear.

### Again, this talk covered...

1. Definitions of blended learning
2. Advantages and disadvantages
3. Models of blended learning
4. Examples of blended learning
5. Predictions for blended learning
6. Challenges for blended learning

### How many ideas did you get from this talk?

1. 0 if I am lucky.
2. Just 1.
3. 2, yes, 2...just 2!
4. Do I hear 3? 3!!!!
5. 4-5.
6. 5-10.
7. More than 10.

### Questions and Comments

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