




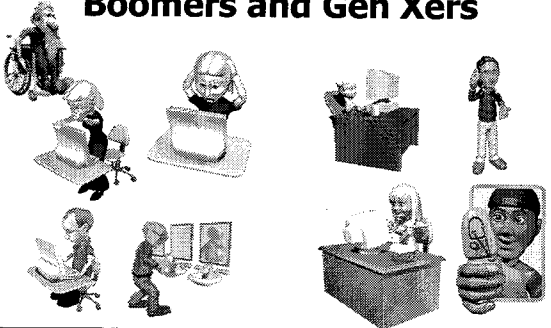
## Blended Learning: Situations and Solutions



**Curt Bonk, Professor, Indiana University**  
**President, SurveyShare, Inc.**  
**cjbonk@indiana.edu**  
**http://php.indiana.edu/~cjbonk**  
**http://SurveyShare.com**

## Differences between Boomers and Gen Xers



## Prefer online to traditional!

### EDUCATION with Student News

**Students prefer online courses**

Classes popular with on-campus students

APU — Andy Steele lives just a few blocks from the campus of Clark Mills State University in Spanish, South Dakota. So commuting to class just isn't the problem. But he doesn't like lectures much, it's a morning person, and wastes time during the day to restore motorcycles.

On South, a half five minor economics major. This year he's taking an online course.

### Always online -- and always talking

When Dave says without a word in an elevator










## Money

Generation Y: They've arrived at work with a new attitude

By Stephanie Armour, USA TODAY


They're young, smart, impatient. They may wear flip-flops to the office or listen to iPods at their desks. They want to work, but they don't want work to be their life.

### Generation Y




Generation	Age Range	Characteristics
Boomers	45-64	Work-oriented, traditional
Gen Xers	25-44	Self-reliant, independent
Millennials	18-24	Technologically savvy, team players
Generation Y	18-24	Technologically savvy, team players

**MAY 1, 2006, Business Week Online: My Virtual Life**  
A journey into a place in cyberspace where thousands of people have imaginary lives.



## This part of the talk will cover

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

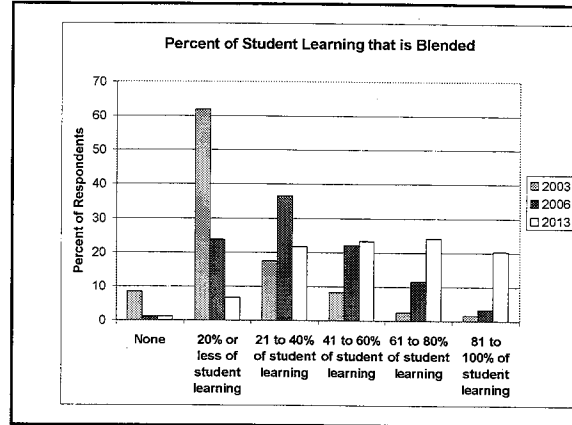




**Poll #1. Have you taught, taken, or designed a blended learning course?**

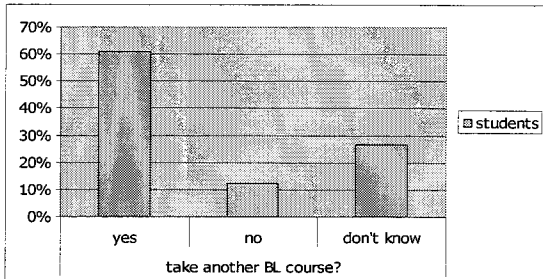
**A = yes**

**B = no**

**C = not sure, I am here to find out what blended means**



**Student Satisfaction in Canada for Blended Learning (Owston, Garrison, & Cook 2006)**



**Conclusions: Blended Learning at 8 Institutions in Canada (Owston, Garrison, & Cook 2006)**

- Pragmatic advantages of BL format
  - Interaction a key ingredient for success
  - Online discussions can work in large classes
  - Online contributions do not have to be individually graded to be meaningful
  - More time and effort required—but student outcomes appeared to be better
  - Faculty get to know their students better
- Institutions need clear policies and support

**Emergence of Blended Learning Systems in Higher Ed**

In 2002 the President of Pennsylvania State University said that the convergence between online and residential instruction was "the single-greatest unrecognized trend in higher education today."

Young, J. R. (2002, March 22). 'Hybrid' teaching seeks to end the divide between traditional and online instruction. *Chronicle of Higher Education*, pp. A33.



**1. Blending Delivery Media**

- "Blended learning means the combination of a wide range of learning media (instructor led, web based courseware, simulations, job aids, webinars, documents) into a total training program designed to solve a specific business problem." (Bersin & Associates, 2003, p. 3)

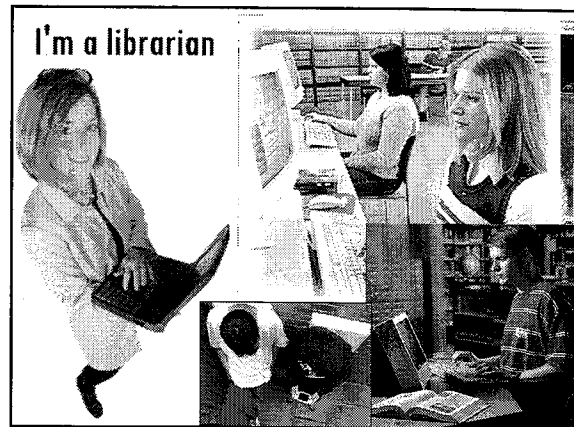
**NEWS**  
 One of the best ways to reach education students

**In the Midst of Budget Cutbacks, there are Technology Giveaways**

**Motorola Q265, Q267**  
 University of Applications and Technology of Maryland  
 The school gave all students of phones or a check with the phone to be used in the rural areas.

**Gateway M275 tablet PC**  
 Winona State University  
 The school will provide the tablet computers to full-time students who do not have laptops from previous programs.

**BlackBerry 7510 PDA**  
 University of Maryland  
 The school has begun handing out the wireless personal digital assistants to faculty and more than 200 full-time graduate students in the Smith School of Business.



**2. Blending Instructional Methods**

- **"Blended learning: to combine various pedagogical approaches (e.g., constructivism, behaviorism, cognitivism) to produce an optimal learning outcome with or without instructional technology." (Driscoll, 2002, p. 54)**

**3. 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)**

**Synchronous Conferencing**

**Working Definition (Graham, 2006)**

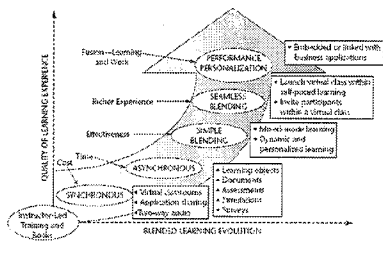
**Definition:**  
**Blended learning systems combine face-to-face instruction with computer-mediated instruction.**

## Harvey Singh (2006)

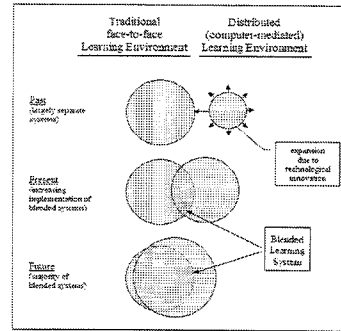
Blended Learning and Work

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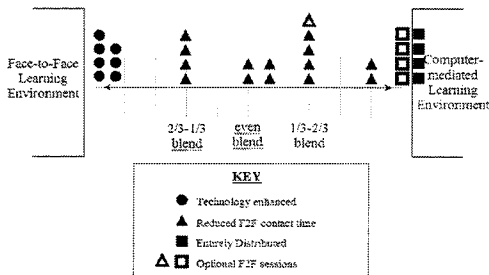
FIGURE 34.1. PAST, PRESENT, AND FUTURE OF BLENDED LEARNING.



## Historical Emergence of BL (Graham, 2006)



## Range of Blends in Pew Cases



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

## Why Blend? Three Key Reasons

- 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

## 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**

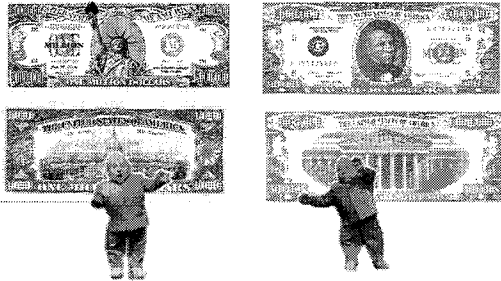


## Blended Learning Disadvantages

- 1. Procrastination (trouble managing time and requirements)**
- 2. Problems with technology at the beginning (instructor tries too much)**
- 3. Can be overwhelming or too novel**
- 4. Poor integration or planning**
- 5. Resistance to change**
- 6. Good ideas but lack of time, money, & support**



## Ok, Million Dollar Question: Where is blended learning beneficial?



## Where is Blended Beneficial?

<http://www.center.rpi.edu/PewGrant/ProjDesc.html>

- Large Classes (spanish, intro psych, algebra, elementary statistics, biology)
- Classes with certification
- Classes with need for standardization
- New requirements for a profession
- Writing intensive classes



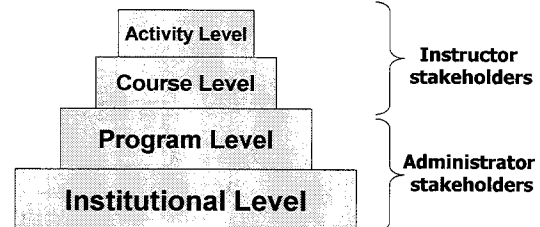
## Examples of Blended Learning, Margaret Driscoll, e-Learning, March 2002

- 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



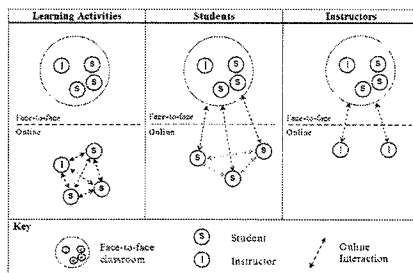
## Models of Blending

Blending occurs at the following four levels:

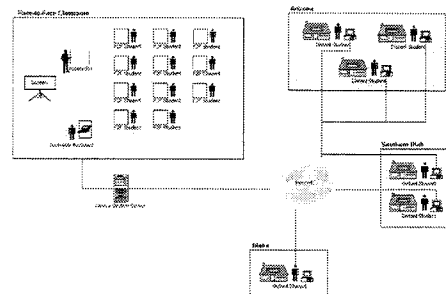


## 1. Activity- and Course-Level Blends

Blended learning systems: Definitions and directions (Osguthorpe & Graham, 2003)



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



## 2. Course-level blends: Beijing Normal University (2006)

**Alternating F2F and e-learning activities in a multimedia course in China.**

See: Huang Ronghui, H. & Yueliang Z. (in press). Blended learning systems: Definition, current trends, and future directions. In C. J. Bonk & C. R. Graham (Eds.), *Handbook of blended learning: Global perspectives, local designs*. San Francisco, CA: Pfeiffer Publishing.

## 2. Course-level Blends Jagannathan, S. (2006).

- Alternating F2F and e-learning activities in World Bank course.

Session 1	Session 2	Session 3	Session 4
Background readings & lecture Peer for Web	Small group discussion Facilitation online	Apply model to real case Panel F2F or e-2 discussion	Self-paced work to reinforce learning Web, CD-ROM, print
+ Via Videoconferencing			
Topic 1 Introduce analytical model	Topic 2 Comment on group work, new concepts	Topic 3 Groups present instructor facilitates & summarizes	Topic 4 Links from self-paced to analytical model

## Program-level blending

Teleconferences	Online	Seminar 1	Seminar 2	Mentoring
CRM Philosophy, Orientation	Technology Trends, Financial Concepts	Executive Conversation, Strategic Concepts	Business Process Reengineering, Executive Rote Plays	Client Research, Executive Presentations, CRM Qualification, CRMba Club
----- 2.5 Months -----				

**Figure 1: Avaya's ESSBa program schedule**

## 4. Institutional-level Blending

**Example 1: University of Central Florida**

- E courses are technology enhanced courses
- M courses are blended courses with reduced seat time
- W courses are web courses (completely online)

See: Dickson, D., Hansen, J., Auer, P., Mosier, P., & Borg, S. (in press). Blended learning systems: Definition, current trends, and future directions. In C. J. Bonk & C. R. Graham (Eds.), *Handbook of blended learning: Global perspectives, local designs*. San Francisco, CA: Pfeiffer Publishing.

## 4. Institutional-level Blending

FIGURE 22.1. OPEN UNIVERSITY MALAYSIA'S BLENDED LEARNING MODEL.

**Face-to-Face Learning:** Classroom Environment (Virtual Classroom, Computer Laboratory, Science Laboratory), Number of Meetings (Face-to-face sessions for marketing), Teaching Strategies (Direct teaching).

**Online Learning:** Resources (Learning Objects, PDF Documents, Microsoft Office, Attachments, Digital Library), Discussion, Decision, Forums.

**Self-Managed Learning:** Specially Designed Modules (Video support tools), CD-ROM Courseware, Digital Library, Physical Library, Peer, Tutors, Subject Matter Experts.

## The OUM

(Abtar Kaur, 2005, Ed Media)

- Started August 2001 : approx. 800 students
- Total students (2005): approx. 33,000
- 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

## 4. Institutional-level Blending

- A learner in the remote areas of Sabah and Sarawak in East Malaysia may depend entirely on the specially designed print module and attend three out of the five assigned face-to-face classes.
- A learner in the towns of Sabah and Sarawak in East Malaysia may use the specially designed print module as a guide, use textbooks and online digital resources as core study materials for self-managed learning, attend all five face-to-face classes, meet with peers for small-group discussions, and actively participate in online discussion forums.
- A learner in Kuala Lumpur City in West Malaysia may depend entirely on online resources (such as digital books, journal articles, and related links) and online discussions but also attend classes two out of five times, mainly to sit for the tests.

## 4. Institutional-level Blending (Brian Linqvist, 2006)

### Example 2: University of Phoenix

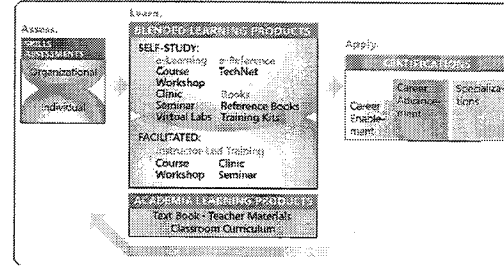
- Completely online courses
- Residential F2F courses
- Blended Courses
  - **Local Model** = 5 week courses with first and last week F2F
  - **Distance Model** = 5 week courses with half first and half last week F2F (the last meeting of one course is coordinated to be back-to-back with the first meeting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

## Blended Learning Form Factors (copyright Microsoft, Ziob & Mosher, 2006; Handbook of Blended Learning Environments)

Live instructor-led	Self-paced learning	Tools for learning communities
<ul style="list-style-type: none"> <li>• Traditional classroom</li> <li>• Onsite engagement</li> <li>• Virtual online classroom</li> <li>• Live video via satellite or videoconferencing</li> <li>• Online coaching/mentoring</li> </ul>	<ul style="list-style-type: none"> <li>• Instructor-led classroom via e-mail</li> <li>• Online or computer-based training (CBT)</li> <li>• Self-study guides, manuals, texts</li> <li>• Online resources and databases</li> </ul>	<ul style="list-style-type: none"> <li>• Chat</li> <li>• Instant messaging (IM)</li> <li>• Newsgroups and forums</li> <li>• Collaboration</li> </ul>

FIGURE 7.2 ASSESS, LEARN, AND APPLY.

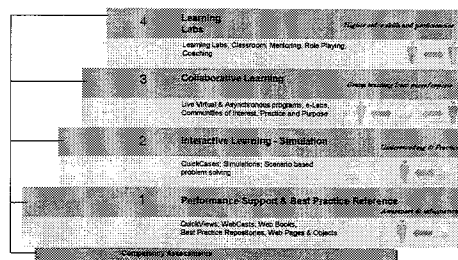
### Microsoft Products and Services for Lifelong Learning



## Blended Learning Scenario (copyright Microsoft, Ziob & Mosher, 2006; Handbook of Blended Learning Environments)

Pre Class	Day 1	Day 2	Day 3	Day 4	Day 5	Post Class
Self-study prep	In classroom	Virtual class	e-Learning	Virtual class	In classroom	Community newsgroups

## The IBM Four Tier Learning Model (2006) Blending Learning for Business Impact – IBM's case for learning success, *In press, Handbook of Blended Learning*, Nancy Lewis, Vice President, On Demand Learning



## Specific Learning Elements An Learning Ecology from Sun Microsystems (Wenger & Ferguson, 2006)

TABLE 6.1. LEARNING ELEMENTS.

- Classroom (instructional) content
- Self-paced Web content
- Self-study guides
- Certification
- Practice tests
- Remote labs
- E-mentoring
- Asynchronous discussion forums
- Documentation
- Procedural job aids
- Guided lab activities
- Learning management system
- Transfer of information (recorded audio and slide presentations)
- Webcasts
- Video
- Performance support

## Specific Learning Elements An Learning Ecology from Sun Microsystems (Wenger & Ferguson, 2006)

	Learner Self-Navigation		
Studying	<ul style="list-style-type: none"> <li>• Books, articles, guides</li> <li>• References</li> <li>• White papers</li> <li>• Asynchronous Content</li> <li>• Job Aids</li> <li>• Glossaries</li> <li>• FAQs</li> </ul>	<ul style="list-style-type: none"> <li>• Authentic tasks</li> <li>• Role-Play</li> <li>• Projects</li> <li>• Case Studies</li> <li>• Peer Discussion</li> <li>• Discussion Forums</li> </ul>	Practicing
Content Delivery Focus	<ul style="list-style-type: none"> <li>• Classroom Lectures</li> <li>• Synchronous Content</li> <li>• Demos/Instructions</li> <li>• Reviews/Discussions</li> <li>• Video</li> <li>• Video-conferencing</li> </ul>	<ul style="list-style-type: none"> <li>• Exercises</li> <li>• Diagnostic Labs</li> <li>• Practice Labs</li> <li>• Mentoring/tutoring</li> <li>• Experiments</li> </ul>	Experience and Practice Focus
Teaching	Guided Navigation		Coaching

## Specific Knowledge Services An Learning Ecology from Sun Microsystems (Wenger & Ferguson, 2006)

A Learning Ecology Model for Blended Learning

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FIGURE 6.6. SPECIFIC KNOWLEDGE SERVICES.

Exploring	Self-Navigation	Participating	
	<ul style="list-style-type: none"> <li>• Content repositories</li> <li>• Learning content management</li> <li>• Performance support</li> <li>• Resource centers</li> <li>• Learning portals</li> <li>• eBooks</li> </ul>	<ul style="list-style-type: none"> <li>• Online communities of practice</li> <li>• Discussion forums and chats</li> <li>• Talent directories</li> <li>• Learning communities</li> <li>• Instant messaging</li> </ul>	
Collecting Content	<ul style="list-style-type: none"> <li>• Continuous learning</li> <li>• Self-assessment</li> <li>• Private</li> <li>• Online learning</li> <li>• Virtual classrooms</li> <li>• Blended learning</li> <li>• Online certification</li> <li>• Learning management</li> </ul>	<ul style="list-style-type: none"> <li>• Collaboration</li> <li>• Mentoring or remote coaching</li> <li>• Web conferencing</li> <li>• Simulations</li> <li>• Skills management</li> <li>• Interaction with experts</li> <li>• Online labs</li> </ul>	Connecting People
Informing	Guided Navigation	Guiding	

## Design Criteria (instructional strategies from all quadrants) (Wenger & Ferguson, 2006)

- It is a collaborative activity.
- Uses authentic problem scenarios.
- Mentored by experts.
- Work on project teams.
- Activity supported by:
  - Reference materials.
  - Procedure guides.
  - Async content.

## Categories of Blends

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

## A. Enabling Blends

- Many of the for-profit institutions like **Capella**, **Jones International University**, and **University of Phoenix** have models that focus on making educational opportunities available to those who don't have access due to time and location constraints.
- **National University** has a teacher preparation program geared towards access and flexibility.
- Many international education and training programs are also focused on providing access (e.g., **World Bank**, **Mexico's Red Escolar program**, etc.)





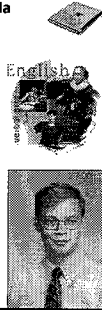


## Blended Solution #2.

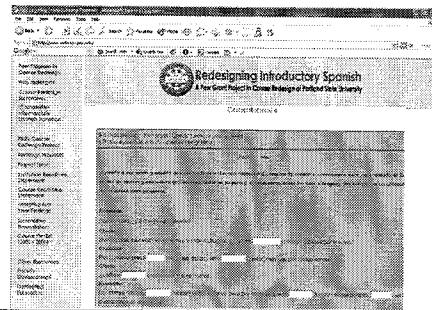
### Divide Online and Class Experiences: English Classes Online

Graham, Ure, & Allen (2003, July). Blended Learning Environn  
A Literature Review and Proposed Research Agenda

- **Freshman English at BYU:** Students are required to meet F2F once a week instead of three times a week. Online modules provide writing instruction and teaching assistants use online and F2F contact to provide feedback and guidance on writing (Waddoups et al., 2003).



## Blended Solution #3. Post Foreign Language Practice Exercises Online (Grammar Practice on Spanish (Pew course))



## Problem Situation #3: Web Supplemental Activities

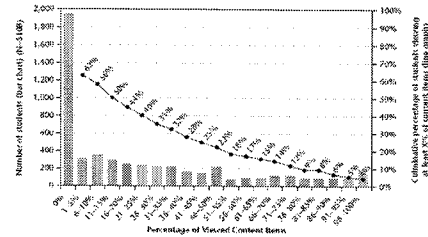
- **Fail to finish class discussion or other activity in time. Or desire to integrate the Web more in your face-to-face instruction or outside of class. Want to provide course resources and activities for students to explore.**

## Content Use (Tel Aviv University) Nachmias, Ram, & Mioduser, 2006

Virtual TAL

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FIGURE 27.2. DISTRIBUTION OF PERCENTAGE OF CONTENT ITEMS VIEWED BY STUDENTS.



Note: N = 5,108 in 117 courses.

## Blended Solution #4.

### Use Async Forum or Course Management System (Discussion Forums, Surveys, Word Docs, Web Links, PP slides)

Survey results:  
Votes cast to date: 15  
You have not voted

Vote choices	#	%
Yes change class from 1:00 to 5:15 so that we can walk over and attend and I will attend all of that	6	40.00%
Yes change class to 1:00 to 5:15 and I will attend most of that time	5	33.33%
Yes let's attend this talk but I can only come to class from 2:00 to 4:45	4	26.67%
No let's not go to this	0	0.00%
Not sure	0	0.00%
other	0	0.00%

This survey closes on 10/30/03 04:36 PM

Replies:

## Blended Solution #5. Instructor Portal: e.g., self study in anatomy



The following links will allow you to access individual photographs of the cat skeleton. The purpose of these pages is to give you knowledge on the structure of the cat.

### Trunk & Shoulder Muscles

Please try to answer all questions for guests before you look at the answers

Shawler & Upper Limb (Shawler)

Choose one of the following categories:

Neck Muscles

• Neck Muscles

Trunk & Shoulder Muscles

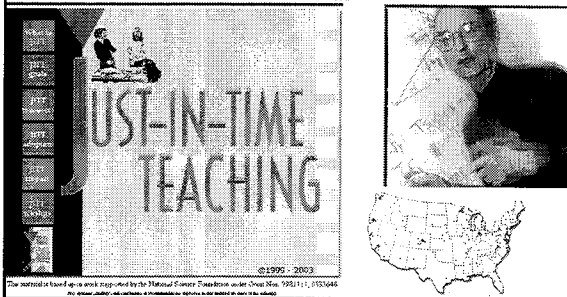
- Trunk & Shoulder Muscles
- Trunk & Shoulder Muscles
- Trunk & Shoulder Muscles
- Trunk & Shoulder Muscles
- Trunk & Shoulder Muscles



Upper Limb Muscles

Shawler & Upper Limb (Shawler)

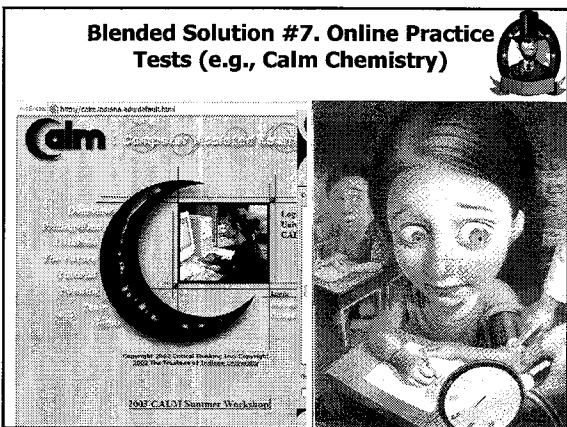
**Blended Solution #6:  
Just-In-Time-Teaching (JiTT)**  
<http://webphysics.iupui.edu/jitt/jitt.html>



**Problem Situation #4:  
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.**

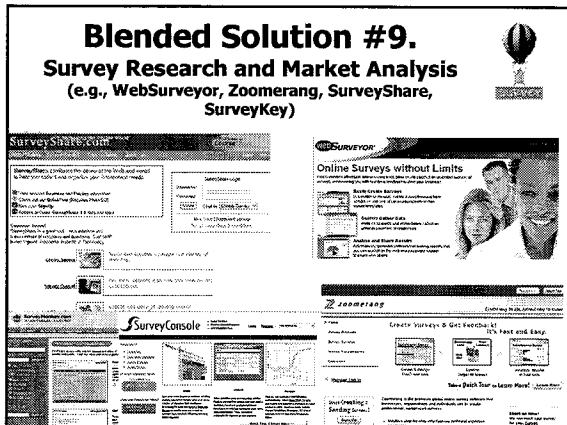
**Blended Solution #7. Online Practice Tests (e.g., Calm Chemistry)**



**Blended Solution #8. Use of Weblogs (especially English writing class)**

1. **Instructor or Tutor blog:** resources, information, space to chat
2. **Learner blog:** reflections, sharing links and pics, fosters ownership of learning
3. **Partner blog:** work on team projects or activities
4. **Class blog:** international exchanges, projects, PBL
5. **Revision:** review and explode sentences from previous posts, add details
6. **Nutshell:** summarize themes or comments across blogs
7. **Blog on blog:** reflections on feelings, confusions, and experiences with blogs

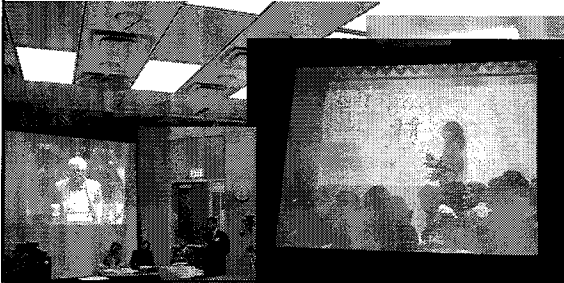
**Blended Solution #9.  
Survey Research and Market Analysis (e.g., WebSurveyor, Zoomerang, SurveyShare, SurveyKey)**



**Problem Situation #5:  
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.**

## Blended Solution #10. Videoconferencing Expert Lectures and Online Conferences



## Blended Solution #11. Virtual Psychiatric Interview (Trinity College, Dublin)

showcases

12

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




This is a Virtual Interview project that has been developed by CLT and the Department of Psychiatry. The first iteration was launched in March, 2004 for students. In this project students are given the opportunity to carry out a clinical interview with a patient. The student decides what questions are asked and with the aid of video clips can listen and watch the patient responses.

## Blended Solution #12. E-mail Expert Job Interviews (or post from actual internships)

**Field Definition: Have student interview (via e-mail, if necessary) someone working in the field of study and share their results & pool results**

**Connections to Real Life Learning**

To learn about the appropriate uses of credit, Activity 5.1 requires you to interview a bank manager or a financial planner.



Click on Sarah to see how to contact your interview.

**Offline Activities**

**Conducting Your Interview**

1. What are the objectives of your interview? (What do you want to know?)

2. How would you structure your interview? (What questions will you ask?)

3. How will you record the information you collect? (What notes will you take?)

4. How will you share the information you collect? (How will you present your findings?)

## Blended Solution #13. Virtual Surgery



**John Robertson MP**  
Aberfeldy, Glasgow

**Online-Surgery**

The Online Surgery allows you to ask questions to John, or to make a comment about the course.

You can record your replies to be used by a friend, peer or teacher.

Each question is allocated an individual response number which allows you to track your progress.

There are 10 mandatory fields but if you require a longer response enter your name and email in the field.

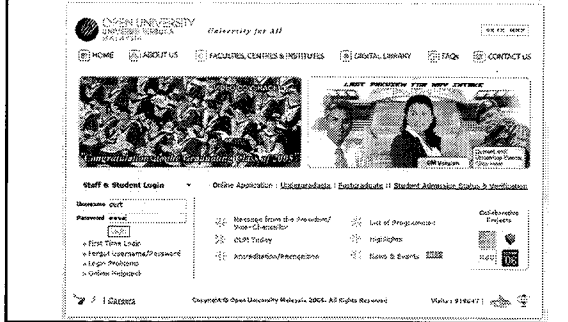
LAUNCHES AT 10:00AM ON 2/10/04

## Problem Situation #6: Collaborative Skill Deficit

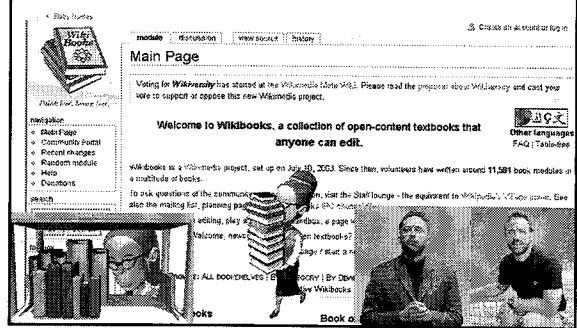
- Students need collaboration and teamwork skills. Want to build virtual teaming skills in class activities or work with learners in other locales or situations.

## Blended Solution #15. Online Editing, Gallery Tours

### Blended Solution #16. Cross-Class Collab (Indiana Univ and Open U of Malaysia)



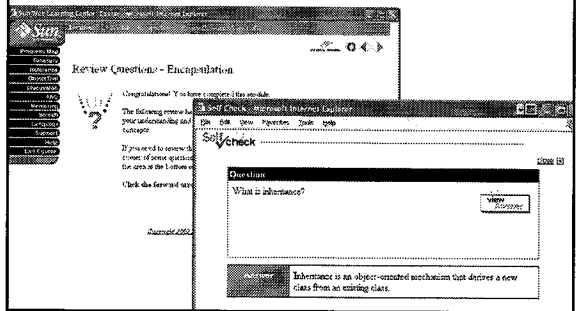
### Blended Solution #17. Wikibook Creation and Collaboration



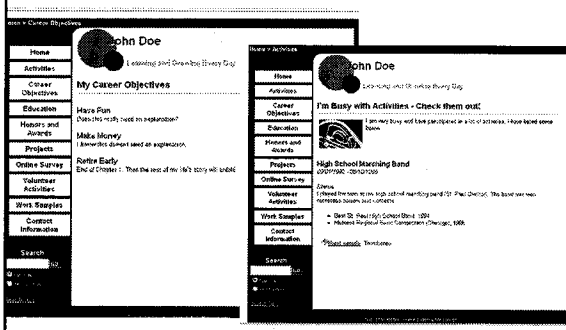
### Problem Situation #7: Student Reflections and Connections

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

### Blended Solution #18. Learner-Self Interactions and Reflections

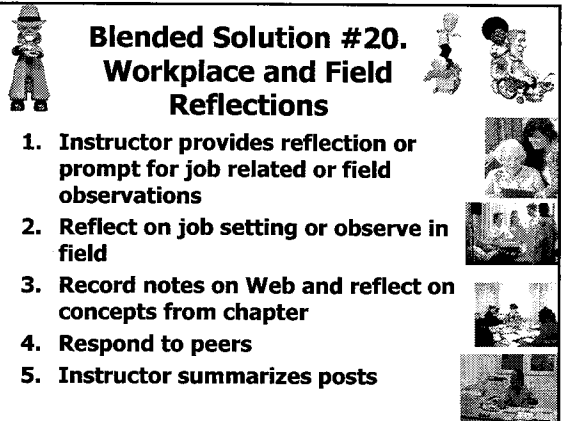


### #19. Electronic Portfolios



### Blended Solution #20. Workplace and Field Reflections

1. Instructor provides reflection or prompt for job related or field observations
2. Reflect on job setting or observe in field
3. Record notes on Web and reflect on concepts from chapter
4. Respond to peers
5. Instructor summarizes posts



### **Problem Situation #8: 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 #22: Teacher Professional Development in Technology Integration (the TICKIT Program)**

(Bonk, Ehman, & Yamagata-Lynch, in press, AACE Journal)  
<http://www.iub.edu/~tickit>

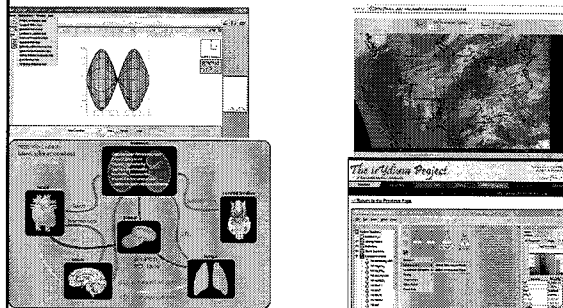


**TICKIT: Teacher Institute for Curriculum Knowledge about Integration of Technology**

### **Problem Situation #9: 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.

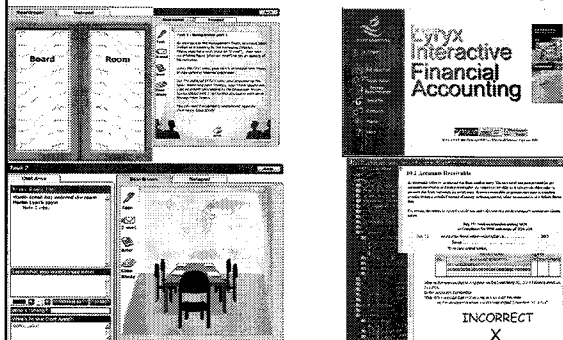
### **Blended Solution #23. 3-D Visualization & Laboratory Software**



### **Problem Situation #10: 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.

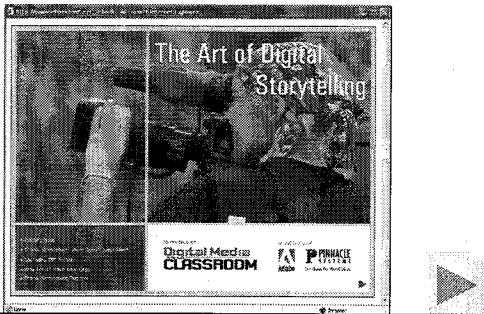
### **Blended Solution #24. Business Classes (Univ of Glamorgan in Wales & Univ of Calgary)**







## Blended Solution #27: Digital Storytelling



## Problem Situation #11: 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.

## Blended Solution #28: Basic Acoustics of Musical Instruments

### Soprano challenge

If you are a soprano and you think you'd like to test whether our observations reflect physical limitations on all sopranos, or just on some of them, perhaps you would like to try repeating the exercise recorded in the sound file above. All you need is a microphone and a computer or tape recorder. (It would help if you had some singing facility such as the Cool Edit software, but that is not necessary.) First, sing the scale below, *sempre vibrato*, in your professional singing voice, with projection. Depending on your comfortable range, you might want to make it C major, B major or Bb major.

ASAP 708



h h h h h h h h h h h h h h h h h h

"Lee", "Loe", "Ler" and "Lee". Then listen to the first notes in each of each scale. (If you have first note (the notes or half notes) of each sample and put them together to make the lower parts.) Be fast over of each scale. Then get a friend to sing up the notes of the first scale and copy down them, then we should really like to hear from you that would be the basis of a very

d reports of the application to soprano singing are published separately at

10.7 and 10.8.1. (S.M.) "Some of our most interesting researches by example", *Science*, 417, 116 some detailed reports in *Journal of the Acoustical Society of America*, 117, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025.



## Blended Solution #29: Podcasting and Coursecasting (Adam Curry; www.dailysourcecode.com)

The screenshot shows a website for "Coulee Kids Podcast". The header includes "School in the Coulee - Seventh Grade Curriculum Option - Longfellow Middle School". Navigation links include "Home", "Connections", "About Us", "Along the Way", and "Podcasting". The main content area features a "Coulee Kids Podcast!" section with a description: "School in the Coulee students are proud to announce the 2009-2010 podcast! We welcome you to join us for an exciting year." Below this, there are sections for "Listen to our Podcast by subscribing to our website, RSS, and enjoying our mobile and audio", "Subscribe to this Podcast", and "Download complete subscription form!". There are also links for "Feedback Form" and "Contact Us in the News!". The bottom of the page shows a photo of students sitting at a table.

## Educational Applications

- Recordings of lectures (Coursecasting)
- Textbook text
- Student projects
- Interviews
- Language lessons
- Oral reports
- K-12 classroom interactions
- Downloadable library
- Recordings of performances



## Blended Solution #30:

The screenshot shows a website for "Hip Hop Ecology". The header includes "School in the Coulee - Seventh Grade Curriculum Option - Longfellow Middle School". Navigation links include "Home", "Connections", "About Us", "Along the Way", and "Podcasting". The main content area features a "Hip Hop Ecology" section with a description: "Hip Hop Ecology is a project of the School in the Coulee students. It is a project that is designed to help students learn about the environment and the importance of recycling." Below this, there are sections for "Troy and Joey" and "Hustling For The Zebra Mussel". There are also links for "Listen to our Song" and "Contact Us in the News!". The bottom of the page shows a photo of students sitting at a table.

Teachers  
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### Blended Solution #30: Language Learning (ChinesePod—learn Mandarin)

- **Maxwell Gigle, a sophomore majoring in political science and international relations, uses a podcast and a computer learning program as part of his study of the Arabic language.**  
(iPods, iBook laptops help students learn critical languages; by Cindy Weiss - April 17, 2006, The UConn Advance, photo by Jordan Bender.)

### Problem Situation #12: 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.**

### Blended Solution #31. Video Streamed Lectures and Expert Commenting

### Blended Solution #32. Synchronous Sessions (Breeze, Elluminate, WebEx, etc.)

### Blended Solution #33. Videcasts (April 21, 2006)

- **As I was drinking my coffee and reading my e-mail this morning, I stumbled on ComVu PocketCaster. Here is a link to [my blog post](#) about it in case you haven't heard of ComVu. While there are several bells and whistles, in a nut shell it provides an incredibly simple hosted service for LIVE (yes, at the very moment) videocasting *from a mobile phone* for access by anyone with an Internet connection. So, now you can do on the spot Live video lectures from a mobile phone while in your car, your back deck, your beach chair...**

### **Implications and Challenges for Blended Learning in Higher Education**

- Faculty and students are more mobile.
- Student expectations rise.
- Greater self-determined learning.
- More corporate university partnerships.
- Courses increasingly modular.
- Less predefined schedules.
- Scheduling much more complex.

### **Our Challenge**

- Our challenge is to learn how to design effective blended learning systems
  - For a wide variety of contexts (tech impoverished to tech rich)
  - For a wide variety of learners
  - With a broad range of constraints
- There are many possible solutions – we should look at many cases – and draw the best, most innovative practices from them to try in our own contexts.

### **The End...Remember**



### **Podcasts and Wikis and Blogs Oh My!**

