

Blended Learning: Situations and Solutions

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This 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



Chris Dede, Campus Technology, June 2006:
Changing the Gold Standard for Instruction

- "Face-to-face may be best for most faculty...However, we know that many students who are silent in classroom discussions find their voice and participate actively in different flavors of mediated interaction."



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)

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)



The Sloan Consortium
 (2003). *Sizing the Opportunity: The Quality and Extent of Online Education in the U.S., 2002 and 2003*
http://www.sloan-c.org/resources/sizing_opportunity.pdf

- **Traditional: 0% online technology**
 – (all content in writing or orally)
- **Web facilitated: 1 to 29% online**
 – (Web syllabus or tasks supplemental)
- **Blended/Hybrid: 30-79% of content is delivered online & some FTF meetings**
- **Online: 80+% of content is online**

Frameworks and Models of Blended Learning...

Handbook of Blended Learning (HOBLe)

- 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

Future Directions of Blended Learning (Bonk, Kim, & Zeng, 2006, Chapter 39)

Percent of Student Learning that is Blended

Learning Category	2003 (%)	2006 (%)	2013 (%)
None	10	5	5
20% or less of student learning	65	25	15
21 to 40% of student learning	15	35	20
41 to 60% of student learning	10	25	25
61 to 80% of student learning	5	15	25
81 to 100% of student learning	5	5	20

Instructional approaches or strategies that will be more widely used in BL during coming decade (Bonk et al., 2006)

Which strategies will become more widely used in BL? (US, UK, Korea, Taiwan)

Strategy	Percentage (%)
Socratic	3
Debate	4
Lecturing	5
Discuss	6
Explore	7
Model	8
Guided	9
Sims	10
Virtual teams	10
Self-paced	10
PEL	11
Coaching	13
Authentic cases	15

Range of Blends in Pew Cases

Face-to-Face Learning Environment ← → Computer-mediated Learning Environment

2/3-1/3 blend even blend 1/3-2/3 blend

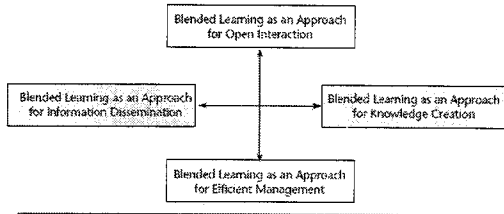
KEY

- 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. Boettcher & L. Justice & K. D. Schank & P. L. Rogers & G. A. Berg (Eds.), *Encyclopedia of Distance Learning* (pp. 172-179). Hershey, PA: Idea Group Inc.

Insung Jung & Katsuaki Suzuki, Blended Learning in Japan, 2006

FIGURE 19.1. A FRAMEWORK FOR ANALYSIS OF INSTRUCTIONAL APPROACHES TO BLENDED LEARNING.



Insung Jung & Katsuaki Suzuki, Blended Learning in Japan, 2006

- **Open Interaction:** create small group debate, assign online facilitators & wrappers
- **Knowledge Creation:** inviting external experts, combine async and sync
- **Information Distribution:** posting materials to review or read
- **Efficient Management:** allow electronic submission; list of standard feedback



AMA Special Report, Blended Learning Opportunities Alison Rossett (2006)



Table 1. What Might Go in the Blend

Live face-to-face (formal) <ul style="list-style-type: none"> • Instructor-led classroom (FTF) • Workshops • Coaching, mentoring • On-the-job (OTJ) training • Work-based problems 	Live face-to-face (informal) <ul style="list-style-type: none"> • Collegial relationships • Work teams • Apprenticeships
Virtual collaboration/synchronous <ul style="list-style-type: none"> • Live e-learning classes • E-coaching, e-mentoring • Instant messaging, SMS 	Virtual collaboration/asynchronous <ul style="list-style-type: none"> • Email • Online communities and discussion boards • Listservs • Blogs, wikis, podcasts
Self-paced learning (print, CD/DVD, electronic, wireless) <ul style="list-style-type: none"> • Online modules • Online resource links • Simulations and scenarios • Assessments and self-assessments • Workbooks, readings 	Performance support <ul style="list-style-type: none"> • Online help systems • Prior job aids • Online knowledge databases • Documentation • Performance support tools

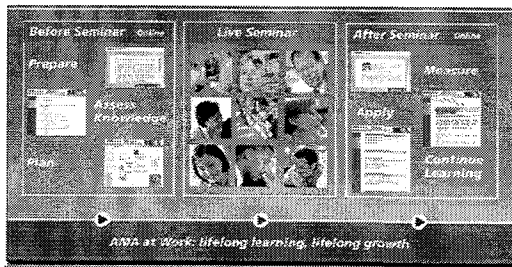
Adapted from Rossett, Douglas, & Frazer, 2005, [a3]

AMA Special Report, Blended Learning Opportunities Alison Rossett (2006)

1. **Anchor Blend:** Start FTF, then online
2. **Bookend Blend:** Three part: e.g., online preassessments, then FTF, and then online post assessments
3. **Field Blend:** Assets, resources, and choices including perhaps FTF



AMA Special Report, Effectively Implementing a Blended Learning Approach (Steven Shaw & Nicholas Igneri, 2006)



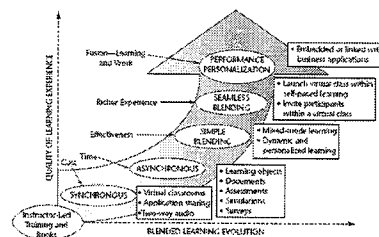
Source American Management Association, AMA at Work

Harvey Singh (2006)

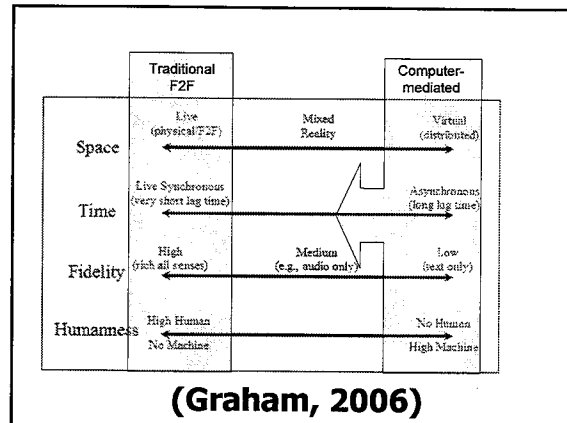
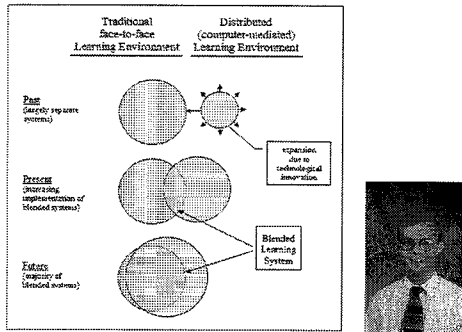
Blending Learning and Work

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



Historical Emergence of BL (Graham, 2006)



Dimensions of Blended Learning (Jay Cross, Foreword, 2006)

FIGURE F.1. DIMENSIONS OF THE BLENDED LEARNING STEW.

fleeting know-how	Lasting knowledge
Individual	Community
Generic	Proprietary
Training	Knowledge sharing
Text	Visual
Self-directed	Guided navigation
Content focus	Experience focus
Exploring	Participating
Push	Pull
Personalized	One-size-fits-all
Skills	Values
Information	Transformation
Formal	Informal

A small portrait of a man is visible on the right side of the table.

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

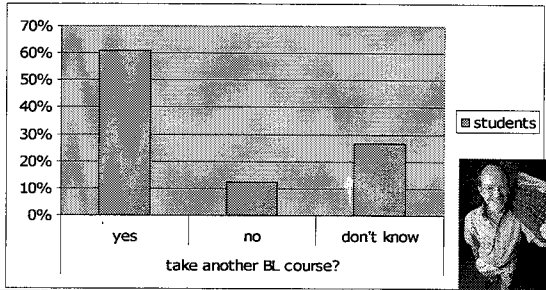
Blended Learning Advantages

- 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. Introvers participate more**
- A small image of a person standing in front of a screen is visible at the bottom right of the list.

Enriching Student Experience Through BL (Bob Albrecht, ECAR, June 6, 2006, Educause)

- 1. Address diverse learners (low stakes quizzes)**
 - 2. Student satisfaction (more choice)**
 - 3. Reduced costs (online scoring or grading)**
 - 4. Increase capacity in facilities (e.g., UCF)**
 - 5. Convenience**
 - 6. Pedagogy**
- A small portrait of a man is visible at the bottom right of the list.

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



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. Faculty skepticism, increase workload, and reduced productivity

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



Where is Blended Beneficial?

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

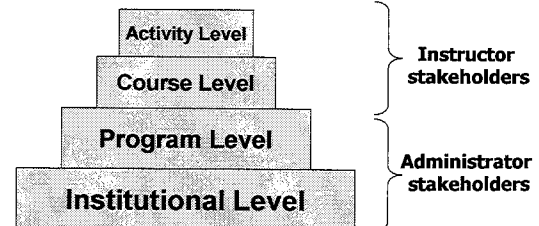
- Large Classes (spanish, intro psych, algebra, elementary statistics, biology)
- Classes with working students
- Students spread over a distance
- Classes with certification
- Classes with need for standardization
- New requirements for a profession
- Writing intensive classes
- Theory classes

Examples of Blended Learning, Margaret Driscoll, 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

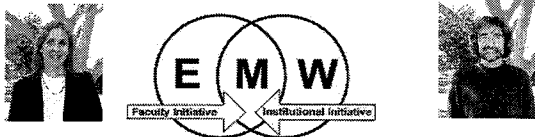
Blending occurs at the following four levels:



4. Institutional-level Blending

Example 1: University of Central Florida

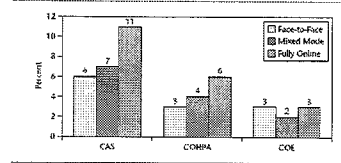
- E courses are technology enhanced courses
- M courses are blended courses with reduced seat time
- W courses are web courses (completely online)



See: Dziuban, C., Hartman, J., Juge, F., Moskal, P., & Sorg, S. (2006). 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.

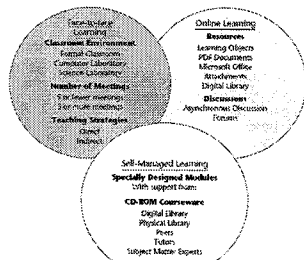
4. Institutional-level Blending (Dziuban, Hartman, Juge, Moskal, & Sorg, 2006)

FIGURE 14.3. WITHDRAWAL RATES FOR FACE-TO-FACE, MIXED-MODE, AND FULLY ONLINE CLASSES (N = 18,284).



4. Institutional-level Blending (Abtar Kaur & Ansary Ahmed, 2006, Open U Malaysia)

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



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 (Brian Linquist, 2006)

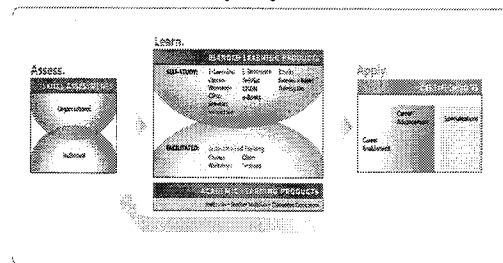
Example 2: University of Phoenix

- 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)





4. Microsoft Framework for organizational development through training Assess, Learn, and Apply (Copyright Microsoft, Ziob & Mosher, 2006)

Microsoft Products and Services for Lifelong Learning



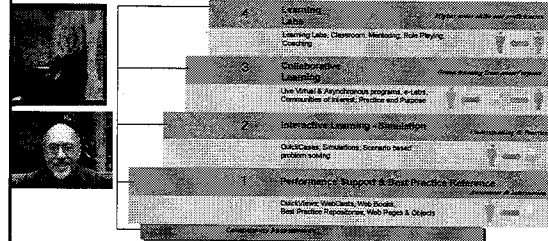
Blended Learning Form Factors

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

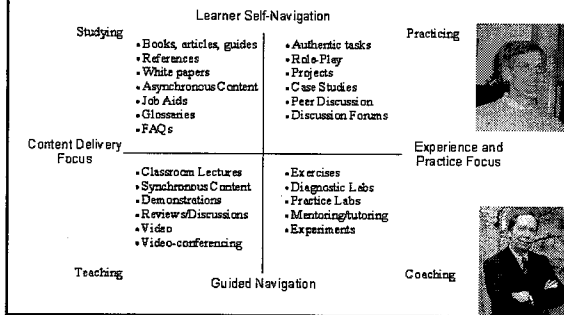
The IBM Four Tier Learning Model (2006)

Blending Learning for Business Impact – IBM's case for learning success, 2006 Handbook of Blended Learning, Nancy Lewis, VP, & Peter Orton, IBM



Specific Learning Elements

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



Categories of Blends

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

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.)

National University

Department of Teacher Education (Reynolds & Greiner, 2006)

- 12,000 Enrolled Students
- Since 2004 More than 50% of Candidates Enrolling as Online rather than On-site
 - They will take a majority of classes online
- Each Candidate Takes 7 Credential Classes
- Each Class Contains 2 Field-based Exp.
- 500 Classes/Yr. & 20 Students/Class =
- 20,000 Field-based Experiences/Year

B. Enhancing Blends

(Univ of Waikato, New Zealand, 2006)

University of Waikato, New Zealand

– Model for enhancing F2F courses includes:

- **Fully online** - students can complete qualifications without coming onto the campus
- **Mostly online** - there is a mix of online and some on-campus work in the qualification
- **Somewhat online** - there is an online component for on-campus students
- **Supported online** - courses are taught in the traditional lecture/tutorial mode, supported by material provided through the online learning or relevant university schools' document management systems

B. Enhancing Blends

(Univ of Glamorgan, Wales, 2006)

Continuum of e-Learning

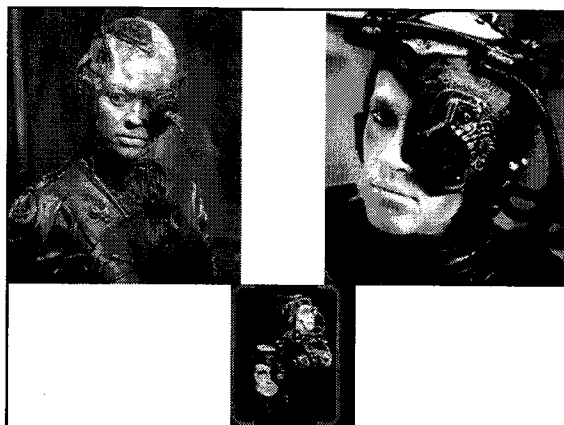
Basic ICT usage	E-enhanced	E-focused	E-intensive
Eg PowerPoint presentations	Access to online resources. Use of Bp for announcements, lecture notes, student communication	Discussion boards, online assessment tests, interactive learning materials	Whole modules/wards delivered and moderated online

C. Transforming Blends

(Kirkley & Kirkley; Oliver, Herrington, & Reeves, HOBLe, 2006)

What can we say about blended learning then???

- **It is everywhere!!!!!!!**
- **Resistance is futile!!!!!!!**



12 Blended Learning Problems and 30 Solutions

Problem Situation #1: 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 Solution #1.

Video Streaming Course Sessions (e.g., BobWeb)

IStream

Please enter your Course Number (e.g., 15, 110) and choose a semester to see a list of available live classes for your course.

Go

Recently, please use the IStream Help Page

Streamed Class Sessions for 546

Department	Course ID	Section	Date	Part	Media Type	Stream (click to play)	Download
EDUC-P	546	00000	01/22/2005	Real	Real Player	Real Player	Download (641.81K)
EDUC-P	546	00000	01/15/2005	Real	Real Player	Real Player	Download (894.24K)

Problem Situation #2: 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 #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))

Redesigning Introductory Spanish

A Few Grand Project in Course Redesign of Portland State University

Portland State University enrolls over 300 students in twelve sections of its first-year Spanish language course each term. Even with these incredibly high enrollment numbers, instructors are forced to turn students away for lack of space. In order to meet student demand for these courses, PSU has redesigned the First-Year Spanish language course by developing and integrating an online instructional tool that will help reduce seat time. These online modules will make it possible to offer the courses to more students.

Use the links to the left of the page to learn more about Portland State and other institutions that are taking part in this project. If you still have questions after browsing through these materials, feel free to contact anyone on the PSU P2P Project team.

Thank you for your time and interest!

Problem Situation #3: Web Supplemental Activities

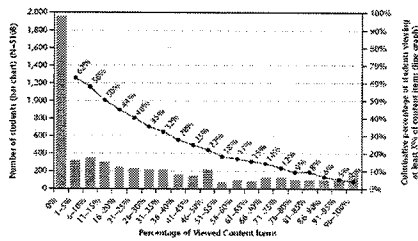
- Fail to finish class discussion or other activity in time. Or desire to integrate the Web more in your face-to-face instruction or outside of class. Want to provide course resources and activities for students to explore.

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

Virtual TAU

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



Note: N = 5,168 in 117 courses.

Blended Solution #4. Instructor Portal: e.g., self study in anatomy

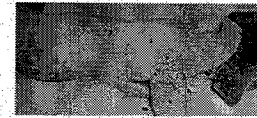
Muscular System

The following slide will show you a normal exit photograph of an axon axonal cytoskeleton. The purpose of this page is to test your knowledge on the structure of the axon. Please try to answer all answers for yourself before you look at the answer!

Trunk & Shoulder Muscles

Choose one of the following categories:

- Neck Muscles
- Upper Limb Muscles
- Trunk & Shoulder Muscles
- Lower Limb Muscles
- Upper Limb Muscles
- Trunk & Shoulder Muscles
- Lower Limb Muscles



Blended Solution #5: Warm-ups Online Just-In-Time-Teaching (JiTT) <http://webphysics.iupui.edu/jitt/jitt.html>

Blended Solution #6. Online Practice Tests (e.g., Calm Chemistry)

Blended Solution #7. Online Role Play, Surveys, Discussion, etc.

- Enroll famous people in your course
- Students assume voice of that person for one

24.3. I am so wise, so listen. Aristotle 11/25/03 05:49 PM

- Training Magazine might have a little bit of a bias too. Also, I h boring instructional animations and videos. Classroom or e-learning a good audiotape - they can all be good for learning. Cost-effective to go away as an issue, so we might as well face it instead of sayin learning is better than another - because it costs more! How did y. of the Huns? Didn't you compare prices on spears and horses bef global conquests?

24.3.1. Azam my opinion - e-learning is NOT cost-effective and is NOT value for money, and does NOT equate good quality. Artita the Hun

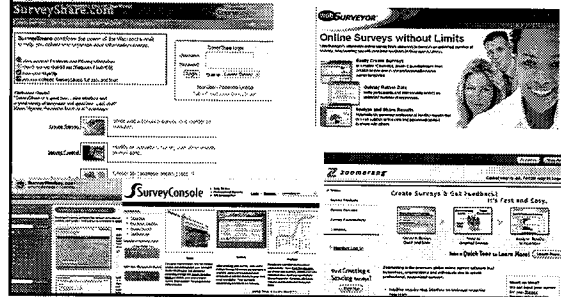
Problem Situation #4: Student Learning Control

- 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.

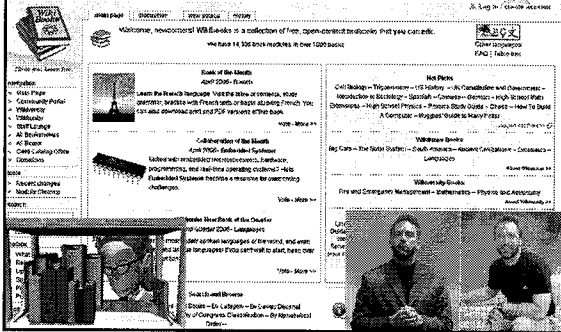
Blended Solution #8. Use of Weblogs (especially English writing class)

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)



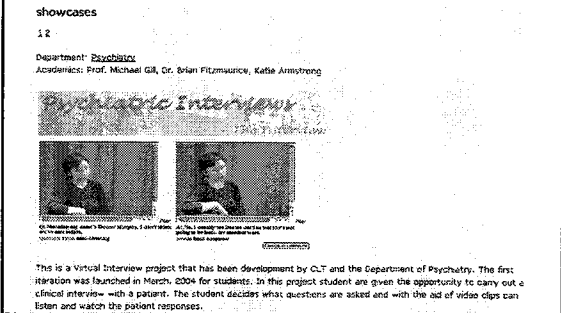
Blended Solution #10. Wikibook Creation and Collaboration



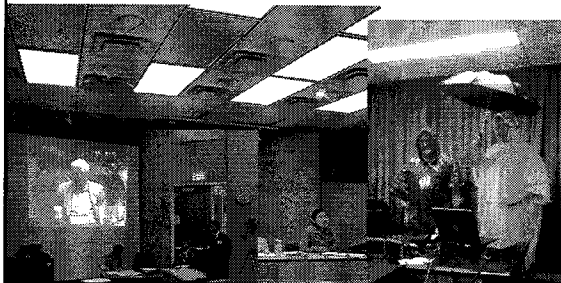
Problem Situation #5: Preparedness for the Profession

- 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.

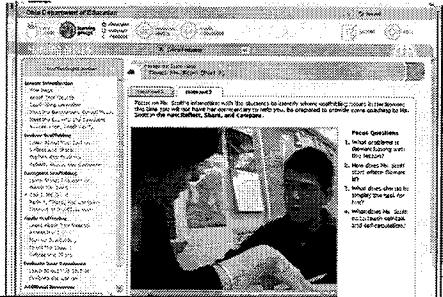
Blended Solution #11. Virtual Psychiatric Interview (Trinity College, Dublin)



Blended Solution #12. Videoconferencing Expert Lectures and Online Conferences



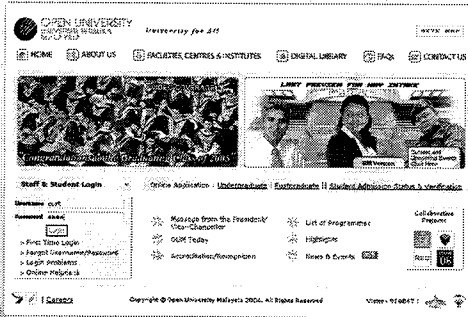
**Blended Solution #13.
E-Reading First Ohio (video-based
scaffolding from expert instructors)**



**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 #14. Cross-Class Collab
(Indiana Univ and Open U of Malaysia)**



**Blended Solution #15.
PBL: Tourism Mock Tours**



news bureau

CHENNAI, Ill. — Five students enrolled in University of Illinois professor Bruce Wicks' language acquisition seminar, and learning about tourism can be an adventure.

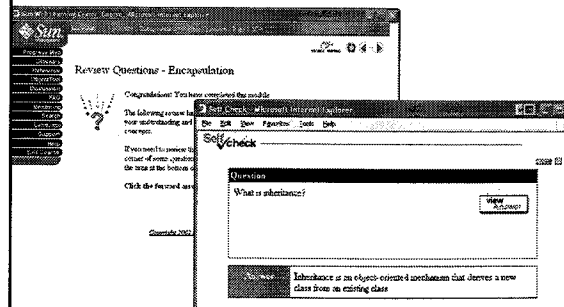
Last semester, Wicks launched a pilot course, "Dynamics of Tourism," which teamed U.I. students with students at Soongsil University of Chungcheong in Kyunggi. The U.I. students used online resources to plan tours of the United States of interest to 10 days for the Korean students, who are learning to work as guides in English-speaking countries. The mock tour packages included some of the most U.S. tourist destinations, such as Las Vegas, Maui, Disneyland, but also incorporated some "quirky" experiences. Among them, the 10-day, 11-night expedition in Colorado and a tour of the 1900s logging camps.

Dynamics of Tourism: students from IU and South Korea use online resources to plan tours and create mock tour packages.

**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 #16.
Learner-Self Interactions and Reflections**



Blended Solution #17: Workplace and Field Reflections, Job Interviews

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 #18: Teacher Professional Development in Technology Integration (the TICKIT Program)

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

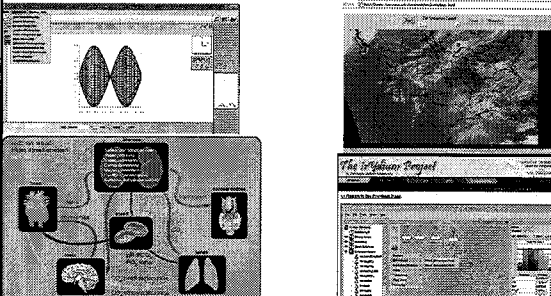


TICKIT: Teacher Institute for Curriculum Knowledge about Integration of Technology

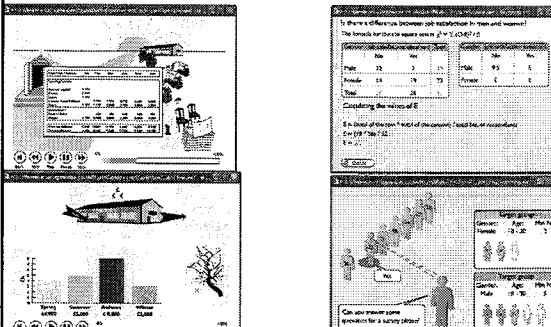
Problem Situation #9: Need to Visualize Content

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

Blended Solution #19: 3-D Visualization & Laboratory Software

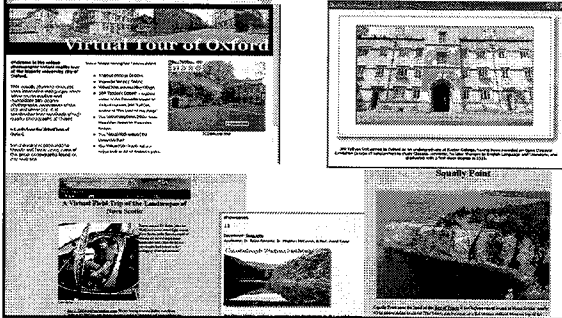


Blended Solution #20: Interactive Online New Stories & Cases



Male	Female	Total
22	3	25
18	19	37
Total: 43		

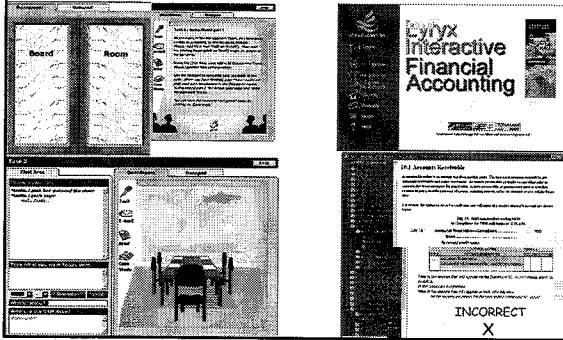
Blended Solution #21: Exploration and Demonstration: Virtual Fieldtrip, Tours, Timelines



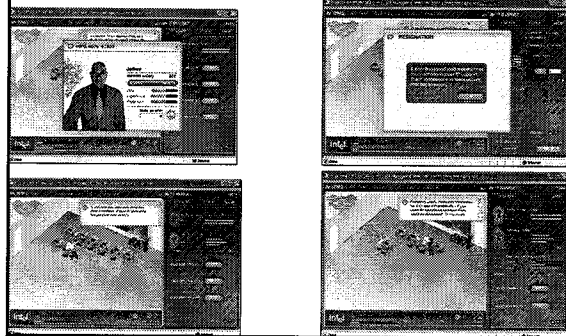
Problem Situation #10: Need for Hands-On Learning

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

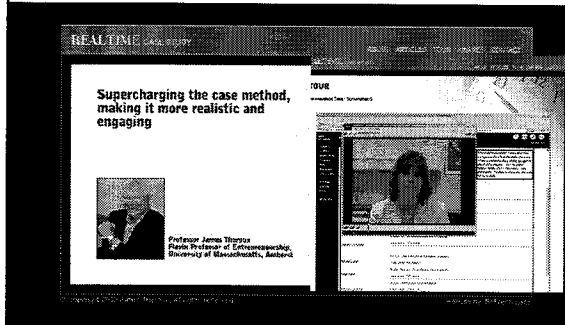
Blended Solution #22. Business Classes (Univ of Glamorgan in Wales & Univ of Calgary)



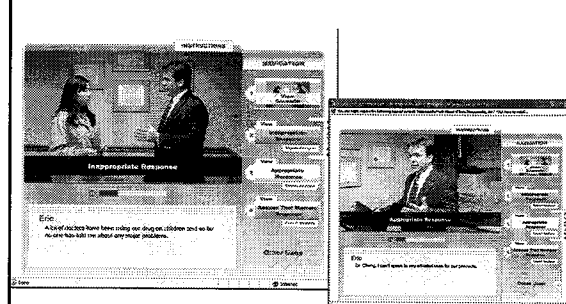
Blended Solution #23. Educational Simulations, Scenarios, and Manipulations



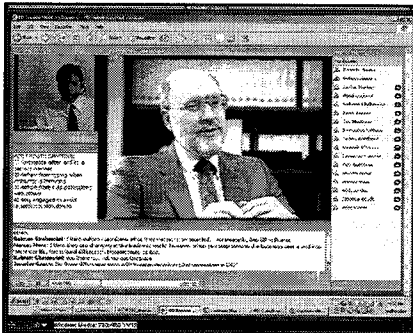
Blended Solution #24. Real World Problems (PBL online): Real-time Cases



Blended Solution #25. Video Scenario Learning (Option 6, Arjuna Multimedia, Bloomington, IN)



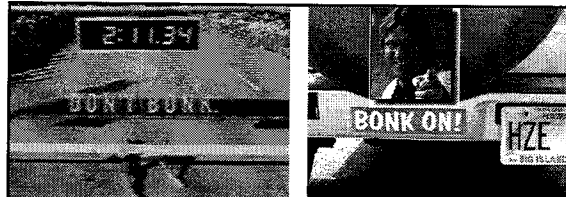
**Blended Solution #30. Synchronous Sessions
(Breeze, Elluminate, WebEx, etc.)**



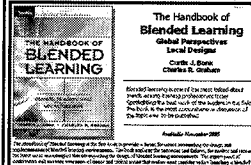
**Implications and Challenges for
Blended Learning in Higher Education**

- 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.

The End...Remember



Any questions, comments, or concerns?



Sample HOBLE chapters at:
<http://www.publicationshare.com/>

Archived talks at:
<http://www.trainingshare.com/>