**Blended Learning: Situations and Solutions**

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**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
6. Challenges for blended learning

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**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

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**Poll #2. What are you???**

A. Professor, trainer, instructor, lecturer
B. Director or staff in a learning center, instructional designer, etc.
C. Policy maker, government official
D. Administrator, Dean, President, etc.
E. Graduate student
F. Corporate trainer, corporate director
G. Other

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**Percent of Student Learning that is Blended**

<table>
<thead>
<tr>
<th>Percent of Respondents</th>
<th>2000</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>21 to 40%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>41 to 60%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>61 to 80%</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>81 to 100%</td>
<td>50</td>
<td>50</td>
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1
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)
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

What are the advantages (and disadvantages) of blended learning?

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

Hybrid Classes: Maximizing Resources and Student Learning
http://courses.eecs.uci.edu/hr/WWW/html/spring_03mets/hybridclasses.htm
- Approximates real world/collaboration
- Students learned more, wrote better papers, performed better on exams, produced higher quality projects
- Students engaged in doing, rather than just experiencing or reading
- Students can review prerecorded lectures and access course notes/materials
- Presents materials in range of formats
- Lower withdrawal rates
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

Upcoming Handbook of Blended Learning (HOBL)e

- 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

Models of Blending

Blending occurs at the following four levels:

1. The activity level (e.g., start debate in class and complete it online)
2. The course level
3. The program level
4. The institutional level
1. Activity- and Course-Level Blends
Blended learning systems: Definitions and directions (Os Guthrope & Graham, 2003)

2. Course-Level Blend: Using CMS

3. Course-level Blends
• Alternating F2F and e-learning activities in World Bank course.

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)

4. Institutional-level Blending
(Brian Linquist, in press)
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, Zibl & Mosher, in press; Handbook of Blended Learning Environments)
Blended Learning Scenario
(copyright Microsoft, Zio & Mosher, in press; Handbook of Blended Learning Environments)

<table>
<thead>
<tr>
<th>Pre Test</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
<th>Post-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-study</td>
<td>In classroom</td>
<td>Virtual class</td>
<td>e-Learning</td>
<td>Virtual class</td>
<td>In classroom</td>
<td>Community network/ops</td>
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Specific Learning Elements
An Learning Ecology from Sun Microsystems

<table>
<thead>
<tr>
<th>Studying</th>
<th>Learning Skill Navigation</th>
<th>Practicing</th>
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<tbody>
<tr>
<td>Books, articles, guides</td>
<td>Authentic tasks</td>
<td>Role Play</td>
</tr>
<tr>
<td>References</td>
<td>Project</td>
<td>Case Study</td>
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<tr>
<td>White papers</td>
<td>Peer Discussion</td>
<td>Discussion Forms</td>
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<tr>
<td>Approaches/Context</td>
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<tr>
<td>Lab data</td>
<td></td>
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<tr>
<td>Presentations</td>
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<td>FAQs</td>
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<table>
<thead>
<tr>
<th>Content Delivery Focus</th>
<th>Experience and Practice Focus</th>
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<tbody>
<tr>
<td>Classroom Lectures</td>
<td>Enacture</td>
</tr>
<tr>
<td>Synchronous/Asynchronous</td>
<td>Computer Labs</td>
</tr>
<tr>
<td>Class exercises</td>
<td>Problem Labs</td>
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<tr>
<td>Videos</td>
<td>Videoconferencing</td>
</tr>
<tr>
<td>Online discussions</td>
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B. Enhancing Blends
(New Zealand and Wales)

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.)

The IBM Four Tier Learning Model
Blending Learning for Business Impact – IBM’s case for learning success, In press, Handbook of Blended Learning, Nancy Lewis, Vice President, On Demand Learning

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.

B. Enhancing Blends
(Kirkley & Kirkley, Oliver et al. HOBlE)

- Corporate/Military Training
  - Workplace learning (integrating learning into workflow)
  - Performance support and knowledge management using mobile technologies
- Mixed-reality environments combining the virtual and real

C. Transforming Blends
(Example of levels of mixed reality that allow a blending of the real and virtual worlds.)
What can we say about emerging technology then???

• It is everywhere!!!!!!!!

• Resistance is futile!!!!!!

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.

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.
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.

Blended Solution #4.
Use Async Forum or Course Management System (Discussion Forums, Surveys, Word Docs, Web Links, PP slides)

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

Upper Extremity Muscles

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 #6.
Survey Research (e.g., WebSurveyor, Zoomerang, SurveySparo, SurveyKey)

Blended Solution #7. The Valley

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 #8.
Apprenticeship in Professional Devel Sites (jobs, organizations, mentors, conferences, etc.)

Blended Solution #9. Virtual Psychiatric Interview
(Trinity College, Dublin)

Blended Solution #10. Webinars
Synchronous Learning Example
Blended Solution #11. 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
• As a class, pool interview results and develop a
group description of what it means to be a
professional in the field.

Blended Solution #12.
Virtual Surgery

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 #13. Online
Collaboration and Editing

Blended Solution #14.
Gallery Tours, Team Products
• Team or Course White Paper, Business
students work in teams to produce a
product and share with other groups
• Post work to online gallery. Expert Review
and rate projects (authentic audience)
• Students generate products for the class

Blended Solution #15. Synchronous and Async
Collaborative Tools (e.g., Microsoft SharePoint)
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 (Sun Microsystems)

#17. Electronic Portfolios

Blended Solution #19. 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 #20: Teacher Professional Development in Technology Integration (the TICKIT Program)
(Boek, Ehman, & Yamagata-Lynch, in press, AACE Journal)
http://www.iub.edu/~tikit

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 #21. 3-D Visualization & Laboratory Software

Blended Solution #22. Concept Maps, Flowcharts, Diagrams, Maps, etc.
Elements in the system for control of oxygenation in the human body (e.g., the kidney): From: Next-Generation Educational Software Why We Need It and a Research Agenda for Getting It. Van Dam, Becker, & Simpson, Educause Review, March/April 2005

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 #23. Intel IT Manager Game
**Blended Solution #24.**
Online Synchronous Cases and Teams
Simulated Boardroom Chat; College Wales, Univ. of Glamorgan

**Blended Solution #25.**
Posting Oral Histories, Interviews, and Perspective Sharing
Have learners relate the course material to a real-life experience.
Example: In a course on Technology & Culture, students freely shared experiences of visiting grandparents on rural farms.

**Blended Solution #26.**
Video Scenario Learning (Option 6, Bloomington, IN)

**Blended Solution #27.**
Cascaded Instruction (e.g., A Virtual Crime Scene)

**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.**
Audio Dramas
eCollege Wales, Univ. of Glamorgan

The Chemical Set - Episode 1
Listen to John and Terry talking about their startup ideas. What do they need to consider before deciding to pursue their business? Think about their personal as well as their professional situations.
Click “PLAY” to begin.
Blended Solution #29. Basic Acoustics of Musical Instruments

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 #30. Video Streamed Lectures and Expert Commenting

Poll #3. Which blended learning strategy might like to try?
A. Post assessments and reviews online
B. Follow-up activities in a community of practice
C. Put reference materials on the web
D. Use online mentors, experts, and coaches
E. Rely on instant messaging and chat

Poll #4. What blended ideas do you think work or have you tried?
A. Online simulations, games, demos, and hands-on activities
B. Online surveys, polls, research, and authentic data collection
C. Extensive Web explorations (student selected and reported)
D. Extensive Web support materials (papers, discussion forums, test examples)
E. Alternative class and face-to-face meetings and activities

Implications for Blended Learning in Higher Education
Some Implications of Blended Learning

- Instructors can be anywhere
- Students expect choices
- More corp partnerships
- Courses more modular
- More individualization
- Scheduling a nightmare!

Six Important Challenges and Issues

1. The role of live interaction
2. Role of learner choice and self regulation
3. Models for support and training
4. Digital Divide
5. Cultural adaptation
6. Finding balance between innovation (creativity) and production (need for cost reduction)

The End...Remember

It's Over...

Poll #5. Ok, then, who wants more???
A. Yes
B. No
C. Not sure

Sorry...it really is the end!!!

Any questions, comments, or concerns?

Sample HOBLe chapters at:
http://www.publicationshare.com/

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