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!

Money

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

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

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

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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."


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)

Working Definition

(Graham, 2006)

Definition:

Blended learning systems combine face-to-face instruction with computer-mediated instruction.
Harvey Singh (2006)

**Figure 14.1. Past, Present, and Future of Blended Learning.**

![Blended Learning Diagram](image)

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**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

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**Range of Blends in Pew Cases**

<table>
<thead>
<tr>
<th>Face-to-Face Environment</th>
<th>Organized Learning Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blend</td>
<td>Blend</td>
</tr>
<tr>
<td>Blend</td>
<td>Blend</td>
</tr>
<tr>
<td>50% Blend</td>
<td>50% Blend</td>
</tr>
</tbody>
</table>

**KEY**
- **Standard**
- **Folded 2/3 section size**
- **Evenly Distributed**
- **Optimized for PDF version**

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**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

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**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 much
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:

- Instructor stakeholders
- Administrator stakeholders

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)

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


Program-level Blending

Teleconferences Online Seminar 1 Seminar 2 Mentoring

CRM Technology Executive Business Client Research, Executive CRM Qualification, CRMe Club
Philosophy, Orientation Trends, Financial Strategic Concepts
-2.5 Months

Figure 1: Avaya’s ESSB8a 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)

4. Institutional-level Blending

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

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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 town 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 discussion but also attend classes two out of five times, mainly in the town.

Blended Learning Form Factors

(copyright Microsoft, Ziol & Mosher, 2006; Handbook of Blended Learning Environments)

<table>
<thead>
<tr>
<th>Live Instructor-led</th>
<th>Self-paced learning</th>
<th>Tools for learning communities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional classroom</td>
<td>Instructor-led classroom or a 'classroom</td>
<td></td>
</tr>
<tr>
<td>Onsite engagement</td>
<td>e-mail</td>
<td>Chat</td>
</tr>
<tr>
<td>Virtual online classroom</td>
<td>Online or computer-based training (CBT)</td>
<td>Instant messaging (IM)</td>
</tr>
<tr>
<td>Live video via satellite or videoconferencing</td>
<td>Self-study guides, manuals, texts</td>
<td>Newsgroups and forums</td>
</tr>
<tr>
<td>Online coaching/mentoring</td>
<td>Online resources and databases</td>
<td>Collaboration</td>
</tr>
</tbody>
</table>

Blended Learning Scenario

(copyright Microsoft, Ziol & Mosher, 2006; Handbook of Blended Learning Environments)

<table>
<thead>
<tr>
<th>Day</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-study</td>
<td>Lecture</td>
<td>In</td>
<td>In</td>
<td>In</td>
<td>In</td>
<td>In</td>
</tr>
<tr>
<td>In-classroom</td>
<td>Virtual class</td>
<td>e-Learning</td>
<td>Virtual class</td>
<td>Community networks</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FIGURE 7.2 ASSESS. LEARN. AND APPLY.

Microsoft Products and Services for Lifelong Learning

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 Knowledge Services

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

**FIGURE 6.6. SPECIFIC KNOWLEDGE SERVICES.**

### 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

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

### 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

- 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
(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

C. Transforming Blends
(Kirkley & Kirkley, Oliver et al. HOBLe, 2006)

Some are scared of Blended!!!

What can we say about
blended learning then???

- It is everywhere!!!!!!!!!
- Resistance is futile!!!!!!!
What can we say about blended learning then?

12 Blended Learning Problems and 33 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)

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
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).

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

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**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.

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

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

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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

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

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.

#19. Electronic Portfolios

Blended Solution #17.
Wikibook Creation and Collaboration

Blended Solution #18.
Learner-Self Interactions and Reflections

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)
hp://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 #25. Online Labs and Authentic Data Analysis

discoverbabylon.org

- The game does promise photo-realistic jaunts through temples and palaces, with genuine artifacts depicted...
- It offers three-dimensional walk-throughs of sites in the Valley of the Kings, narrated video snippets and a wealth of tomb maps that would make Indiana Jones or Lara Croft groan with greed.

Blended Solution #25. Online Historical Documents
discoverbabylon.org

- In its final form, the multiplayer game will let you march through three-dimensional recreations of the first city-states, around 3000 B.C., the first empires, around 2300 B.C., and finally the famous Iron Age empire of Assyria, which once stretched from modern-day Iran to Egypt, figuring prominently in the Old Testament.

Blended Solution #26. Online Games
www.km-solutions.biz/caa/quiz.zip;
Games2Train: The Challenge; Thiagi.com

Blended Solution #27. Video Scenario Learning

(Option 6, Arjuna Multimedia, Bloomington, IN)
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.

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:
Language Learning
(ChinesePod—learn Mandarin)

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.

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.)

Blended Solution #31. Video Streamed Lectures and Expert Commenting

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

Blended Solution #33. Videocasts
(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!

James Bonk