

**Blended Learning Models, Frameworks, Stories, and Examples**



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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. 10 predictions for blended learning
6. Challenges for blended learning



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

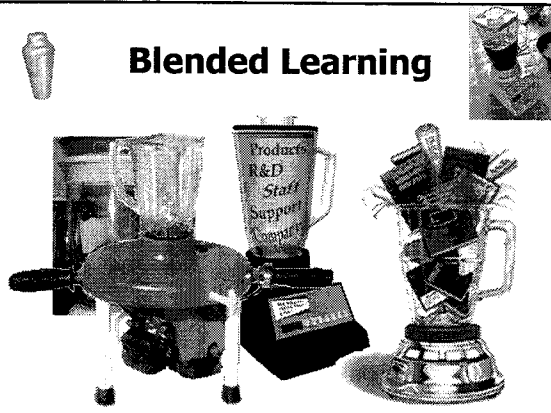
**A = yes**

**B = no**

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



**Blended Learning**



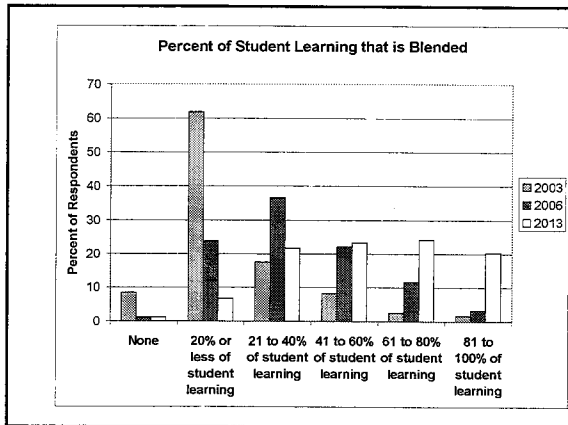
**Poll #2. What are you???**

- 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

**Poll #3: Burning Blended Learning Q's**

(Pick any that interest you)

- A. What does blended learning mean?
- B. What is typically being blended?
- C. How to blend and how much?
- D. Why blend (advantages and disadvantages)?
- E. Where is this all headed?



## 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.

## Blended Learning Definitions

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

The three most commonly cited definitions include:

1. BL = combining instructional modalities (or delivery media)
2. BL = combining instructional methods
3. BL = combining online and F2F instruction

## 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)
- "Hybrid or blended model of learning replace some in-person meetings with virtual sessions, hybrid courses offer some of the convenience of all-online courses without the complete loss of face-to-face contact." (Young, 2002, p. A33)

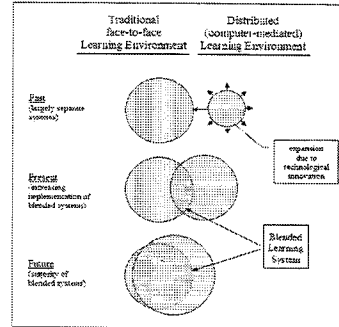
## A Working Definition

### Working Definition:

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

- More inclusive than just online technologies.
- Emphasizes the central role of computer-based technologies in BL.
- This definition is consistent with the historical emergence of the concept of blended learning.

## Historical Emergence of BL



	Traditional F2F	Mixed Reality	Computer-mediated
Space	Live (physical F2F)		Virtual (distributed)
Time	Live Synchronous (very short lag time)		Asynchronous (long lag time)
Fidelity	High (rich all senses)	Medium (e.g., audio only)	Low (text only)
Humanness	High Human No Machine		No Human High Machine

## Why Blend? Three Key Reasons

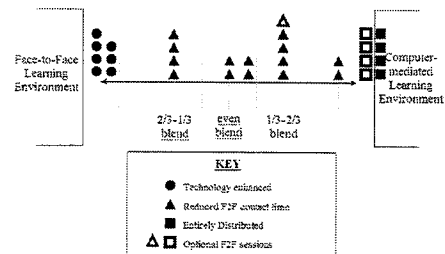
- 1. Improved Pedagogy**
  - Interactive vs. Transmissive environments
  - Authenticity integration into work
- 2. Increased Access/Flexibility**
  - Reduced seat time courses – UCF M courses
- 3. Increased Cost Effectiveness**
  - Corporate: ROI – IBM 47:1, Avaya, Microsoft
  - Higher Ed: PEW Grants

**Pew Foundation, PROGRAM IN COURSE REDESIGN** (Carol Twigg, August 2004  
Keynote Presentation at Wisconsin DL Conference)  
<http://www.center.rpi.edu/PewHome.html>

**To encourage colleges and universities to redesign their approaches to instruction using technology to achieve cost savings as well as quality enhancements.**

**\$6 million 30 projects**

## Graham & Allen (2005) Blended learning: An emerging trend in education



Range of blends in 30 course redesign projects funded by the PEW Charitable Trust

## IMPROVED LEARNING OUTCOMES from Technology

(Carol Twigg, August 2004 Keynote Presentation)

- Penn State - 68% on a content-knowledge test vs. 60%
- UB - 56% earned A- or higher vs. 37%
- CMU - scores on skill/concept tests increased by 22.8%
- Fairfield - 88% on concept retention vs. 79%
- U of Idaho - 30% earned A's vs. 20%
- UMass - 73% on tougher exams vs. 61%
- FGCU - 85% on exams vs. 72%; 75% A's and B's vs. 31%
- USM - scored a full point higher on writing assessments
- IUPUI, RCC, UCF, U of S Maine, Drexel and U of Ala - significant improvements in understanding content

**25 of 30 have shown improvement;  
5 have shown equal learning.**

## REDUCTION IN Drops, Failures, and Withdrawal RATES

(Carol Twigg, August 2004 Keynote at Wisconsin DL Conference)

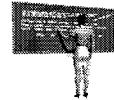
- U of Alabama - 60% to 40%
- Drexel - 51% to 38%
- Tallahassee CC - 46% to 25%
- Rio CC - 41% to 32%
- IUPUI - 39% to 25%
- UNM - 39% to 23%
- U of S Maine - 28% to 19%
- U of Iowa - 25% to 13%
- Penn State - 12% to 9.8%

## 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.durhamtech.edu/tic/voww/html/Special\\_Feature/hybridclasses.htm](http://courses.durhamtech.edu/tic/voww/html/Special_Feature/hybridclasses.htm)

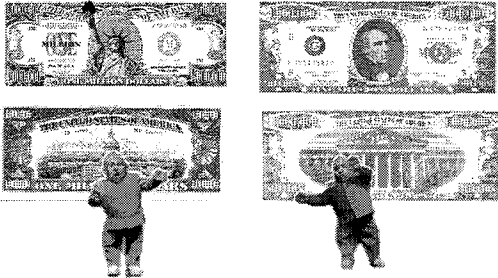
- Approximates real world/collaboration
- Students learned more, wrote better papers, performed better on exams, produced higher quality projects
- Students engaged in doing, rather than just experiencing or reading
- Students can review prerecorded lectures and access course notes/materials
- Presents 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
- Massive and widespread audience
- 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. 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

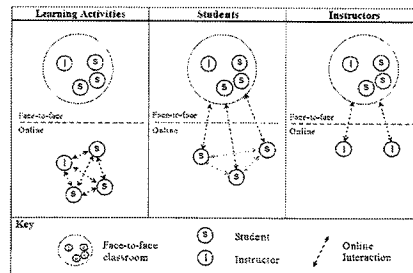
## Upcoming Handbook of Blended Learning (HOBLe)

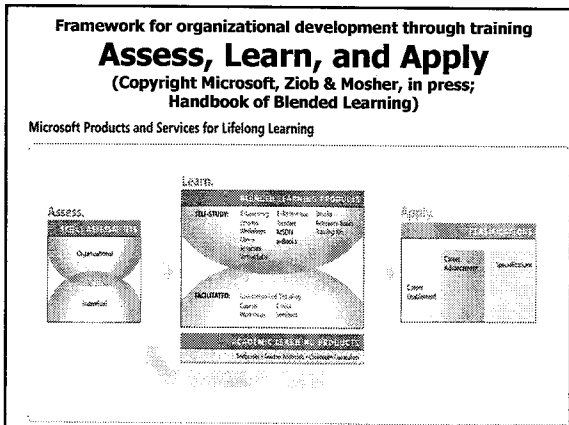
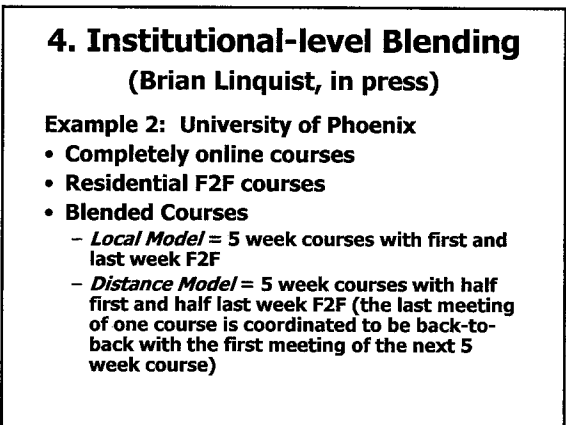
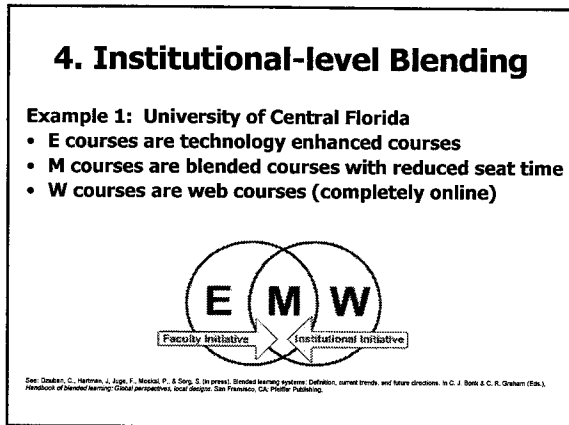
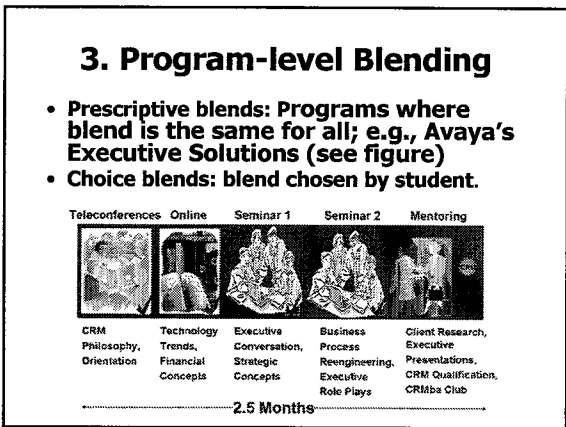
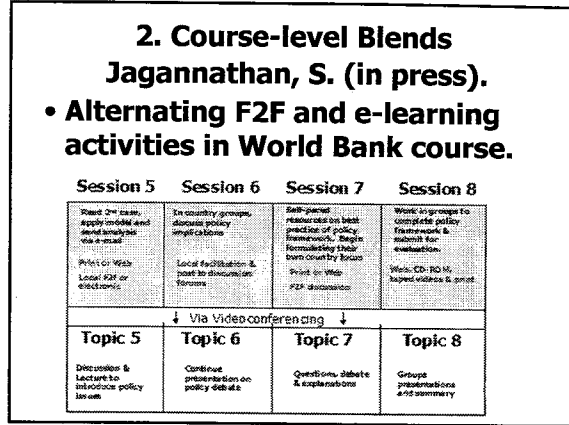
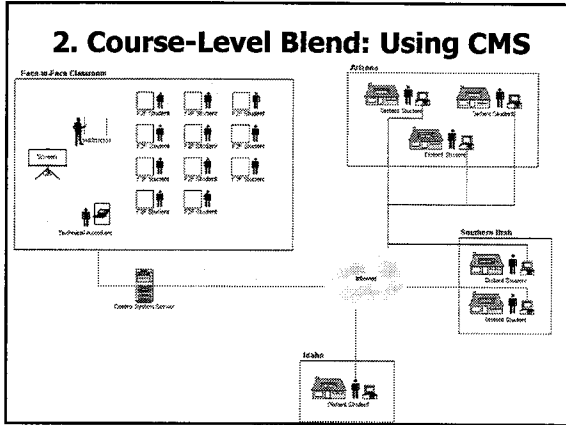
- University of Phoenix, Capella University, JIU, National University
- Microsoft, IBM, Sun, Cisco, Macromedia, Oracle, WebCT
- The World Bank, the DOD in USA
- In Canada: York University and the University of Calgary
- Other universities in Japan, Korea, Malaysia, Singapore, China, NZ, South Africa,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



## 1. Activity-Level Blends

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





## Blended Learning Form Factors

(copyright Microsoft, Ziob & Mosher, in press;  
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>

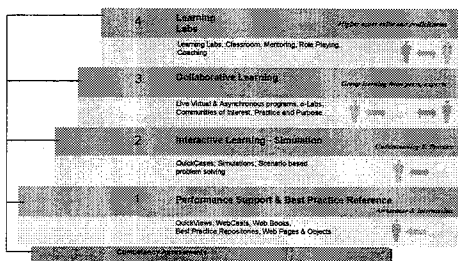
## Blended Learning Scenario

(copyright Microsoft, Ziob & Mosher, in press;  
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

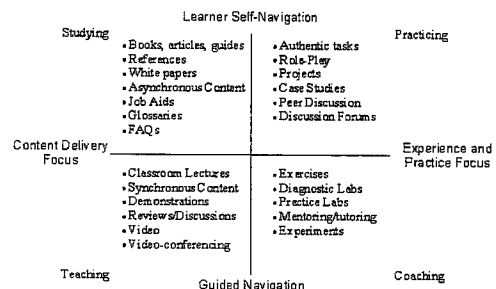
## The IBM Four Tier Learning Model

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



## 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.

## B. Enhancing Blends (New Zealand and Wales)

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 relevant university schools' de management systems

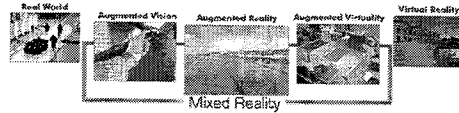


## C. Transforming Blends (Kirkley & Kirkley, Oliver et al. HOBLE)

• 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

Reality-Virtuality Training Continuum

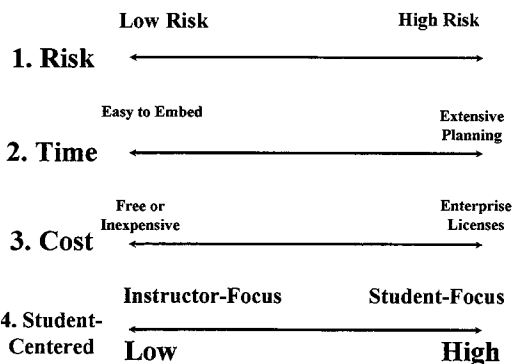
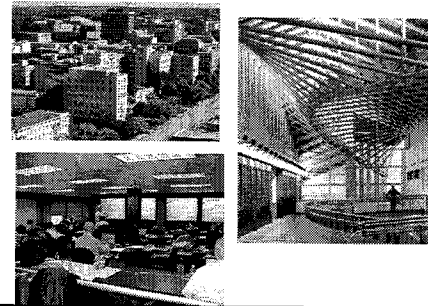


Example of levels of mixed reality that allow a blending of the real and virtual worlds.

Future learning systems may not be differentiated as much based on **whether** they blend but rather by **how** they blend.

- (paraphrase from Ross and Gage, WebCT)

## Blended Learning Problems and Solutions (50 examples)



### Problem Situation #1: Student Absenteeism

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



**Blended Solution #1.**  
Video Streaming Course Sessions (e.g., BobWeb)

Department	Course ID	Section	Date	Part	Media Type	Stream (click to play)	Download
EDUC-P	546	00000	01/22/2005		Real	<a href="#">Real Player</a>	<a href="#">Download (641.81M)</a>
EDUC-P	546	00000	01/15/2005		Real	<a href="#">Real Player</a>	<a href="#">Download (694.24M)</a>

**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.**

CPA Exam Review (June 14, 2003)  
and Web Videos in Accounting (July, 2003)

- Texas A&M University–Corpus Christi combines CPA courseware with bi-monthly class meetings to prep for CPA Exam. (study text, proficiency questions, electronic flashcards and practice exams, scheduled assignments, goals, online grading, progress reports, tailored discussion groups, and personalized assistance from leading professors at the nation's top accounting schools.)



**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)

Number	Title	Folder	Author	Access Date
27	Chart Reflection on "The Book of Job" as a Student Experiences the same problems			10/20/03 09:24 PM
28	Questions about Job, David, and Ishbae as discussed in class			10/20/03 09:29 PM
29	Exam 15 - Global Perspectives for Business			10/20/03 09:15 AM
30	Exam 15 - Global Perspectives for Business			10/20/03 09:15 AM
31	Exam 15 - Global Perspectives for Business			10/20/03 09:15 AM
32	Exam 15 - Global Perspectives for Business			10/20/03 09:15 AM
33	Exam 15 - Global Perspectives for Business			10/20/03 09:15 AM
34	Exam 15 - Global Perspectives for Business			10/20/03 09:15 AM
35	Exam 15 - Global Perspectives for Business			10/20/03 09:15 AM
36	Exam 15 - Global Perspectives for Business			10/20/03 09:15 AM
37	Exam 15 - Global Perspectives for Business			10/20/03 09:15 AM
38	Exam 15 - Global Perspectives for Business			10/20/03 09:15 AM
39	Exam 15 - Global Perspectives for Business			10/20/03 09:15 AM
40	Exam 15 - Global Perspectives for Business			10/20/03 09:15 AM
41	Exam 15 - Global Perspectives for Business			10/20/03 09:15 AM
42	Exam 15 - Global Perspectives for Business			10/20/03 09:15 AM

## Blended Solution #5. Extensive External Web Links (e.g., Astronomy class)

**STARS AND GALAXIES**  
*A Hypertext Course*  
by Richard McCray

1. Light and Reflection
2. Entropies
3. The Sun
4. Stars
5. Stellar Evolution
6. Neutron Stars and Black Holes
7. The Milky Way
8. Star Formation
9. Globular and Open Clusters
10. Active Galaxies
11. Star Formation
12. Origin and Fate of the Universe

Search the Internet

## Blended Solution #6. Use of Online Reference Materials (e.g., Content Encyclopedia and Dictionaries on Web in Engineering)

InterScience

Dictionary.com

SPEAK

Specialty Dictionaries

InterScience

Dictionary.com

SPEAK

## Blended Solution #7. Exploration: Virtual Museums

BECOME A MEMBER

Laguna

California Art from the Permanent Collection

Part 1: The Beginning, 1822-1915

July 18, 2003 - January 18, 2005

November

## Blended Solution #8. Post Foreign Language Practice Exercises Online (Grammar Practice on Spanish (Pew course))

Comentario 22

Modelos para conversar

Modulo 1

Necesita poner cartas en el correo.

Click on the following models.

Below are some of the vocabulary words found in the models on just internet. Understanding these words will help you with activities presented later in the course.

Spanish	Vocabulary
cartas por correo	air mail
correo	mail
correo	post office
correo electrónico	internet mail
correo	mail box
correo	post office

Click on the following models.

## Blended Solution #9. Opencourseware; Tufts and USU OpenCourseWare Projects

Tufts OpenCourseWare

IDP200 Pathophysiology of Infectious Diseases, Fall 2004/2005

Faculty Faculty:

- Susan Hackley
- Michael Deas
- Eberhard Dorsch
- Linda Ho
- Lara Kopteva
- Debra D. Postle
- Jean Ross
- David Szymanski
- Christine Thorne
- Neil Vetter
- Chris L. Wright
- 17 Hours
- Level
- 2nd Year

## Blended Solution #10. Online Course Portals and Digital Libraries for Student Exploration Activities: MERLOT, CAREO

Superior vena cava

Right atrium

Septum

Right ventricle

Left atrium

Left ventricle

Coronary artery

Coronary vein

Septum

Left ventricle

Right ventricle

Coronary artery

Coronary vein

### 10. Continued...Animations, Video Clips, Audio, Pictures, Web Resources, etc.

RNA was the first genetic molecule.

RNA was very likely the first molecule to be able to replicate itself. In the primordial soup, a single-stranded RNA molecule could be a template.

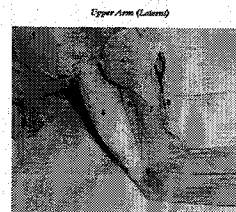
DNA made the BEGINNING

of the

THE

### Blended Solution #11. Instructor Portal: e.g., self study in anatomy

#### Upper Extremity Muscles



### Blended Solution #12: Interactive News and Adventure Learning (Andrew Revkin, New York Times, May 25, 2003)

INTERACTIVE FEATURE

of the THE

### 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 #13. Survey Research (e.g., WebSurveyor, Zoomerang, SurveyShare, SurveyKey)

SurveyShare.com

Surveyor

Zoomerang

SurveyConsole

### 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.

