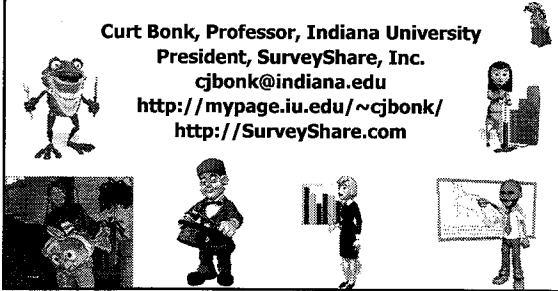


Designing Interactive Learning for Visually-Hungry Learners

Curt Bonk, Professor, Indiana University
 President, SurveyShare, Inc.
 cjbonk@indiana.edu
<http://mypage.iu.edu/~cjbonk/>
<http://SurveyShare.com>

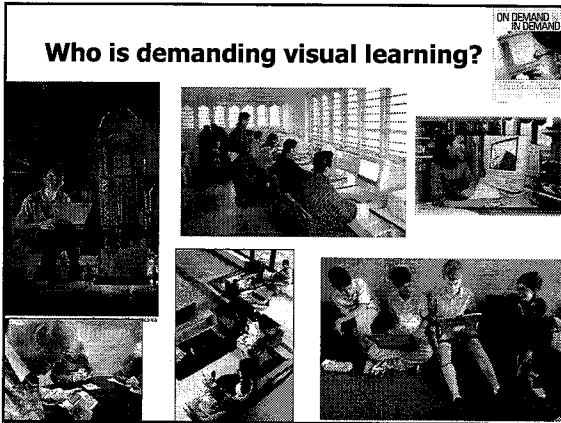


Poll #1. Does the Web offer enough visual opportunities today?

A = yes
 B = no
 C = not sure



Who is demanding visual learning?



Generations: Dealing with Boomers, Gen-X, and Beyond

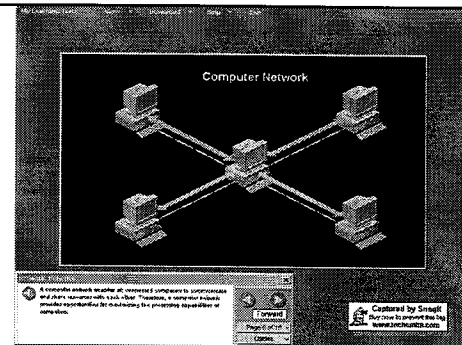
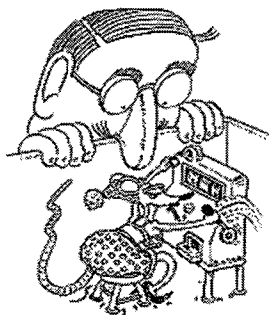
N. Boyce Appel, April 1, 2005, Practice Management Digest

Generalizations about Generations—Categorizations vs. Stereotypes

Generational Group	Born	Age	Stereotype
Silent Generation	1925 - 1942	61 - 78	Adaptive
Baby Boomers	1943 - 1960	43 - 60	Idealists
Thirteenth (Gen. X)	1961 - 1981	22 - 42	Reactive
Millennial (Gen. Y)	1982 - ?	13 - 21	Civic



Behavioristic Interactivity



Online PowerPoint?

Interaction: Xer

- "The skill to be valued in the twenty-first century is not the length of attention span, but the ability to multitask - to do many things well at once.... [and] the ability to process visual information very rapidly." (Rushkoff, 1996:50)

Learner Control: Xer

- Xers expect a range of options, in terms of what they learn and how they learn it. They require autonomy and flexibility for their own learning. They demand a variety of instructional methods from which they can choose to learn, e.g., videotapes, self-paced modules, interactive CDs.
 - "Online gives me something to do when I'm bored with the professor."
 - "I respect myself more as a self-teacher."
- Dziuban, Moskal, & Hartman (2005)

Neomillennial Learning Styles

Planning for Neomillennial Learning Styles: Implications for Investments in Technology and Faculty
Chris Dede, Harvard University, Educause, 2005

- Fluency in multiple media--value all types of communication, activities, experiences, not a single best medium
- Actively seek, collect, and synthesize experiences, rather than absorb a single best source
- Active learning and collective reflection
- Non-linear and associated webs of learning
- Co-design of learning experiences for individual needs and preferences not pre-customized

Dual Coding Theory

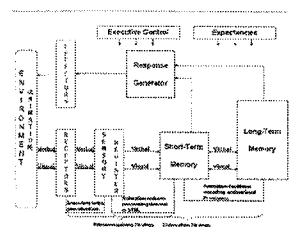


Figure 7.3 A Model of Retrieval, Dual Coding, and Information Processing.
Revised from "The Basic Model of Learning and Memory: Integrating Modern Information Processing Theories" by K. M. Gagne and M. P. DeGroot, 1986, *Foundations of Instruction in Instruction*, p. 15.

The promise of multimedia learning: Using the same instructional design methods across different media

Richard E. Mayer, *Learning and Instruction*, 13 (2003) 125-139.

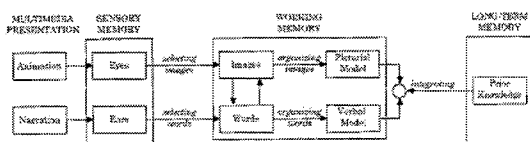


Fig. 1. A cognitive theory of multimedia learning.

The promise of multimedia learning: Using the same instructional design methods across different media

Richard E. Mayer, *Learning and Instruction*, 13 (2003) 125-139.

A review of research on the design of multimedia explanations:

- a multimedia effect: in which students learn more deeply from words and pictures than from words alone—in both book-based and computer-based environments,
- a coherence effect: in which students learn more deeply when extraneous material is excluded rather than included—in both book-based and computer-based environments,

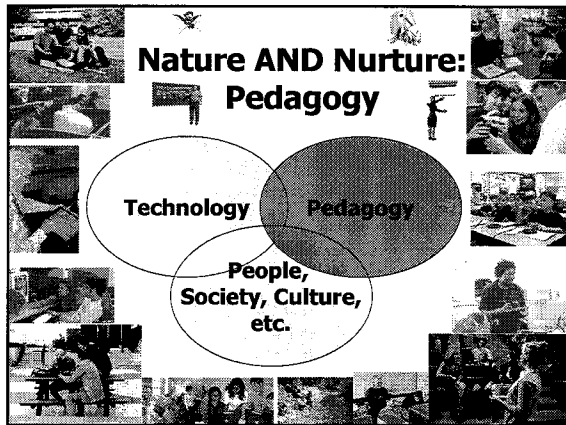
The promise of multimedia learning: using the same instructional design methods across different media

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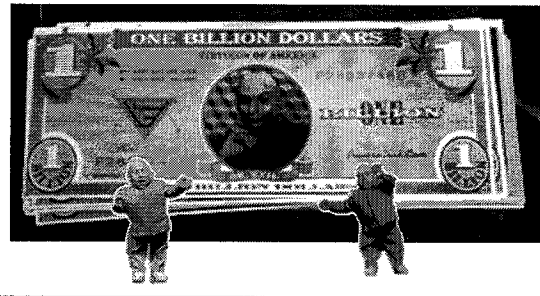
- (c) a spatial contiguity effect: in which students learn more deeply when printed words are placed near rather than far from corresponding pictures—in both book-based and computer-based environments, and
- (d) a personalization effect: in which students learn more deeply when words are presented in conversational rather than formal style—both in computer-based environments containing spoken words and those using printed words.



Part II: 40 Visual Learning Ideas



Ok, Million Dollar Question: How can you address visual learners online?



Visual Solution #1. Instructor Portal: e.g., self study in anatomy

Muscular System

Upper Extremity Muscles

Click on any of the following categories:

- Neck Muscles
- Neck & Shoulder Muscles
- Forearm Muscles
- Hand & Wrist Muscles
- Deltoid & Shoulder Muscles
- Biceps & Forearm Muscles
- Triceps & Forearm Muscles
- Hand & Wrist Muscles

Upper Arm (Anterior)

Visual Solution #2. Electronic Cameras and Maps

