Emerging E-learning Technologies: Tools for developing innovative online training

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Emerging e–Learning Research Reports

- Emerging e–learning technologies – 52
- Emerging e–learning content formats – 45
- Emerging e–learning services – 24
The concept and use of information and communications technology (ICT) in training is not new.

The use of computers in learning starts with the PLATO Project in the 1960s.

The term ‘e–learning’ was first used publicly by Jay Cross of the Internet Time Group in 1998.
Understanding e-Learning: the restaurant analogy

“Components of a Restaurant Experience” – V1
Understanding e-Learning: the restaurant analogy

“Components of a Restaurant Experience” – V1
Understanding e-Learning: the restaurant analogy

- Preparation of Packaged Food
- Vending Machine
- Ordering Procedure
- Delivery Service

“Components of a Restaurant Experience” – V2
Understanding e-Learning: the restaurant analogy

Components of a Restaurant Experience

- Preparation of Packaged Food
- Vending Machine
- Ordering Procedure
- Delivery Service
  =
- Self-serve Food Experience

- Preparation of Self-paced Courses
- Website
- Ordering Procedure
- Delivery Service
  =
- Self-directed Learning Experience

“Components of a Restaurant Experience” – V2
Understanding e-Learning: the restaurant analogy

Prepped Food Components  
Rapid Ordering Procedures  
Standardized Procedures For Cooking  
Rapid Delivery Service  

Fast Food Experience

“Components of a Restaurant Experience” – V3
Understanding e-Learning: the restaurant analogy

“Components of a Restaurant Experience” – V3
But what if a whole new way of delivering high quality meals is developed?

Manufacture of frozen foods at Hilcona: Sophisticated and ready-to-serve meals in many varieties made possible by coating
Incremental vs Disruptive Innovations

- Restaurants vs Frozen Foods
- Movie Theaters vs Blockbuster
- Wired Phones vs Cell Phones
- Face to Face Training vs Online Training
Some forms of online training are supportive of the current way of doing things:

*Examples:*
Virtual Classrooms
Presentation Software
Authoring Tools
Assessment Tools
Learning Management Systems

“Incremental Innovation”
Other types of online training radically change the current way of doing things:

*Examples:*
Global Networking
Artificial Intelligence
Peer to Peer Technologies
Collaboration Software
Learner generated content
Wearable computing

“Disruptive Innovation”
Technology Innovation Cycles:
The Technology Innovation Cycle:

- Pioneering efforts to solve a problem
- Breakthrough developments
- Scepticism and new efforts by established companies
- Proliferation of many varieties of new technology by many small companies
- Development of a “dominant design”
- Consolidations, mergers, and closure of many small new companies
- Disappearance of many traditional companies hurt by new technology
- Incremental changes by the winners
- Beginning of a new cycle
Figure 2-2. Dominant Design and Numbers of Competing Firms
E-LEARNING HYPE CYCLE

- SCORM 1.0 released
- DigitalThink stock at $89.44
- Learning Portal fad begins
- John Chambers declares "E-Learning is the next killer app."
- CBT Systems becomes Smartforce
- Asymetrix becomes Click2Learn.com
- Focus changes from tools to enterprise wide management systems
- NYU Online founded
- Saba founded
- Macromedia Flash 1.0
- Masie launches Techlearn 97
- First article on "Intranet-based Training" in Training Magazine
- Only one "IBT" session at ASTD
- Headlight.com closes
- Pensare closes
- Caliber closes
- Peer3 closes
- Focus on Blended learning
- LCMS's emerge
- NYU Online closes
- SCORM 1.2 released
- DigitalThink stock at $1.34
- SmartForce & Skillsoft announce merger

Technology Trigger

Peak of Inflated Expectations

Trough of Disillusionment

Enlightenment & Productivity

1996 1997 1998 1999 2000 2001 2002 2003...
Previous reactions to change

Western Union (1876) – “This telephone has too many shortcomings to be seriously considered as a means of communication.”

Thomas Watson, Chairman, IBM (1943) – “I think there is a world market for maybe five computers.”

AT&T (1970) – “No commercial use for computer networking” – gave computer networking back to US Defense Department after a 6 month trial
Figure 7-4. Performance of an Established and an Invading Product Contrasted along One Performance Dimension

- "Disruptive Change"
- "Strategic Change"
- "Incremental Change"
Innovation Adoption Curves:

- Peaking technologies
- Ascending technologies
- Maturing technologies
- Developing technologies
- Declining technologies
Emerging eLearning technologies:

Technologies for eLearning: general trends

- Move from client–server architectures to service oriented architectures ("mashups") with distributed content (from many locations to many locations - "everyware"
- Move from page metaphor to browsers, to full networked applications – "browserless web"
- Move from “push” technologies to more “pull” technologies – a mix of push and pull – learner in control
- Move from e–learning to “complex multi–channel learning” with a different personalized mix for each learner
- Move from passive receiving to interactive activities and collaboration
Available from: the e-Learning Guild (with membership), or from www.operitel.com
Physical Technologies vs Social Technologies:

- Products vs processes – both have a life cycle
- Products change first – followed by process changes
- Classrooms as technologies: physical and social
- Lag between physical and social
- In current situation, as social technologies try to catch up, physical technologies continue to change
- Skepticism as resistance
Emerging e-Learning Technologies: incremental


Audio/Video - http://pulseplanet.nationalgeographic.com/

Digital Ink - www.cs.swan.ac.uk/calculators

www.plasticlogic.com/flexible_displays.php

Tours and Virtual Field Trips -
http://Weblog.infoworld.com/udell/2005/02/25.html#a1185

Visualizations – http://www.visualcomplexity.com/vc/
Emerging e-Learning Technologies: disruptive


http://www.brandon-hall.com/weblogs/garywoodill.htm

Mashups – http://www.panoramio.com

Motion Capture - http://ligwww.epfl.ch/~molet/mag_mocap.html

Virtual Reality - www.secondlife.com


In Summary:

We are moving into a new generation of e-learning (“2.0”) that is more disruptive than the first generation.

The whole system includes a complex mix of technologies, applications and services

Change is constant.

To predict where things are going, try to see where you are on the various innovation curves,
Want more? Go to: www.brandonhall.com

Analysts’ Blogs (5)
Publications – “Emerging e-Learning”

Brandon Hall Research Workshops
June 27, 2007 – University of Toronto

Innovations in Learning Conference
Sept. 24-26th, Santa Clara, CA
Thank you.

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