





## ***Outline – E-learning***

- The Buzz of the Net
- Generations of E-Learning
- The Hype
- The Business Case
- An Effectiveness Model
- Last word from Students
- Your comments and questions




---

---

---

---

---

---

---

---



## ***What is e-learning?***

- *Online correspondence lessons with the price marked ten times*
- *Distance education on steroids*
- *“E-Learning is the systematic use of networked multimedia computer technologies to empower learners, improve learning, connect learners to people and resources supportive of their needs.”*  
Peter Goodyear, 2000




---

---

---

---

---

---

---

---



## ***The Affordances of the Net***

- “An affordance refers to attributes of both the object and the actor” (Gaver, 1991)
- Affordances of the Net have been constantly expanding since its development in the last half of the century
- Three major factors:
  - Information
  - Communications
  - Processing




---

---

---

---

---

---

---

---

**Access to vast amounts of information**



---

---

---

---

---

---

---

---

**Increase in quality, quantity and types of human interaction**



---

---

---

---

---

---

---

---

**The computation and inferential Powers of the Net**



The Semantic Web:  
Information that processes itself

---

---

---

---

---

---

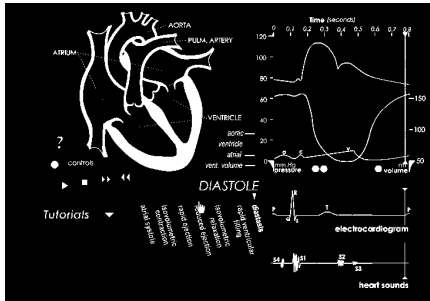
---

---





### Re-usable learning objects from repositories



[http://www-medlib.med.utah.edu/kw/pharm/hyper\\_heart1.html](http://www-medlib.med.utah.edu/kw/pharm/hyper_heart1.html)




---

---

---

---

---

---

---

---



### 2nd Generation E-Learning

- Move your classrooms online, continue teacher centered delivery



"Vendors and end-users are starting to get it right. They understand that learning is not about automating the existing instructor-led training process. It's not even about new channels for delivering content. It's about delivering the right content, at the right time, over the right channel to the right person. It's about learner-centricity."

Dr. Marcel Zornhin, ed age Magazine, October 2002




---

---

---

---

---

---

---

---



### 3rd Generation

- Use networked technologies and knowledge management tools to create continuous learning communities




---

---

---

---

---

---

---

---





Google and other retrieval engines



Any product, service, device etc. Barcode or Radio Freq. Id.



Wireless, Personal Digital Assistant



---

---

---

---

---

---

---

---



### *The Hype*

- “custom, online learning saves 20% and 50% in subsequent years”
- “E-learning produces a 60% faster learning curve than traditional instruction”
  - Think Equity Partners 2002
- “Learners love e-learning”
- **Hall (2001) results from hundreds of studies and applications show that training instruction delivered via computers and/or computer networks requires approximately 35% to 45% less learner time.**



---

---

---

---

---

---

---

---



### *Beyond the Hype*

- "For every \$1 of e-learning that the company adds, it estimates that it saves \$2 for traditional class-room tuition, and another \$1 for travel time or lost personnel time." (Pantazis, 2002)
  - Cisco Systems' e-learning 40% to 60% cost savings derived based on using e-learning as compared with instructor-led training (Gill, 2000).
  - The online students appeared to be driven more by intrinsic motives and clearly not by the reward structure of the class. (Diaz and Cartnal (1999)
- So... just add e-learning and save money  
**NOT!!!!**



---

---

---

---

---

---

---

---



## ***Link Between Training and Productivity***

- Training just one component of strategic human resource management
  - Recruitment
  - Motivation
  - Probiity
  - Involvement
  - Training and professional education
    - (Huselid, Jackson & Schuler 1997)

An index of these scales shows average 6.4% profit margin for high scoring firms vs. 3.3% for low scoring ones (Kravitz, 1996)




---

---

---

---

---

---

---

---

---

---



## ***The Facts***

- E-learning saves time and expense on travel
- E-learning can be as effective or as ineffective as any other mode of delivery
- The cost of E-Learning production is as much as you decide to spend
- E-learning, like other **systems**, depends upon an integrated set of tools, services and resources
- Like other systems, E-Learning ROI depends upon economies of scale
- E-learning is more convenient and more accessible but:
  - *“Research findings indicate that the retention rate in DE courses was significantly lower than in face-to-face classrooms. DE had a higher dropout rate than in face-to-face classrooms.”*  
(Bernard 2003)




---

---

---

---

---

---

---

---

---

---



- An examination of 49 studies by Nettles et al. (2000) revealed that:
  - the majority reported no significant difference between e-learning and traditional classroom education, and
  - nearly 30% of the studies report that e-learning programs had positive outcomes based on student preference, improved grades, higher cost effectiveness, and a higher percentage of homework completion.




---

---

---

---

---

---

---

---

---

---





## What are Current E-Learning Providers Finding?

- Results from survey of members of the Ontario Society for Training & Development, 2003 <http://www.cstd.ca/networks/PSES.pdf>
- IDC Economic Outlook for E-Learning Services Julie Kaufman (2003)




---

---

---

---

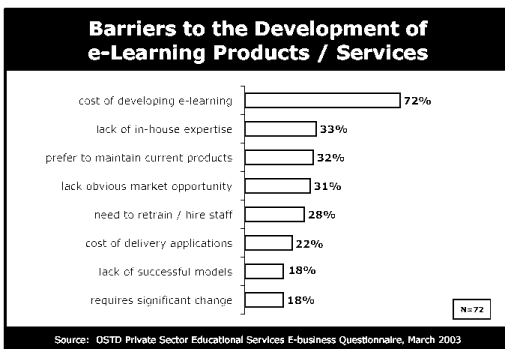
---

---

---

---

Figure 30: Barriers to Developing e-Learning Capabilities




---

---

---

---

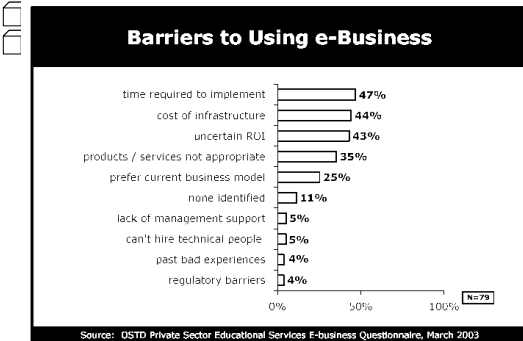
---

---

---

---

Figure 23: Barriers to using e-Business




---

---

---

---

---

---

---

---



### Outsourcing component pieces of an E-Learning System

| E-Learning Capabilities Outsourced Responses        | Number of Responses |
|---|---------------------|
| Content & Content design / development / production | 8                   |
| Hosting / e-learning infrastructure                 | 6                   |
| Multimedia design / development / production        | 5                   |
| Web / software development                          | 4                   |
| Graphic / visual design                             | 4                   |
| Technical services                                  | 4                   |
| Instructional design                                | 3                   |
| Miscellaneous single responses                      | 3                   |

Ontario Society for Training & Development, 2003  
<http://www.cstd.ca/networks/PSES.pdf>




---

---

---

---

---

---

---

---

---

---



### Most Training Organizations sell more than a single service

Table 5: Goods and / or Services Sold via the Internet

| Goods / Services Sold via the Internet | Number of Responses |
|--|---------------------|
| Training / training courses            | 7                   |
| Consulting / design services           | 5                   |
| e-learning / online courses            | 5                   |
| Training tools / materials / aids      | 5                   |
| Miscellaneous single items             | 4                   |




---

---

---

---

---

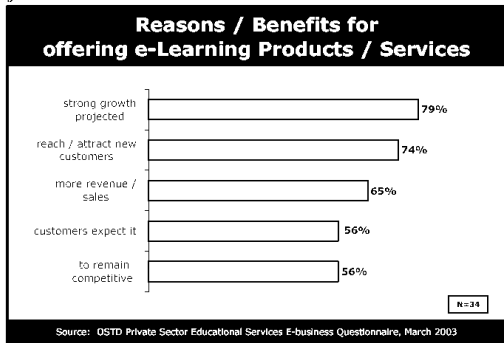
---

---

---

---

---




---

---

---

---

---

---

---

---

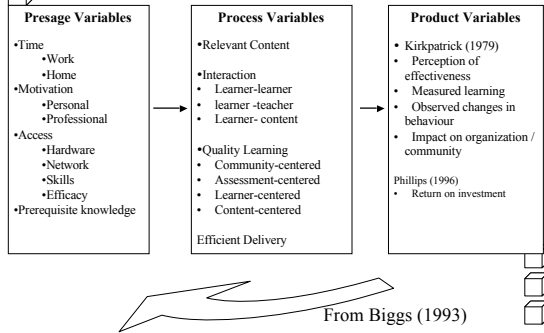
---

---





### 3P Model of Effective E-Learning (Anderson, in press)




---

---

---

---

---

---

---

---



### Quality E-Learning

- Student centered
- Community centered
- Assessment Centered
- Knowledge centered

Bransford, J., Brown, A., & Cocking, R. (1999). *How people learn: Brain, mind experience and school*. Washington: National Research Council




---

---

---

---

---

---

---

---



### Student Centered

- Adult learners
  - Relevance
  - Flexibility
  - Choice
  - Builds upon expertise
  - Know your learners
    - Technology
    - commitment,
    - motivation

•(Bransford et al, 1999)




---

---

---

---

---

---

---

---



## Community Centered

- Report Rovai 2002
  - Significant correlation between learning outcomes and sense of community
  - Creating community
    - Reason to collaborate
    - Inducements, rewards and punishments
    - Time
    - Synchronous vs. asynchronous
  - Social presence
  - Connect to the broader community – Reed’s law (1999)

•(Bransford et al, 1999)




---

---

---

---

---

---

---

---



<http://www.cs.usask.ca/i-help>

The screenshot shows the 'i-HELP' website interface. On the left is a navigation menu with links like 'Home', 'Help Preferences', 'Knowledge Levels', 'Ways of Thinking', 'Privacy Notice', 'Feedback Account', 'Groups', and 'Who's Online'. The main content area is divided into two sections: 'Preferences When I Am Giving Help' and 'Preferences When I Am Asking For Help'. Each section contains several settings with dropdown menus and input fields. For example, under 'Giving Help', there are settings for 'Banned topics', 'I am willing to be contacted', 'The number of current help discussions I can handle at most', 'Earning as many ICU's as possible is', 'I consider myself able to help', 'Maximum price I will charge', 'Minimum price I will charge', 'Friend discount - 2 per message', and 'Connect fee: 20 if price less than 4 per message, 50 if price between 5 and 8, 100 if price greater than 8'. Under 'Asking For Help', there are settings for 'Finding a helper who knows a lot about the topic is', 'Finding a helper who will respond soon is', 'Finding a helper who is a helpful person is', 'Finding a helper whose way of thinking is compatible with my question is', 'Spending as few ICU's as possible is', 'Minimum price I will pay', and 'Maximum price I will pay'.

---

---

---

---

---

---

---

---



## Assessment Centered

- Feedback
- Congruence with individual learning goals
- The power of good games (Prensky, 2001; Gee, 2003)
  - encourage reflection
  - Require significant time investment
  - Develop problem solving
  - Require community input
  - Develop multiple skills (hand-eye, strategic thinking, teamwork etc).
  - Have clear goals
  - Provide frequent practice with feedback




---

---

---

---

---

---

---

---





## ***Containing the Costs of E-Learning***

- Productions costs
  - Allow students to create content
  - Re-use; re-use; re-use - repositories
  - How high should production values be?
  - Teacher interaction is not scaleable
  - Use generic, open standard platforms and outsourcing
- Critical Mass
  - Integrate e-learning with other PD services
  - Establishing effective collaborations
  - Linking e-learning with strategic human resource management.




---

---

---

---

---

---

---

---



## ***Reasons for Student Dissatisfaction with E-Learning***

1. Interpersonal communications versus writing
2. Time management
3. Cyberspace orientation
4. The teachers and instructional design itself

Richard Dillman [rdillman@TICOPA.COM](mailto:rdillman@TICOPA.COM)  
 IFETS-DISCUSSION Digest - 7 Nov 2003




---

---

---

---

---

---

---

---



## ***Final word from Students***

- compulsory real estate course –
  - Kanuka and Nocente (2002)
  - 97% satisfaction - missed social interaction but gains in efficiency.
  - *"doing PD this way is a great idea and needed, but I think you should know there was a cheat sheet going around - I completed the course in 10 minutes"* p. 46
  - *"The online classroom was more bearable with this kind of dry subject - in the classroom you can't click click your instructor to hurry up or disappear".* p.49




---

---

---

---

---

---

---

---



**Conclusion: Beyond the Hype:  
How to Make E-Learning Work for You**

- E-Learning is more cost effective and accessible, but a steady diet may not meet community and individual needs
- Effectiveness depends upon attention to the 3 P variables - Presage; Process; Products
- The growing affordances and ubiquity of the semantic Net will continue to increase the relative advantage of e-learning




---

---

---

---

---

---

---

---



**Your Comments and Questions**

- Terry Anderson
- Terrya@athabascau.ca




---

---

---

---

---

---

---

---

**Reference List**



Anderson, T. (2003). Getting the mix right: An updated and theoretical rational for interaction. *International Review of Research in Open and Distance learning*, 4(2) Retrieved Oct 30, 2003 from <http://www.irrod.org/content/v4.2/anderson.html>.

Biggs, J. (1993). What do inventories of students' learning process really measure? A theoretical review and clarification. *British Journal of Educational Psychology*, 83(3-18)

Bransford, J., Brown, A., & Cocking, R. (1999). *How people learn: Brain, mind experience and school*. Washington: National Research Council. Retieved Sept 10, 2002 from the WWW at <http://www.nap.edu/html/howpeople1/> Rec#:

Gee, J. (2003). *What video games have to teach us about learning and literacy* New York: Palgrave MacMillan.




---

---

---

---

---

---

---

---



Reference List - Continued



Hall, B. (2001). *Building the business case for e-learning: how to translate the benefits of e-learning into language the whole organization will understand*. Sunny Vale CA.: Brandon Hall.

Huselid, M.A., Jackson, S.E., & Schuler, R.S. (1977). Technical and strategic human management effectiveness as determinants of firm performance. *Academy Of Management Journal*, 40(1), 171-188.

Kanuka, H., & Nocentie, N. (2002). Professional development in the online classroom. *The Canadian Journal for the Study of Adult Education*, 10(1), 34-55.

Kirkpatrick, D. (1979). Techniques for evaluating training programs. *Training and Development Journal*, 33(6), 78-92.

Nettles K., Dzuiban C., Cioffe D., & Moskal P. (2000). Technology and Learning: The No Significant Difference Phenomenon: A Structural Analysis of Research on Technology Enhanced Instruction. In Dzuiban and Moskal (eds) (Ed.), *Distributed Learning Impact Evaluation*, Orlando: University of Central Florida .

Reference List



Phillips, J. (1996). Measuring ROI: The fifth level of evaluation. *Technical Skills and Training*, April, 10-13. Retrieved July 30, 2002 from the WWW at [http://www.astd.org/virtual\\_community/comm\\_evaluation/phillips.pdf](http://www.astd.org/virtual_community/comm_evaluation/phillips.pdf).

Prensky, M. (2001). *Digital game-based learning*. New York: McGraw Hill.

Reed, D. (1999). That sneaky exponential - beyond Metcalfe's law to the power of community building . Retrieved April 24, 2003 from <http://www.reed.com/Papers/GFN/reedslaw.html>

Rovai, A. (2002). Sense of community, perceived cognitive learning, and persistence in asynchronous learning networks. *The Internet and Higher Education*, 5(4), 319-332 . <http://www.elsevier.com/locate/iheduc>

