Learning by Searching

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Searching and Learning

What is searching?

- Searching by flipping library index cards
- Searching by browsing the library database on the keyboard (by author, by title, etc.)
- Searching by search engines (digital libraries database and the Internet with advanced searching features)
- Searching by subscribing to targeted sources
Searching and Learning

• What is learning?
  – Learning by attending classes
  – Learning from informal incidents
  – Learning by doing
  – Learning by gaming
  – Learning by searching
  – ...

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A Chain Reaction of Change

• Technology is altering (rewiring) our brains. The tools we use define and shape our thinking.

• Know-how and know-what is being supplemented with know-where (the understanding of where to find knowledge needed).

• When knowledge, however, is needed, but not known, the ability to plug into sources to meet the requirements becomes a vital skill. As knowledge continues to grow and evolve at a speedy pace, access to what is needed is more important than what the learner currently possesses. (George Siemens)
Limitations of Behaviorism, Cognitivism, and Constructivism

• A central tenet of most learning theories is that learning occurs inside a person (i.e. brain-based)
• These theories do not address learning that occurs outside of people (i.e. learning that is stored and manipulated by technology)
• They also fail to describe how learning happens within organizations (George Siemens)
Connectivism Principles

• Learning and knowledge rests in diversity of opinions.
• Learning is a process of connecting specialized nodes or information sources.
• Learning may reside in non-human appliances.
• Capacity to know more is more critical than what is currently known.
• Nurturing and maintaining connections is needed to facilitate continual learning.
• Ability to see connections between fields, ideas, and concepts is a core skill.
• Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities.
• Decision-making is itself a learning process. Choosing what to learn and the meaning of incoming information is seen through the lens of a shifting reality. While there is a right answer now, it may be wrong tomorrow due to alterations in the information climate affecting the decision. (George Siemens)
Collectivism

- People learn interactively in a connected learning environment
- Wisdom of the Crowds - Blogging
- Learning opportunities or distractions?
- New Frontiers – Chaos or Order?
Searchology

• New concepts and new strategies for search.

• Google’s most recent presentation on searchology.

• Watch the Webcast with Marissa Meyer, Craig Silverstein and others.
Web2.0

• Web2.0 provides the platform for connectivist and collective learning
  – Blogging
  – Wiki
  – Social Bookmarking
  – RSS feed
  – Podcasting
  – …
One Dilemma

• **Dilemma:**
  – Information explosion
  – Limitation of information processing capability of the human brain

• **Solution:**
  – Raise learning efficiency by applying technology – let the machine do more and more and more for learners...
How Millennials Learn Today?

- Online information are webbed and interactive. Millennials today like to read webs and searching in the flowing with reading activities.
- Learning is organized based on their own learning interest, preference, momentum, and questions in mind.
- Multitasking becomes the norm in their learning process.
- Searching is no longer a separate cognitive process, but immersed as a natural learning behavior like reading or writing.
- Learning by searching, searching is learning.
Special Search Strategies
Subscribe to SDI Serves

- Digital Libraries offer SDI services (Selective Dissemination of Information) that automatically distribute information to individual users, who Subscribe to Digital Library Database Alerts, or RSS.

- Example
Subscribe to Search Engine Alerts

- Google Alert
- Yahoo Alert
Subscribe to Newsletters

• Listserv subscription e.g. ASCDSmartBrief Results

• Newsletter subscription e.g. Globalization 101
Subscribe to Listserv

• Tomorrow’s Professors sponsored by Stanford University

• Mailing list
Subscribe to iPod Feed

• Install iTune and download subscribed resources.
Subscribe to RSS

- Microsoft 2007 Vista has embedded RSS reader in it. It is very easy to subscribe and read RSS feeds.
Share Social Bookmarks

• “My friends have done it for me.”
  – Use of Social Bookmarks
    • Delicious
    • Diig
    • Digg
  – Blog websites
  – Facebook
  – MySpace
Pick up Windfalls

- Click on or search for the interested entries in reference list in papers

- **EX.** Use of references on academic papers

- Use of specific databases
Be a Sniffer Dog

• There are many incidental learning opportunities in the Internet learning environment. Form the habit of sniffing every corner of the screen as the digital natives do.

• Example – next slide
Where's Jeeves?
Find out by clicking here!

News Resources  Fun & Games
Be an Archaeologist

• Uncover the “Antiques”
“You Can Find Anything Online”

- Example
- **TV commercial: “Save Big Bucks”**
Building Personal Database of Databases

• Build Your External Brain
  – Personalized Database Examples
    • PPT templates
    • Search Engine Tutorials
    • Statistics
      – SPSS Tutorial
      – Survey Monkey
      – Experiment Design
  • Use of Gadgets:
    – PDA
    – iPod
    – How Stuffs Work
Indicators of Quality Search

- Immediacy
- Currency
- Relevancy
- Accuracy
- Efficiency
Reference

- What is Web 2.0? Ideas, technologies and implications for education
- Connectivism Web2.0
- Association for Educational Communications and Technology
- Global awareness and education: America’s test for the 21st century
Thank you!