Digital Information and Communication

Peters Chapter 6

Unparalleled Change

- Development of the PC
- Improvement of telecommunications
- Development of multimedia technology
- Development of larger and more extensive databases connected to Internet

An Optimistic Assessment

- Convergence of media
- Computer as a multimedia communications device
- Audio and video conferencing on the desktop

Widen Communication Channels

- Distance turns into virtual proximity
- Writing can be replaced with oral
- Inclusion of live voice of teacher and learner
- Rich dialog

A Realistic Interpretation

- Presence of media does not guarantee use
- Hype does not translate into practice
- Obstacles include:
  - Money
  - Practice
  - Institutional custom

First Pedagogical Analyses

Learning with files

- The ability to create and extend personal files of knowledge
- This potential for self-learning can only be speculated at (growing hypertexts)

Hypermedia

- Changing teaching behavior
  - Must teach on many levels
  - Break text into nodes
  - Great promise for addressing students in a multi-modal way
  - Difficult to create

Hypermedia

- Changing learning behavior
  - Granted more freedom
  - Must find their way through hypertext
  - Strategies dealing with implicit and explicit linking. Three possible ways:
    - Browsing
    - Searching for defined information
    - Following a teacher-defined path

Knowledge-building Community

- Bootstrapping knowledge creation through shared contributions
- All have role as learner and teacher
- Is constructivist, autonomous, collaborative, authentic

Teaching Programs

- CAI - known strengths and weaknesses

Learning with data-file courses

- From print to new media
- Is the medium the message, or is there no difference between delivery?
- Richer opportunities in new media

Computer Conferencing

- Dominance of text is “absurd”

Computer Conferencing

- Advantages
  - Detailed record of class proceedings
  - Students consider replies more deeply
  - Virtual tutorial space
  - Peer discussion predominate
  - Lessens isolation
  - Even some emotional and social bonds that are uniquely strong

Computer Conferencing

- Disadvantages
  - Less spontaneous
  - Some students tend to dominate
  - Students can drop out and not be missed
  - Can be overwhelmed by data if not logged in for a while
  - If not well moderated, can degenerate to "small-talk"

Audio- and Video-Conferencing

- What innovations do these bring? Garrison
  - Essence of learning and teaching is communications
  - Dependent on quality of communication
  - Are able to [re]capture all classroom techniques
- Many strive to recreate the university classroom in these media

Audio- and Video-Conferencing

- Four types of teleconferencing
  - Two-way audio
  - Two-way audiograhic (adds graphics to communications line)
  - One-way video and two-way audio
  - Two-way video and two-way audio
- All improved by great bandwidth and computer enhancement

Audio- and Video-Conferencing

- Have created an explosion of learning

Audio- and Video-Conferencing

- American model
  - Extended university classroom
  - Always interactive and in real time
  - Requires the least change of instructors
  - 'Face to face teaching at a distance’

Audio- and Video-Conferencing

- Ways to get beyond this conservative model
  - Mixed mode with only some class functions in teleconference
  - Partial use as extension of classes
  - Search for other pedagogic models
- Concludes that use intimating classroom is transitory

Commentary on VC

- Does this represent the future of distance education?
- NO!
- American videoconferencing is NOT distance education
- Americans are concerned with 'access', Europeans with pedagogy

Autonomous Learning

- This is the ultimate goal of education
- Reality cannot be taught, but must be constructed by an autonomous learner
- Argues that learning is simple a process of individual searching and constructing

Autonomous Learning

- Tight leash or more autonomy?
- Computer
  - Storage frees student memory
  - Provides access to large quantities of information
  - Create independent assessment
  - Create personal knowledge structures
  - Graphical representations

Summary

- Learners become researchers and designers

Integrated Presentation

- Escape from tyranny of text to orality
- Motion pictures and animation
- Accounts for television and new sense balances
- DE practitioner must provide multi-modal environment

Occasional and Transversal learning

- Just-in-time learning
- Trans-discipline learning
- Embedded in life
- Non-sequential, but determined by need

End