CENTER FOR TEXTUAL STUDIES AND
DIGITAL HUMANITIES

DIGH 402 - Instructional Design and e-Learning

Spring Semester 2015

Week 11 - Extra

Control of Learning

Navigation and control in e-Learning

- user control through navigational features including menus and links
- adjust amount of learner control in asynchronous e-Learning based on prior knowledge...
- adaptive control based on learner performance
- shared control of learner options by user and framework or application
- segmentation principle
- learner control as a differentiating factor
- potential overload from instructor led e-Learning
- importance of multimedia principles

Control of Learning

Learner control v program control

- asynchronous e-Learning can allow the learner to control
    - pace, topics, navigation, practice...
- e-Learning programs and frameworks high in 'learner control'
    - contrast with 'program control' or 'instructional control'
- single pace nature of synchronous frameworks
- single learning path enabled by instructor
- control of options in asynchronous framework
    - learner controlled or program controlled

Control of Learning

Types of Learner control

- 'learner control' often used in a generic fashion
- varying types and implementation of learner control
- content sequencing
    - control order, topics, screens in a lesson
    - control through menus, links...
- pacing
    - control time spent per page, segment...
    - asynchronous e-Learning, allowing learners to progress at own pace
    - navigation and exit options included as well
- learning support (examples, practice exercises...)
    - control instructional components of lessons
    - navigation elements can lead to definitions, examples, practice exercises...

Control of Learning

Considerations of instructional decisions

- consider extent of accurate learner determinations of existing knowledge
- influences decisions in a highly learner controlled environment
- correct learner assessment of topics comprehension
    - allows good selections about topics to study
    - how much time and effort required for studying such topics
- allows learners to function correctly under conditions of learner control
- consider 'calibration accuracy' and student lesson ratings

Control of Learning

Calibration accuracy & assessment

- calibration of personal confidence
- correlation between your estimate of confidence and your actual performance
- learners read a text and make a confidence rating about their accuracy responding to test questions
- correlation between confidence ratings and their actual test score is the calibration metric
- well calibrated learners can make accurate estimates of their knowledge
    - make appropriate instructional decisions in course high in learner control
- calibration is about accuracy of what we think we know

Control of Learning

Poor Calibrations - evidence

- Stone, N.J. 2000. "Exploring the relationship between calibration and self-regulated learning." Educational Psychology Review 4. PP.437-475

"contrary to intuition, poor calibration of comprehension is the rule, rather than the exception"

- Glenberg, A.M., Wilkinson, A.C., Epstein, W., and Morris, C. 1987. "Enhancing calibration of comprehension." Journal of Experimental Psychology: General 116. P. 119.

"Self assessment of performance remains a poor predictor of actual performance"

- Eva, K.W., Cunnington, J.P.W., Reiter, H.I., Keane, D.R., and Norman, G.R. 2004. "How can I know what I don't know? Poor self-assessment in a well-defined domain." Advances in Health Sciences Education 9. P. 222.

Control of Learning

Practice and examples with calibration accuracy

- calibration accuracy generally better after responding to test questions
- questions in training should lead to more accurate self-assessments
- Walczyk, J.J., and Hall, V.C. 1989. "Effects of examples and embedded questions on the accuracy of comprehension self-assessments." Journal of Educational Psychology 81. PP. 435-437.
- Glenberg, A.M., Sanocki, T., Epstein, W., and Morris, C. 1987. "Enhancing calibration of comprehension." Journal of Experimental Psychology: General 116. PP.119-136.

Control of Learning

Learner perception

- learner perception of preferred learning styles as a guide to design and learner control

- Schnackenberg, H.L., Sullivan, H.J., Leader, L.R., and Jones, E.E.K. 1998. "Learner preferences and achievement under differing amounts of learner practice." Educational Technology Research and Development 46. PP.5-15.

Control of Learning

Principle 1 - experienced learners and control

- metacognition refers to a learner's awareness of their own learning and thought processes
- consider trade-offs of learner control
    - learner satisfaction
    - profile of target learners
    - cost of learner control design
    - critical nature of skills taught
- learner control more likely to be successful when
    - learners have prior knowledge of the content and skills
    - advanced content
    - learners have good metacognitive skills

Control of Learning

Principle 1 - evidence for program control in early stages of learning

- Gay, G. 1986. "Interaction of learner control and prior understanding in computer assisted video instruction." Journal of Educational Psychology 78. PP. 225-227.

"The results demonstrate that not all subjects were capable of making appropriate decisions. The low-knowledge students practiced too little and emphasized areas with which they already had familiarity. In summary, low-prior-knowledge subjects did not use good learning strategies and made poor sequencing decisions under learner controlled treatment." P.227.

- Young, J.D. 1996. "The effect of self-regulated learning strategies on performance in learner controlled computer-based instruction." Educational Technology Research and Development 44. PP.17-27.