Computer Aided Learning

Computer Literacy 1 Lecture 14
21/10/08

Topics

- Many sorts of computer assisted/aided learning
  - From PowerPoint presentations to educational websites and more
- Moodle an active e-learning platform
- CAL and CALL
- There's active and vicarious learning
  - What are the differences?

Terms

- Computer Aided Learning or Computer Assisted Learning (CAL)
- Computer Assisted Language Learning (CALL)
- You can learn actively or vicariously
- How can the computer facilitate both ways?

CAL

- CAL is a rather fuzzy term
  - It can include everything that involves learning by using a computer
- And it doesn't even stop here
  - Next to the computer we can use iPods, PDAs and smartphones
    - So e-learning goes even m-learning (where m stands for mobile)

JCAL

- JCAL = Journal of Computer Assisted Learning
- JCAL is published 6 times a year and also publishes regularly special issues to concentrate on only 1 topic per issue
- A short look at the table of contents of their current October issue shows you the variety of topics covered by the term Computer Assisted Learning

Example for JCAL articles

- These examples are taken from the current issue, Volume 24 issue 5 (October 2008), only article titles are quoted

  - "Getting it from the Web: why and how online resources are used by independent undergraduate students"
  - "The effects of animation on verbal interaction in computer supported collaborative learning"
  - "Critical issues for e-learning delivery: what may seem obvious is not always put into practice"

CAL

- Like mentioned before CAL can cover a lot of e-learning categories
- So already the use of PowerPoint slides can be seen as computer aided learning when used in lecture or class
- Smartboards fall in this categorie
- WebCT and MyEd does
- As well as educational computer games and more

Moodle

- Moodel is also known as Course Management System (CMS)
- It's a free and open-source e-learning software platform
- Runs on all major platforms (Unix, Windows, Mac OS X)
- It's SQL based
- Company based in Perth, Australia

Moodel a virtual learning environment

- Educators can create online courses
- They can give these courses interactive opportunities
- For untrained users Moodle has something called a sandbox
  - In an online sandbox of this kind you can play around with the software to see if you can handle it
- Very similar to BlackBoard and WebCT

More CAL

- Since we already talked about games in education…
- Today we will have a look at software and websites that facilitate learning in a more serious way
- Some topics are hard to cover in a game like scenario, e.g. law

CAL software

- Software for chemistry learning
- http://home.c2i.net/astandne/
- TaxTrans: Computer Assisted Learning Software for the Analysis of Taxes and Transfers in General and Partial Equilibrium
- http://ideas.repec.org/p/mlb/wpaper/762.html

Active Learning

- Also interactive learning
- This is the kind of learning where a learner is actively involved in solving a task/problem
- Interactivity takes place when the learner gets feedback
  - Simple example for feedback from computer can be right or wrong without explaining why right or wrong
  - Sometimes it can be more sophisticated and computer can show you how to solve a problem step by step (which could overlap with vicarious learning)

CALL

- Computer Assisted Language Learning
- Is normally an active form of learning
  - Since you should not only be able to read and write in a foreign language but also speak and understand it
- What makes it active?
  - For example: You use a microphone to give your computer language input in a foreign language and the computer either accepts your pronunciation or not

CALL Software

- For foreign students to learn for they TOEFL
- http://www-writing.berkeley.edu/chorus/call/reviews/toefl_mentor/index.html
- English students learning Chinese
- http://www-writing.berkeley.edu/chorus/call/reviews/archives/intchinese.html
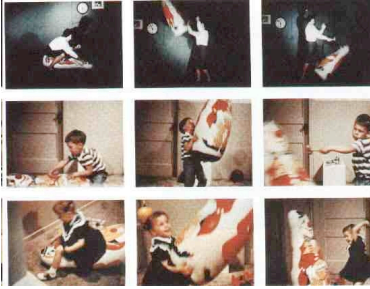
EuroCall

- There is a European Association for Computer Assisted Learning
- They do amongst others:
  - Provide a European focus on innovative research and development[1]
  - Enhance the quality, dissemination and efficiency of CALL materials[1]
  - Support special interest groups[1]
  ([1]http://www.eurocall-languages.org/about/index.html)

Brief introduction to Vicarious Learning

- Derives from socio-cognitive psychology
- A. Bandura's Bobo doll experiment:
  - Children watched aggressive behaviour of adults and copied this behaviour afterwards
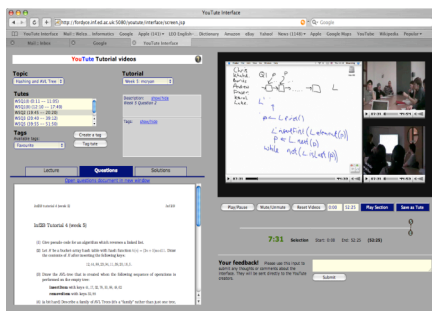 - Observational learning = Vicarious Learning

Bobo-doll experiment

YouTute: an Example for Vicarious Learning

- YouTute gives students the opportunity to watch themselves and other peers in their tutorials online
- This passive learning is augmented by the ability to select, structure and compare a range of learning experiences relating to a particular topic
- YouTute presents three synchronised videos from different angles of each tutorial together with related learning material, e.g. lecture slides and worksheets

YouTute - Interface

PATSy

- PATSy stands for Patient Assessment Training System
- It was developed for Speech and Language Therapy students
- PATSy should give the students the possibility to see and assess videos of "virtual" patients
- This system makes it easier to prepare students for their clinical work

http://www.patsy.ac.uk/

Key points

- http://www.blackwellpublishing.com/journal.asp?ref=0266-4909 (link to JCALL Journal)
- CAL is covering a huge amount of categories
- You know a lot of tool used for CAL (from PPT to Moodle)
- CAL (like other learning) can be done actively or in a more passive way (vicariously)
- CALL needs to facilitate an active form of learning
- YouTute and PASTSy are learning facilitating interfaces designed for higher education