The Role of Learning Technologies in the next few years

which new technologies should be used for learning and how they should be used in order to improve the quality of teaching and learning

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What is « better » learning and teaching?

« You can’t buy knowledge

- Content => information
  - learning tools as consumable products
  - knowledge « in the head »: acquisition
- Interaction => knowledge
  - learning tools as process enhancers
  - knowledge « in the world »: construction
Map of Future Forces Affecting Education 2006-2016

Environmental shifts

- Individual -> participatory
- Computer labs -> pervasive learning
- Consumer culture -> do-it-yourself
- Stable professions -> entrepreneurial
- The end of cyberspace

http://www.kwfdn.org/
Convergence of physical and digital worlds

« The end of cyberspace »

Augmented reality, Wearable computing, ...
• Sensors complement our traditional sensing organs
• Computers augment our perception of the environment
Convergence of physical and digital worlds

« The end of cyberspace »

Tangible User Interfaces

- We can control and configure computers by physical action
- Learners might benefit from « touching » and « twisting »
- Directness of collaboration

http://tangible.media.mit.edu/

http://l3d.cs.colorado.edu/
Convergence of physical and digital worlds

« The end of cyberspace »

Ubiquitous computing
Interactive furniture

• Face-to-face
• Feedback loop - Distributed regulation
• Middle tech approach
Yes, well, that’s nice, but I have 100 students in Physics 101!

Learning communities
Students:
  • Co-Create the course material
  • Collect and aggregate evidence

Teachers:
  • Invent and design tasks
  • Organize, evaluate solutions
  • Train transfer to real-world

« Generation Y » (kwfdn)

Students:
  • Serious gamers
  • Skilled multi-taskers
  • Agile decision-makers
  • Social networkers
  • Cooperators

Will Richardson

Blogs, Wikis, Podcasts, and Other Powerful Web Tools for Classrooms

Transforming Teaching
Yes, well, that’s nice, but I have 100 students in Physics 101!

**Integrated learning**
- Face-to-face and distance
- Collaborative and individual
- Lecture and problem-solving
- Orchestrated by the teacher

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Computers will be:
- More powerful
- Integrated into the environment
- Everywhere?

Should we use them to:
- Read powerpoint presentations
- Play with simulations
- Be aware and connected

(Our) Research directions
As an a priori approach:
- Active learners
- Design learning situations

Critical position towards technology:
- What is the added-value?
- Can we « reuse » student's tools?