Human learning & requirements
Working group
ICT Workshop on Intelligent Lifelong Learning Companions
October 2-3, 2008

Summary

Any technology that seeks to promote learning should be developed in a way that is consistent with what learning science research tells us about the cognitive, affective, and social processes involved with learning. Research in the learning sciences also suggests what the requirements of a lifelong learning companion should be by identifying the good things that good learners do and the bad things that poor learners do. In the case of supporting learning over extended periods of time, issues such as retention, memory decay, retrieval fluency, motivation, collaboration, and self-directed learning play prominent roles. Ultimately, it is hoped that understanding of these learning processes can be used to determine what learners need, when they need it, and how they need it presented.

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Potential discussion questions
- How "sturdy" are memories and learned skills?
- What pedagogical strategies lead to longer retention?
- What are the ingredients for improving retention and reducing memory decay?
- What are the impacts of local/episodic pedagogical decisions on longer term learning?
- What are the traits of the best human lifelong learners? What do good learners do?
- How do learners behave with respect to broader learning and achievement goals?
- How do human mentors and counselors guide learners and motivate student to make the best decisions (vs. the easiest ones)?
- What is the appropriate timing for learning experiences? What are the properties of "cognitive readiness" and "learning readiness" and can they be reliably detected?
- When is it a "time for telling" vs. a time for playing/practicing?
- Are there domain-independent learner traits that can be re-used across domains to promote learning? Do *learning styles* exist in a meaningful way?
- How could we tell if a lifelong learning companion is working? How can it be evaluated in terms of its effectiveness to improve learning?