Ubiquitous learning, ubiquitous computing, and lived experience

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Ubiquitous learning

- occurs not just in classrooms, but in the home, the workplace, the playground, the library, museum, and nature center, and in our daily interactions with others
- becomes part of doing; we don't learn in order to live more fully, but rather learn as we live to the fullest
- occurs through active engagement
- no longer identified with reading a text or listening to lectures, but rather employs all the senses - sight, hearing, touch, feel, taste, ...
Questions

- How does ubiquitous computing support inquiry?
- Which media/technologies are best?
- How does ubiquitous learning address educational challenges?
Low-Cost Multi-touch Whiteboard using the Wiimote
Inquiry cycle

Ask → Investigate
Reflect → Discuss
Discuss → Create
Create → Ask
Johnny Lee’s inquiry

play, HCI

- procrast-engineering
- webpage, video
- specs, test
- build devices
My inquiry

Lee’s website

projects, writing

how it works

web, YouTube

colleagues, blog

blog, Wiimote

Saturday, September 11, 2010
Which media work best?

- Plant Pathology course
- Diverse student background & interests
- 19 different instructional media
Media ecosystem

- visual aids: chalkboard, videotapes, overheads, color slides, PowerPoint slides
- web-based tools: website with text, images, and interactive exercises, and quizzes, PowerPoint notes
- face-to-face: lecture, small group discussion, whole class discussion, i>clickers
- paper-based tools: handouts, in class writing, outside of class, review grids
Results
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- across diverse learning styles, majors, and genders, many media were deemed to be useful for all learners
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- usefulness depended on how it fit with others media & course content, how the instructors used it, etc., not on intrinsic properties
- non-science majors found multiple media especially valuable
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[new] social settings eliminate the opportunities of developing those human skills that are fundamentally different from the skills of machines: abilities such as listening, interpreting, instructing, and working out to mutually acceptable accommodations. But it is the skills, more than anything else, that the global village needs. –Ursula Franklin, 2006
An expanded concept of instructional design that includes the purpose of education, the need to teach the person as well as the content, and the importance of the social context of learning is required before we can implement computer-based collaborative learning for the children in our schools. –Wiburg, 1995
What is inquiry?

To feel the meaning of what one is doing, and to rejoice in that meaning; to unite in one concurrent fact the unfolding of the inner life and the ordered development of material conditions—that is art.

–John Dewey, “Culture and industry in education”
Conclusion

- Technologies as both means & ends of inquiry
- Media ecosystem as a whole
- New challenge for the development of “critical, socially-engaged intelligence”