



Can our theories of learning help us understand what people are doing when they learn through interaction with networked, integrated, interactive digital technologies?

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Differences between Old Millennium Learners and NMLs (not age related)

- Appropriation of technology and integration into activity
- Confidence to pursue a personal agenda
- Differential role of 'image' in the activity



Mobility in learning: different dispositions

- OML is more likely to want to 'set time aside' for a learning experience that demands depth of concentration - learning is hard work, and the rewards come later
- OML is like to want to sit still, installed at a desk or a table, or at least an armchair
- NML is more likely to be fitting learning into small opportunities of time in their life
- NML is more likely to cope with learning on the move



Mobility in learning: what is the effectiveness?

- Case unproven
- Our thesis is to put mobility at the heart of a theory of learning which is complementary to existing theories of infant, classroom, workplace, informal and formal learning
- Increases our understanding of how learners organise their learning strategies and maintain coherence, transferring knowledge and skills across time and place
- What then does mobile learning look like?



What must our theory address?

- Learners continually on the move - in space, in time, in topic, and in technology
- Must embrace learning that takes place outside classrooms and lecture halls.
- How do people create the space for such learning?
- Take into account ubiquitous use of personal and shared technology
- Based on contemporary accounts of learning ...



Effective learning is defined as:

- Learner centred:
 - it builds on the skills and knowledge of students, enabling them to reason from their own experience
- Knowledge centred:
 - the curriculum is built from sound foundation of validated knowledge
- Assessment centred:
 - Assessment is matched to the ability of the learners, offering diagnosis and formative guidance that builds on success
- Community centred:
 - Successful learners form a mutually promotive community, sharing knowledge and supporting less able students

– *US National Research Council 1999*



Where does that take us?

- Social constructivist approach:
 - Learning is an active process of building knowledge and skills through practice within a supportive community
 - Comprises not only a process of continual personal development and enrichment, but also the possibility of rapid and radical conceptual change



New Learning New Technology



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- **New Technology**
 - Personal
 - User centred
 - Mobile
 - Networked
 - Ubiquitous
 - Durable



Convergence of Learning and Technology

- New Learning
 - Personalised
 - Learner centred
 - Situated
 - Collaborative
 - Ubiquitous
 - Lifelong
- New Technology
 - Personal
 - User centred
 - Mobile
 - Networked
 - Ubiquitous
 - Durable



How should we test our theory?

- Is it significantly different from current theories of classroom, workplace or lifelong learning?
- Does it account for the mobility of learners? (in all its forms?)
- Does it cover both formal and informal learning?
- Does it theorise learning as a constructive and social process?
- Does it analyse learning as a personal and situated activity mediated by technology?



MOBlearn studies: expert view

- It is the learner that is mobile (or the data) rather than the technology
- Learning is interwoven with other activities as part of everyday life
- Learning can generate as well as satisfy goals
- Control and management of learning can be distributed
- Context is constructed by learners through interaction
- Mobile learning can both complement and conflict with formal education
- Mobile learning raises deep ethical issues of privacy and ownership



Vavoula's study of mobile learning

- March-August 2004
- Diary study
- 44 participants registered
 - 15 kept diary for 2 weeks (161 episodes reported in total)
- Definition of mobile learning
 - “Learning away from one’s normal learning environment, or learning involving the use of mobile devices”



Results

- 59% of the reported learning episodes were mobile
- 49% were not in home or office
 - 8 outdoors, 34 workplace, 10 place of leisure, 3 friends' house, 1 public transport, 23 other (e.g. places of worship)
- Most learning was to enable activity (40%) and/or solve a problem (15%)
- 95% of mobile (and 90% of non-mobile) learning was non-curriculum related
- Conversation was the main learning method of mobile learning (45% mobile and 21% non-mobile)
- Mobile learning involves more activity and interaction than non-mobile



Reconception of learning

- Classroom learning
 - Learning as knowledge construction
 - Supported by ICT
 - How to design and manage an effective learning environment
- Mobile learning
 - Learning as conversation in context
 - Enabled by continual interaction with personal technologies
 - How people artfully engage with their continually changing surroundings to create transiently stable and effective sites of learning



Sources

- John Dewey: Instrumentalism
- Gordon Pask: Conversation Theory
- Yrjö Engeström: Expansive Activity Theory



Conclusions

- We are exploring learning as a cybernetic process of exploration of the world and negotiation of meaning, mediated by technology
- We aim to bridge formal and informal learning in this theoretical conception
- We hope that eventually classroom practice will be able to deal with mobile technologies in ways that support teachers and children in pursuit of learning