European Research Workshop on Understanding and rethinking the technology-mediated workplace

University of Liège, Château de Colonster

Dates: October 26-28 2005

Despite the tendency of digital technologies - especially in their initial phases - to deskill the workforce, it is fast becoming clear that there are new skills and knowledge that are demanded by its introduction. To work effectively, maintain competitiveness and to work cooperatively and where required, innovatively, requires continual learning.

In the field of technology-enhanced learning, there is a need to clarify what learning means in a work context? What is the role of online learning and communication? How do companies create and manage knowledge? How do they utilize these resources in the innovation process? These and similar issues will be explored during the research workshop.

Aims

The workshop will address how the practices of learning in workplace and the knowledge required for work are transformed by technologies in different contexts. Several aspects of work are concerned being cognitive, social and organisational.

Within the development of new information and communication technologies there is a growing interest in creating new forms of
interactions and interfaces that are better usable and more natural, “that enable to reach beyond the screen that separates the real world from the virtual model”. Creating a context for experience and learning, offering the user a context in which he may enjoy his work with all his senses, these are today crucial issues.

The workshop aims to address three main topics through several questions:

**Presence and interaction**
How developments in enabling technologies such as multimodal interfaces, computing and networking intent to support immersive systems are changing our sense of ‘being there’. Different systems are starting to be developed to support different levels and types of presence and interaction. We will also explore how training environments stimulate a combination of actions, emotions and knowledge.

**Action, perception and tangibility**
New technologies create new types of representation for work. These external representations partly structure the tasks taking place in these new informational environments. The issue of the impact of these new representations, mostly digital, will be investigated:
- The way of object representations modify knowledge about these objects
- How new technologies create new ways to perceive objects and, and how these new perceptions modify actions. For instance in several working environments the introduction of 3D is increasingly changing the conditions of actions and perception
- How digital representations can substitute or complement other perceptual modalities

On the other hand, the design of new instruments in particular aspects related to their tangibility, simplicity and transparency transforms the learning process. Instruments are not anymore known for themselves, but become learning vectors for tasks and objects of tasks.

**The nature of the Knowledge required in technology-rich workplaces**
A Technology-Enhanced Learning (TEL) environment means not only the technological device but the complex whole constituted by the machinery, its users, as well as its environment. The design of new learning situations has to take into account the news knowledge aspect in this context. It is thus necessary to develop a new perspective on:
- The design for a complex domain involving both explicit and tacit knowledge
- The concept of situated teaching which takes into account the specificity of learning situations better adapted to stimulate the evolution of the diagnosed conceptions toward the intended learning outcome.

This kind of technology-enhanced educational device must integrate an explicit representation of knowledge. One of central questions is how the educational system would be able to produce relevant feedback to the
user. This means feedback which is linked to an interpretation of the user’s actions in terms of used knowledge.

Additionally, within the technology-mediated workplace, the boundaries between knowledge and learning and in turn, learning and working are constantly shifting. The apparently disappearing distinction calls for rethinking established norms, practices and models, perhaps in examining the interactions linked to personality and cultural aspects of collaboration.

**Organisation of the workshop**
The workshop will be organised in thematic sessions and will include:
- Presentation of research activities by participants and invited speakers
- Respondent’s comments on the papers
- Groups discussions (based on 2/3 focused questions)
- Panel session including industrial partners will focus on ‘Policy & Practice’ issues in the workplaces
- Poster Presentations’ by PhD students, and junior researchers will accommodate for exchange of ideas/practices
- Demonstration of systems prototypes.

**Submission**
Presentations are open through a call for participation and papers or presentations. Paper submission in pdf or doc format to m.marechal@ulg.ac.be by July 11\textsuperscript{th} 2005. Papers can include extended abstracts, demo/working papers or full papers not exceeding 6 pages, or be in form of poster presentations. Selected presentations will be proposed for publication in a journal special issue.

**Important dates**
Submission : July 11\textsuperscript{th} 2005
Acceptance Notification : August 26\textsuperscript{th} 2005
Workshop : October 26-28\textsuperscript{th} 2005

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