Call for proposals.

Learning technologies for vocational training

DUAL-T is a leading house funded by the Federal Office of Labour (BBT/OFFT). It conducts research on the use of learning technologies in vocational training. This leading house currently includes 3 research projects. This call for proposal invites institutes across Switzerland to submit a fourth project that aims to expand the existing developments across new contexts.

Current work.

The DUAL-T leading house conducts research on the relevance of learning technologies for vocational training. Our main hypothesis is that these technologies should specifically address the gap that exists between the school and the workplace. The 3 projects share a common approach to learning technologies. This approach can be summarized in 5 points:

- Technologies are designed for supporting learning *activities*; we do not focus on the management and delivery of on-line contents.
- These target activities integrate *multiple* modes of interactions: with and without computers, at distance and in co-presence settings. Computer-based activities are integrated into broader training scenarios. Teachers play a central role for orchestrating the integrated learning scenarios.
- These target activities are built around social interactions among students, in small teams of the whole class, and interactions with the teachers and work supervisors.
- As the target activities produce digital objects (e.g. pictures collected in the companies where apprentices work), the management and reuse of these *emerging objects* affords new forms of learning activities.
- The diversity of professional contexts for student in the same class and the mobility of students *across contexts* afford new forms of learning activities.

These 5 points constitute what we refer to as *integrated learning* framework. Given this framework, our research projects do not focus on a single type of learning technologies (microworlds, hypertexts, …), but develop different learning scenarios / technologies specific to 3 contexts of apprenticeship.

- Context 1 concerns car mechanics working in a garage. We investigate which types of help requests are expressed by the apprentices, when and to whom they ask for help and how they know they need some help. A pedagogical scenario we are developing is to record help requests with mobile technologies and to use them later on as teaching material. We also explore how technologies may support the help seeking process, by raising awareness of the need for help and/or by facilitating the access to helping persons. The technology used so far is mobile phones. This project is developed by Prof. Gurtner and his team at the University of Fribourg.
- Context 2 concerns dental assistants. We investigate how technologies may enhance the process of reflective writing with social interactions such as peer

commentaries. In the pedagogical scenario we are developing, a student who encounters an interesting professional act on her workplace would share this experience with her classmates, combining the notion of work diary and the knowledge forum approach. The technology used is a web-based community portal. This project is developed by Prof. Betrancourt and Dr. Schneider and their team at the University of Geneva (TECFA).

- Context 3 concerns logisticians, e.g. warehouse managers. We investigate how technologies may bridge the gap between their daily concrete experience and the more abstract objectives pursued at school. In the scenario we are developing, the apprentices build on a table a mock-up of a warehouse and which teachers ask them to optimize goods storage and transfer. The technology used is an augmented reality tabletop environment. This project is developed by P: Jermann and P. Dillenbourg and their team at EPFL

More details on each project is available under http://dualt.epfl.ch. The leading house is coordinated by P. Dillenbourg (EPFL)

Objectives for the 4th project.

The three first projects have adopted design-based research as the main method, evolving from highly contextualized solutions to their transfer across different contexts. This call for projects concerns this second phase: Experimenting in new contexts the pedagogical scenarios that have been carried out in the 3 contexts described in the previous section. The word "context" refers both to the professional context (health, industry, commerce, ….) and to the linguistic context (expand to the German and Italian speaking parts of the country).

The members of the 4th project are expected to work collaboratively with the members of the 3 first projects in order to adapt the existing scenarios and technologies to new contexts. At the end of this adaptation phase, a more detailed research plan will be elaborated.

Procedure

Contents: The proposals should include the following items: 1) The applicants' research experience on vocational training and/or learning technologies (projects, publications, …). 2) The new contexts in which they intend to transfer the existing pedagogical scenarios, including their contact with the vocational schools concerned. 3) How they envisage applying the scenarios and technologies to the next target contexts. 4) The name and profile of researchers who would be working on the project. 5) A budget (salaries, travel, …). 6) Administrative details (affiliations, contact, …).

Format: Proposals have to be submitted as a single PDF file to Pierre.Dillenbourg@epfl.ch. The reception of the proposal will be confirmed by email. The maximal length is 8 pages. The funding that is theoretically available is around 200 KCHF.

Deadline: Submission up to November 21st 2007. The project should run from March 2008 and April 2009.

Selection: The proposals will be reviewed by the scientific board of the leading house, (6 international experts). The final choice will be submitted to OFFT/BBT for approval.

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