Group Reflection Tools for Virtual Expert Community - REFLEX Project

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Hakkinen, P., Jarvela, S., & Dillenbourg, P. (2000). Group Reflection Tools for Virtual Expert Community - REFLEX Project. In B. Fishman & S. O'Connor-Divelbiss (Eds.), *Fourth International Conference of the Learning Sciences* (pp. 203-204). Mahwah, NJ: Erlbaum.

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Abstract: The aim of this project is to improve work quality, creativity and performance in various professional communities of knowledge-intensive companies by integrating teamwork and learning in collectively designed information spaces. This project will provide a pedagogical model for building and sharing expert knowledge within physically distributed teams that have a need to collaborate and co-ordinate information. The project will utilize latest information and communication technologies in developing tools to support reflection of group processes and building of virtual expert community.

Keywords: distributed learning environments, learning communities, reflection, workplace learning

Introduction

Different kind of mediated communication and web-based environments have recently become part of training and working settings. However, there seems to be an assumption that any possible web-based interaction is valuable in terms of training and work. At the same time, most research on the use of web-based communication tools still lacks theoretical grounding in contemporary learning theory (Koschmann, 1994). Our own studies indicate that the quality of meaningful web-based interaction varies a lot (Dillenbourg, 1999; Järvelä & Häkkinen, 1999; Saarenkunnans, Järvelä, Häkkinen, Kuure, Taalas, & Kunelius). Recent development in organizational learning integrates learning theories into a theory of knowledge management and describes novel models for organizational knowledge creation (Nonaka & Takeuchi, 1995).

Despite the fact that current technologies enable to circulate infinite amount of information, knowledge intensive organizations complain concerns in the extent to which knowledge is actually shared, especially among physically distributed teams. When team leaders are trained to acquire new specific knowledge, this knowledge is only seldom distributed to the rest of the team. It can be, however, assumed that building new knowledge and innovations in complex areas cannot lean purely on individual learning, but it is a collaborative effort and commitment to shared goals. Further, a large part of experience remains individuals' tacit knowledge - it is not explicitly shared and is lost when experts leave the company. The question then arises how to organize and manage the continuously changing knowledge in a way that it supports development of shared expertise. Information technologies have opened up new possibilities in developing new kinds of training and working solutions.

Goal

The aim of the poster is to describe goals and procedures of the research project in progress. The project aims to improve work quality, creativity and performance in various professional communities of knowledge-intensive companies by integrating teamwork and learning in collectively designed information spaces. This project is based on authentic problems of work contexts in knowledge-intensive companies, and it will provide a pedagogical model for building and sharing expert knowledge. The project will utilize latest information and communication technologies in developing tools to support reflection of group processes and building of virtual expert community. We are working with a large telecommunication company, particularly with physically distributed teams that have a real need to collaborate and co-ordinate information. Further, several sub-teams have to negotiate about interfaces in order to successfully complete the project (see Figure 1).

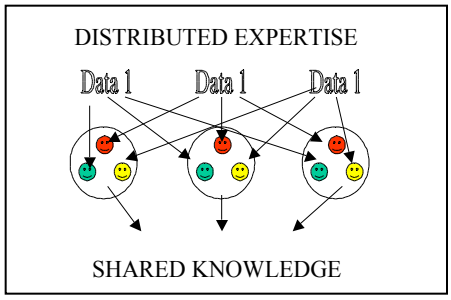

Figure 1.

Measures

The following approaches are considered as particularly important when supporting virtual community-building.

Reification of Group Processes

Learning at work means that users are trained in their actual working environment, on the tasks they face everyday, and with the tools and the colleagues that are part of it. Training is not seen as a specific activity but as a reflective process of their professional practices. We hence propose a training methodology based on the reification of group processes, in other words on providing concrete representations of group processes to facilitate reflection and reflective interactions among users.

Information Spaces

Group processes are not represented at the superficial level only (e.g. who e-mails to who) but at the information level. Teams inhabit information spaces which are functionally defined by the tasks that the team has to fulfill. Training aims to improve the way a group organizes this space and how it organizes itself into space. Group processes will be reflectively discussed when users negotiate the architecture of information space, its urbanistic rules, its territories and so forth.

This project aims to capture training as the ecology of virtual information space inhabited by working teams. We hence apply a participatory design approach in which we provide teams with tools for representing their information space. The tools are as open as possible enabling some teams to represent their information space as a physical space (rooms, buildings, streets etc.), and enabling other teams to look at any other creative representation of space. The team members discuss the ways of improving the team performance or its quality: e.g. re-organizing the task allocation or redesigning how knowledge is shared. The researchers articulate these demands around the information space. The starting point is the technology being used by these teams for communication and knowledge management in their everyday work practices. During the process, this technology will be enriched with specific functionalities that help to identify and share tacit knowledge by making collaborative processes visible through concrete representations of these processes. Tools are developed as prototypes including continuous adaptation, and they will be integrated in a common technological environment to be executed on any standard web browser.

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