Ethnomethods as Resources for Developing CVEs in the ITCOLE Project

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INTRODUCTION

ITCOLE is a project funded by the European community aimed at designing software for collaborative knowledge building supporting a virtual learning community. The software is designed so to represent metaphorically the model of Learning by Inquiry. In this paper we propose a methodology to assess the contextual uses of the software, as to further develop synchronous communication tools.

ETHNOTECHNOLOGY AS A RESOURCE FOR TOOLS DEVELOPMENT

Synchronous communication fits the requirements of recent advances in educational research. Studying learning processes, even more when they occur in collaborative contexts, can benefit from the study of "emic" descriptions (Duranti, 1997) of the context itself. An emic description is the reconstruction of the meanings valuable within a community in the way that is explicitly expressed by the members during the interaction. Thus, studying synchronous communication allows the recording of the mediated forms of talk during the interactions. Furthermore researchers are allowed to describe, in an ecologic way, how the learning process proceeds during the collaborative work at a distance.

Ethnomethodology and discourse analysis (in that it allows emic descriptions of interactive contexts), integrated by the recent methodological research about on-line interactions, are now considered as the appropriate methods to analyse data from synchronous communication. From a methodological point of view, this implies the analysis of the negotiation of shared meaning in the discursive interaction within members, while they occur. This can also allow the study of interactions in mediated talk within not-experimental settings, like in spontaneous educational communities. Conversation and discourse analysis look for order and regularity in human actions, in the place of they observable intersection, that is in the ways in which persons organize their encounters with others, in the ways they regulate the shared activity and with which attribute meaning to artefacts, even technological, with which they interact (Schegloff, 1989). The discursive perspective (Duranti, 1997) is able to grasp the social complexity of the negotiation practices, considering as the unit of analysis the activity system of the community (instead of single individuals). Communities use technology in their social and material context, attributing to them shared meanings that are developed and defined through the continuous negotiation of their possible uses (and not-uses), benefits, disadvantages and peculiarities. This negotiation process explains how the use of each technology is shaped and developed by different communities of practice. Pre-existing shared practices act as essential mediators among the intended (by technical developers) meanings of technology and their actual use in the daily practice of each specific community. In this perspective, virtual environments are not a substitute of the real experience. In virtual environments the interaction is closely related to life out of the screen. Virtual environments are not something different from real life, but rather, a follow up of the reality based on the additional resources coming from the interaction at a distance (Carlini, 1998**)**. The use of "community" as central unit of analysis of cultural ergonomics research leads to consider human action as always built by answering to other persons, in social contexts of inter-subjectivity (see: http://www.vepsy.com/communication/book1/cap11.pdf)

As Grossen and Pochon (1997) propose, there is actually a need for the development of an *ethnotechnology*, a specific field for studying the impact of technology raised from the observation of a mismatch among the users' way of tools' implementation and the functions for which the developers had planned them (Gaudin, 1988). Ethnotechnology is so conceived as the ethnographic study of the concrete usage of technological solutions. Perriault (1989) developed the concept of logic of usage ("logique de l'usage") in order to define the function that users assign to the technology. The logic of usage can differ significantly from the one that the developers followed while developing the tool itself.

Grossen and Pochon (1997) highlight the following issues: (a) human-computer interaction consists "of an indirect dialogue between users and designers"; (b) This sort of "indirect dialogue" is the result of an interpretative activity based on reciprocal assumptions on each others representation of the tool's functions; (c) The "indirect dialogue" is developed in a specific context (p. 283). The ethnotechnology, allows the re-construction of an "emic" description of the meanings that

users ascribe to the logic of usage of proposed tools. From this point of view, ethno methods are certainly useful to describe in an ecologic way the context (even in its technological feaures) as the participants perceive and define it. Moreover, an innovative use of the ethnotechnology can be foreseen by implementing the Conversation and Discourse analysis as tools for checking and improving the usability of technological devices in a situated way. Ethnomethods highlight also the role played by the additional resources in the interaction within the CVEs. Through conversationa and discourse analysis, it can be observed how those additional resources (for instance the graphical dimension or the chat on-line) can be used in a strategic way during the interaction at a distance. Recent studies (Talamo and Ligorio, 2001; see also Talamo and Ligorio, 2001 available in:

http://susanna.catchword.com/vl=7522993/cl=38/nw=1/rpsv/catchword/mal/10949313/v4n1/contp1-1.htm), show how specific aspects of visual interaction, such as the visualization of the virtual objects or the embodiment of the users in the *avatar*, are rhetorically made salient during the interactive discourse, depending on the content discussed or on the goals participants have in mind.

TESTING MEMBERS' USAGE

We plan to use Conversation analysis for testing some functionalities of the ITCOLE environment. Conversation analysis allows to investigate some basics aspects of interaction in technological environments, such as: (a) the interactive functionality among users; (b) the interactive functionality between users and the technological solutions developed, (c) the users' interaction with virtual objects; (d) the tutoring functions of teachers and project managers, (e) how the leading learning theory (learning by inquiry) is perceived by users.

The qualitative data are then actively included in planning strategies as resources for connecting developers' representation of users' need and expectations, and to make the tools more effective. Some examples will be provided during the presentation.

Based on these assumptions, the methodology chosen in designing the ITCOLE software takes in account contributions from the users' experience of the synchronous environment. Usually, the external representation of objects included into the interface is completely in charge of the software designers. In the ITCOLE project the way in which users implement the software is intended as their "voice" in designing the technological environment.

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