Chapter 10
Development of a Transnational Framework for E-Learning Technologies

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ABSTRACT

This case study looks at the creation of a Transnational Framework for e-Learning Technologies. It describes how the original study which aimed to "Develop a Framework for e-Learning" through a given exemplar in a United Kingdom institution, has gone through several iterations. From initially considering e-Tutoring/e-Moderating from a Human-Computer Interaction (HCI) point of view, to the adoption of Blended Learning as a solution to problems revealed by the Framework. Proceeding to evaluate e-Learning in terms of PESTE (Political, Economic, Social, Technical and Environmental) factors, restated here in the form of STEP (Social, Technological, Economical and Political) factors, which led to the realization of major external issues for e-Learning. Most recently, the study evolved to revisit e-Learning from an HCI and Computer-Supported Cooperative Work (CSCW) perspective, by applying a Cooperative Work Framework. The resulting final incarnation, a Transnational Framework for e-Learning, is thus presented.

ORGANISATION BACKGROUND

The University under reference is a large modern university in the UK with more than 25,000 students and 2,500 staff, offering approximately 1,000 different courses. It typically generates around £20 million in research, consultancy and enterprise activities annually. The School of Computing and Mathematical Sciences (CMS), within this University, has a range of interdisciplinary and multidisciplinary research consisting of some 80 plus cooperating researchers. It attracts considerable funding from the EU and UK government departments and agencies and is currently involved in many substantial industrial collaborations. It has won many awards for its work such as the Queen's Anniversary Prize for Higher and Further Education, the European

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IST prize, and has been a British Computer Society Gold Medal winner.

Students attending the University mirror the local populations and are therefore extremely diverse in terms of ethnicity and culture. This applies equally to the School which has a predominantly male contingent. Student ability varies but is reflective of most universities, with very strong and very weak students and an increasing absence of the middle of the Normal Distribution.

The development of the Transnational framework was initiated whilst at the School of Computing and Mathematical Sciences, of the university, and uses Teachmat, the School's in-house system, as a case study exemplar.

SETTING THE STAGE

The work began as an academic study initially considering e-Tutoring/e-Moderating from an HCI point of view, inspired by reports that the main reason for the failure of the United Kingdom eUniversity (UKeU) was attributable to the lack of research into potential customers' needs and a "supply-driven approach" (Sammuels, 2005). This was one of many examples of problems with the development and employment of e-Learning at that time. The investigation was further motivated by comments by Mason and others. Mason (2004) states that:

There is absolutely no evidence that learners are able or willing to do without teachers, no matter how well designed the materials, how extensive the resources or how 'just in time' the learning. The fundamental role of the teacher or tutor has not changed but the mode of operation has.

This view was supported by experiential data from students on Information Systems, Multimedia, and Computer Science programmes within the organization's (university's) School of Computing and Mathematical Sciences (Jones, 2004) insisting on no more than thirty percent of their courses in total (their management, content and delivery, etc) be "e".

A complete timeline (historical summary) for the case study follows. This summary also constitutes a generic template for a Transnational Framework for e-Learning Technologies, and the 9 stages involved:

1. Creation of a diary "synthesis of common interaction examples that constitute teaching and learning" (Figure 1) within the organization.
2. Generating from 1 above a list of "activities and skills required for Tutoring and e-Tutoring" (Figure 2).
3. Mapping the skills required for e-Tutoring against Salmon's (2004) stages in the "Framework for supporting e-Tutoring" (Figure 3), determining the "knowledge to be acquired" and the "action to be taken" for the organization, for e-Learning within the organization.
4. If necessary, revisiting activity 3 if blended learning is/becomes prevalent within the organization.
5. Evaluating e-Learning within the organization in terms of STEP or PESTE factors, which may be completely external to the organization, and yet have significant influence.
6. Take a Computer Supported Cooperative Work view of the organization's e-Learning technologies:
   (i) Instantiate "a time/space matrix" (Figure 4).
   (ii) Apply a "Cooperative Work Framework" (Figure 5), instantiating the roles of participants and artifacts, identifying where and in what form feedback, control and understanding occur.