

# LEARNING TECHNOLOGIES

*Technology Supports Cross Cultural Education*

## ORGANISATION

### MANAGING ELNET

This Case Study incorporates elements of a paper presented at the 'Current and Future Developments and Applications of Technology Based Training' Conference, held in Coventry in February 1991. It addresses issues relating to the management and control of ELNET – a 'virtual' European college.

#### Parameters of the ELNET Project

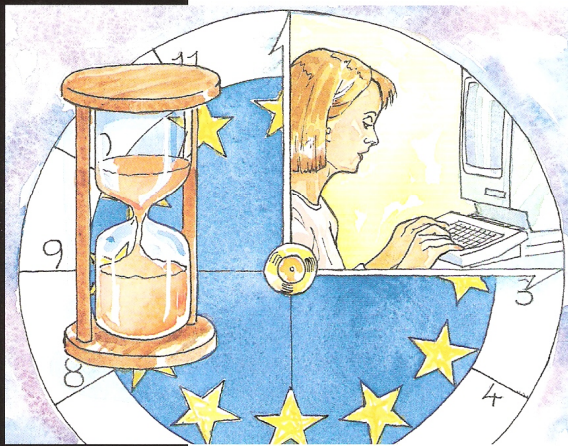
ELNET involved over 300 students and tutors and encompassed 15 sites in the UK, France and Germany. There were two distributed

hosts and 3 public X.28 dial-up networks in the three participating countries. CECOMM was the organisation responsible for managing the project.

The focus of this study is not the technical implementation issues, but rather the issues associated with managing cooperating groups at a series of levels:

- learning group (tutor coordinated)
- set of learning groups (tutor/ELNET team coordinated)
- ELNET as a 'virtual college' (ELNET team coordinated)
- closed user groups including ELNET (CECOMM coordinated)

The first two levels are concerned with the management of learning, while the second two involve institutional management.



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**Management of Learning**

This involves the management of interaction between students and tutor and between students and students in tackling formal learning tasks. In telematic environments this means establishing levels both of student interaction within conferences and of wider group interaction.

**Organisational Management**

This involves the management of learning groups and their tutors at the level of the organisation. Within ELNET, this means all the learning groups across the UK, France and Germany. Management of the system included setting up and deleting users, controlling group and individual access to areas, monitoring levels of usage on distributed hosts and controlling and monitoring access routes.

In this respect, ELNET is the coordinating medium for itself as well as being the delivery medium.

**ELNET: A Distributed Learning System**

ELNET is a non-physical learning organisation, coordinated largely via telematics. The basic elements required for a distributed learning system (DLS) were already present in ELNET, but the system had to be carefully organised and managed.

The general pre-conditions for DLS include:

**a) Telematic Technologies:**

low cost Public Data Networks, low cost Computer-Mediated Communications Systems

(CMCS) with distribution, falling relative cost of PSTN use, falling cost of personal computer hardware and software

**b) Pedagogic Elements:**

open learning and other approaches

**c) Contextual Elements:**

political conditions, demography, European and wider markets

The ELNET project highlighted specific technical issues, problems and potentials, many of which are associated with the implementation of CMCS systems in multi-site, multi-lingual environments.

The central issues are:

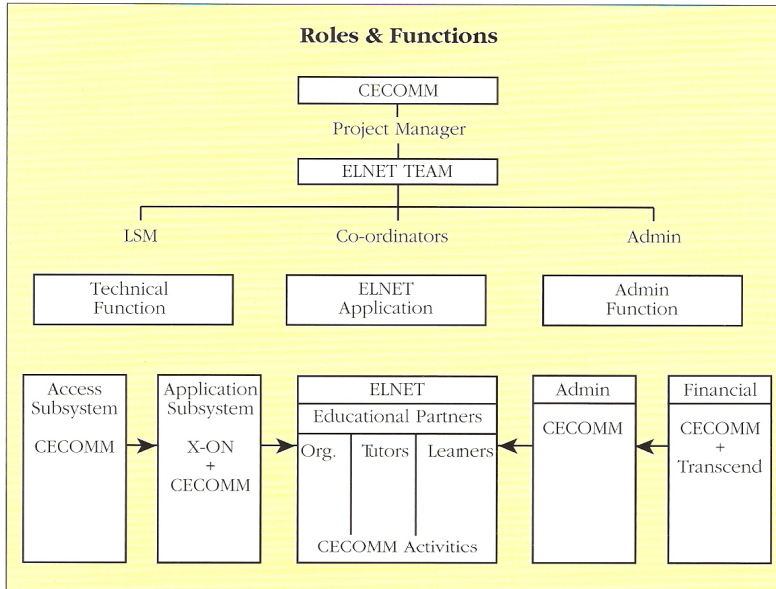
- Telecommunications Infrastructure
- Software Tools
- Hardware Availability

**Telecommunications Infrastructure**

National and International telecommunications systems have now developed so as to provide widespread and inexpensive access to Public Switched Telephone Networks (PSTNs) and Public Data Networks (PDNs). Development in wider bandwidth telecommunications technology in the near future will further enhance the availability of, and features offered by, national and international networks. Datacommunications technologies can now make full use of these networks.

**Software Tools**

Sophisticated CMCS software tools were further developed in ELNET. These are highly flexible, allowing them to be moulded to disparate



learning/training environments. Computer conferencing, for example, provides an environment where familiar conceptual frameworks for learning can be replicated and teaching methodologies tested and applied. In addition, software has also reached a level of sophistication that enables non-specialist users to access virtual learning/working environments without investing a great amount of time in acquiring computer-based skills.

Computer conferencing hosts can now communicate from distributed sites. This enables both national and international hosts to operate in a coordinated and coherent manner. More importantly, this is transparent to the user who is able to operate in a local/national mode within a distributed international universe.

**Hardware Availability**

The falling costs of computers, and computer peripherals, combined with the developments taking place within computer-based telecommunications tools (high-speed modems, enhanced data transmission protocols, improved data compression and error-checking techniques) make network access readily available to widespread markets.

**The Management of ELNET**

CECOMM coordinated ELNET via its telematic systems. The core staff of ELNET ran a series of closed conversations which enabled them to coordinate their actions and the operation of the organisation. The latter is an example of a 'shamrock' organisation with a small core

## L E A R N I N G   T E C H N O L O G I E S

team, facilities providers under contract and a flexible teleworkforce.

The protagonists at the heart of the management of ELNET were:

**CECOMM   project management**

network access provision and communications software X-ON Software, London & ELS, Paris: facilities management

**ELNET   Learning Systems Manager**

Coordinator UK/France

Coordinator Germany

Local Coordinator – 15 sites in UK, France and Germany

Tutors – UK, France and Germany

A range of closed conferences was developed (some incorporating automated administrative routines – for example, auto ID setup/delete) at various levels to manage this infrastructure.

**Conclusion**

Managing a Distributed Learning System is a complex exercise. It requires detailed technical knowledge, sufficient domain expertise, adequate planning and good management skills. For this reason, its adoption by a traditional learning organisation must always have the back-up of expert advice and assistance.