

Distance Learning: Eurostat's Activities

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Résumé

La formation en distance est un type de formation qui devient de plus en plus commun et remplace efficacement, dans certains cas, le type le plus traditionnel de l'école. Il est défini comme la formation où les instructions sont données quand l'enseignant et l'élève ne sont pas au même endroit et ils peuvent même être séparés en ce qui concerne le temps. Malgré le grand nombre des cours disponibles, il semble qu'aucun cours n'est pas disponible pour des statistiques officielles. C'est pour cette raison qu'Eurostat a stimulé la recherche à cette domaine. CATS et VL-CATS sont 2 projets qu'ils sont destinés à ce but.

1. Introduction

An important development of the educational and training activities today is the so-called distance learning. This is defined usually as *the formal educational process where the majority of the instruction occurs when the learner and instructor are not in the same place and are often separated by time*".

There are many ways of learning outside of the classroom environment. Early distance learning facilities involved the communication between instructors and students using the normal mail system. Yet, with the ever-growing penetration of the information society in everyday life, this type of distance learning has been evolved into web-based audio/video modules, desktop videoconferencing, teleconferencing, closed circuit television broadcasts, email correspondence, videotapes and audiotapes, etc.

EUROSTAT is particularly interested in the learning activities concerning the statistics field and more particularly the official statistics specialisation. For this purpose, the distance learning techniques as applied to the teaching of statistics is one important target area.

2. State of the art in distant learning in the field of statistics

There are various tools available nowadays for distant learning that cover a wide range of scientific fields and specialisation:

- On line courses
- On line textbooks
- Tutorials

- Handbooks
- Virtual libraries
- Other educational products

Of course, one has to admit that not all of these categories of tools fall exactly into the definition of distant learning, as given in the previous section. They involve instruction that occurs when the learners and instructors are separated by place and time but they do not necessarily provide some formal training or an interaction between instructors and learners. On the other hand, home learning does not involve always a teacher ready to answer questions, apart of those Frequently Asked Questions (FAQ) and solved exercises, usually at the end of the book.

Searching for distant learning tools in the field of statistics can result in the listing of a considerable number of tools. It should be pointed out, however, that it looks as no tools are available for **official statistics** in particular, apart of those developed in the context of EUROSTAT's finance programme of research activities in official statistics.

3. The CATS and VL-CATS projects

3.1. The initial CATS project

In the framework of its research involvement EUROSTAT, as early as in 1998, provided the finance for the development of a Computer Assisted Training System (CATS) prototype to be used for the teaching of statistics. The now completed CATS project had a twofold goal:

- To re-enforce the availability and diffusion of computer assisted training systems for statistical training in Europe, focusing particularly to the former Eastern European countries and
- To raise awareness with respect to Computer Assisted Training Systems (CATS) and to promote the common use of tools and the exploitation of common training means in every domain of statistical training.

The geographical, linguistic and cultural disparity of the European market along with the diverse needs for statistical training and the diversity of the envisaged solutions offered by CATS suppliers necessitates such an establishment of effective communication channels and infrastructures.

The developed prototype system is based on the CIRCA software (Communication & Information Resource Centre Administrator), which fulfilled the identified requirements. That "final" prototype is an enhanced version of CIRCA with new facilities added and some of its current facilities modified, as dictated by the feasibility study and the requirements analysis of the CATS network.

As it stands, the CATS system provides scalable management and administration tools to the tutors for the creation and operation not only of single courses, but course catalogues, enrolment and registration procedures, record-keeping logs, and scheduling mechanisms. The system is developed on open standards so that all the activities of course design, instruction, business management and course administration can be shared among tutors that provide content, customisation, hosting infrastructure, and other services that constitute a complete solution.

3.2. The new VL-CATS project

Following the successful completion of the CATS project, beginning 2000 a new distant learning

project, the so-called VL-CATS project (Virtual Library for Computer Assisted Training in Statistics), was initiated.

This new project aim at creating a novel distance training service as well as at providing electronic shop services by distributing electronic courses over the Internet.

The expected outcome of this project will be a prototype that will demonstrate, in a modular form, all the functionality, which is necessary for the delivery of course material across a virtual classroom. Within this context, it will provide a method for lecturers to create a resource bank of material targeted to their own courses. One of the main advantages of the currently developing pilot system will be the delivery of an attractive interactive presentation tool through which the students will be able to explore in a more interactive manner than the traditional "linear" structure of a statistical book.

The first action line concerns the development of VL-CATS functionality, where it is expected to have a customisable user-friendly dynamic Graphical User Interface (GUI) that enables the users to interact with the system in an attractive and efficient way. This is important because lack of user-friendliness may prove an impeding factor to end-users, especially if they are undergoing training processes. Furthermore, this system which will be used will provides a three-level multilingual support concerning both the GUI, the attributes of the data and finally the actual data themselves in three linguistic versions (EN, FR, DE). Another important point is also that it is equipped with an extremely flexible and advanced user access rights model that allows customisation to the specific needs and structure of the work group. A typical customisation would be the provision of personal repository space to each student, where only the particular owner and its tutor may have 'write' access while it is transparent to the other students. Particular services that will be supported by the VL-CATS software prototype will include user directories, document repository and newsgroup services, versatile access control, 'chat room' services, calendar service, etc.

Expected Results

VL-CATS will build a Virtual Library that will evolve to a reference Web site on official Statistics that will accommodate:

- Links to: journals, universities, free statistical software on the web, universities, national statistical institutes, companies that produce statistical software and/or provide statistical databases, various announcements (conferences, events, etc.)
- free literature on various statistical subjects with a separate section treating official Statistics
- multimedia training modules for professional training that may be used to compose courses in subjects of interest to official Statistics

System Functionality

The system will provide two types of work groups, 'class' and 'ordinary' groups. Work groups of the ordinary type will provide library and newsgroups services only. Workgroups of the class type will provide the full range of services, as detailed in the previous section.

In the following, we describe the functionality that will be provided in the various system services.

Library

Any user with an appropriate authorisation will be able to upload documents to the library. Every document will be accompanied by (meta)-information that will facilitate searching. The library will be able to accommodate multilingual documents.

It is also envisaged that students will have access to a personal library directory where they will be able to submit their coursework/assignments. Tutors will also have access to these directories for marking assignments and placing private notes for students to review. This personal space, however, will not be readable by other students for confidentiality and intellectual property rights protection purposes.

Tools for students

Students will be able to navigate through the course plan entries in order to review the course learning objectives, check assignment deadlines, and review the course syllabus and assignment objectives. From this section, they should be able to enter a repository of study material and course work (the virtual library) in order to review the resources connected to the individual course plan assignments.

The virtual library will be providing private space for each student, which will form the knowledge-base repository for any course to be delivered. The content and study resources needed to fulfil the assignment objectives of a course will need to be hosted in each student's personal library service, which be accessible to authorised tutors.

Both students and tutors will be allowed to attach notes to a document or newsgroups entry, as they would do in the margin of a book in a traditional classroom.

Tools for class administration

One of the characteristics of the education modules undertaken by students is whether they are obligatory or optional. New class profile types will be introduced so as to cater for the administration of the course. This functionality has particular long-term benefits, as the weight of the performance of a student on a particular module will depend on this attribute as well.

Ad hoc progress reports will be generated for the tutors to assess their student performance as they progress through the course. It will also be possible for the tutors to review both the class' and each student's test results and performance in a tabular format and receive a general overview of course attendance.

Deadlines could be reviewed by the system for each student and provide automatically generated reminder notifications, as well as the URLs to the appropriate assessment modules. An examination test may become accessible to a student upon completion of a set of prerequisites, which in turn may possibly trigger an email notification.

4. Further developments and applications

Eurostat is interested to investigate the possibilities of using distant learning in several topics covering the training of official statisticians. For that purpose, possibilities for financing other categories of distant learning tools are also investigated.