

On-line Course on European Economic Statistics (CEES)

Background Information

The development of high-quality economic statistics, based on common standards that link national statistical systems, is one of the prerogatives for efficient functioning of the European Union. The Statistical Office of the European Union (Eurostat) has been paying considerable efforts to appropriate training of professional statisticians in EU member and accession countries. However, the initiative of training wider (non-professional) audiences (e.g. students of social sciences, government officials, researchers and analysts in both private and public sectors etc.) has been left to the countries themselves.

To fill in this gap, we started developing the on-line Course on European Economic Statistics (CEES) in the beginning of 1998, after financial assistance was granted to us by the Phare Multi-Country Co-Operation for Distance Education Programme officials. The consortium of partners, which was led by the Faculty of Economics from Ljubljana/Slovenia, also included Faculty of Electrical Engineering from Ljubljana/Slovenia, Faculty of Economics and Business Administration from Sofia/Bulgaria (FEBA) and the Training of European Statisticians (TES) Institute from Luxembourg. Throughout the course development period, the experts from the Statistical Office of the Republic of Slovenia acted as our consultants and later on as evaluators. The course development phase was accomplished in 1999.

The course focuses primarily on international statistical standards (as prepared by various UN agencies, Eurostat, ILO etc.) and their implementation in national statistical systems of Slovenia and Bulgaria. It has a modular structure and can be fairly simply adapted to the needs of the users from different European countries (the only building block that needs to be changed is the one called “National Statistical Practice”).

The internal and external course evaluation processes were very comprehensive. Experts from institutions such as Deutsches Institut für Fernstudium in Tübingen/Germany and Sunderland University from England deemed the course excellent both in terms of the contents and the technological and pedagogical support.

CEES was presented to different target audiences at various occasions:

- to **statisticians** and **statistical educators** (e.g. at the session of the International Statistical Institute in Helsinki in 1999; at the IASE Satellite Conference in Cape Town in 2001);
- to **information technology experts** (e.g. at the 1999 EUNIS - European University Information Systems conference in Helsinki);
- to **distance education experts** (e.g. at the 1999 Open Distance Learning Closing Meeting in Budapest) and
- to **users** - teachers and students of business and economics (e.g. at the 1999 CEMS - Community of European Management Schools Conference in Barcelona; at Ljubljana Summer School 2001, 2002 and 2003, etc.).

Challenges & Objectives

When embarking on development of an on-line study course, our main challenge was to design a methodology which would assure the fulfilment of **study objectives** of complex, comprehensive and hierarchically structured contents (inherent in the course on economic statistics) in the flexible, open and non-linear environment offered by hypermedia. Additionally, we aimed to increase the **course flexibility**, demanded by the DE mode

delivery at the Faculty of Economics in Ljubljana. Last but not least, **integration** of students' learning experiences and knowledge (active learning) was one of our primary goals as well.

For effective integration of CEES course contents and ICT a specific course development methodology was applied. CEES software support was based on the **Integrated On-line Distance Education System (IODES)**, which was originally developed at the University of Ljubljana, Faculty of Electrical Engineering, Laboratory for Telecommunications. Adaptation of the Internet-based IODES according to specific CEES course requirements necessitated a thorough on-going co-operation between the course contents developers and software experts.

Results & Future Plans

The CEES course in its present form is an integral university degree course consisting of about 300 pages of text split into 15 topics (or 315 html pages with about 1500 external and internal hyperlinks) in three versions (English, Slovene and Bulgarian), available on different media (in print, on CD-ROM and on-line). The course can be delivered in different formats thanks to its flexibility in terms of the media used, modularised structure of contents and different types of support embedded and is thus applicable for different target groups.

The CEES pilot course version was tested and evaluated by the part-time second-year students of economic statistics at the Faculty of Economics in Ljubljana in February and March 1999. In the academic year 1999/2000, the programme was officially included into the curriculum of regular and part-time second year students. All together, there are yearly about 1500 regular, traditional part-time and DE part-time second-year students who are obliged to take the course on economic statistics with no regard to the chosen study programme at the Faculty of Economics in Ljubljana (therefore, both business and economics students take this course).

In 2003, a major revision of CEES has been undertaken, starting with the update of the Integrated On-line Distance Education System (IODES). As far as modifications of the course contents are concerned, the course developers are currently exploring the possibilities of developing an integral database of multiple choice questions, revising the existing and developing new topics to be added to the curriculum.

Free Advice ...

Technological development nowadays makes it possible for developers of educational programmes (EPs) to choose from a large variety of media when deciding on new course designs and delivery formats. Both simple traditional printed study materials and combinations of various modern information and telecommunications technology (ICT) supported media are available. Relative simplicity, low costs and attractiveness of technological possibilities are often reasons for uncritical and badly planned and executed transfers of educational modules from traditional to emerging media without actually taking into account their characteristics and comparative (dis)advantages crucial for their successful application in the educational process.

Our own developmental efforts, our experiences obtained in the process of distance education (DE) study mode's introduction into a traditional university environment and successful examples in other countries are proofs of the fact that if the technology should be used in EP effectively, it is necessary to define the strategic areas where its use would improve EP's quality level prior to actual introduction of technology into EP.

Issues that should be taken into account are:

- course contents and characteristics;
- course users' characteristics;
- course delivery mode;
- technological, financial and administrative-organisational constraints of the EP development process.

Although the comparative analysis of different media points out the distinct superiority of the on-line textbooks and Internet gradually transforms our society, the fact that many learners don't have access to modern technology shouldn't be overlooked. Additionally, when studying for an exam, students seem to prefer a printed textbook rather than an on-line one. Therefore, the same EPs should be offered on various media: on-line, on a CD-ROM and in a printed form.

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