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EDUCATE - A User Education Program For Information Retrieval And Handling

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Introduction

This paper will describe the development of the EDUCATE programs for the education of information users. **EDUCATE - End-user Courses in Information Access through Communication Technology** - is a project funded by the European Union. There are six universities working on the project: the University of Limerick, Ireland (co-ordinator), Chalmers University of Technology, Sweden (administrative and technical managers), Imperial College and Plymouth University, United Kingdom, the University of Barcelona, Spain and the École Nationale des Ponts et Chaussées, France. EDUCATE is a three year project which will finish in January 1997. The courseware will be produced in three languages: English, French and Spanish. The project has benefited from having an international team approach. This has resulted in a much wider input with sharing of knowledge and experience from several institutions in different countries.

The Development of the EDUCATE Program

EDUCATE has been designed as a multi-media program which can be used in a variety of ways: as a component in formal courses in information literacy; as a unit for self-instruction and distance learning, and as a reference and access tool to information sources. Within this context the EDUCATE Project may well provide a stimulus and be of help to librarians and/or academic teachers who want to start courses in information handling. EDUCATE will provide a common structure into which content for different subject areas, different languages and even local information can be inserted.

The original aim of the project was to produce a new type of self-paced user education course, with texts, demonstrations, and exercises, that could be distributed by means of the academic networks. The design of a user-friendly interface was envisaged. Network development has, as usual, moved on at a rapid pace, opening up new and exciting possibilities for education and training. The World-Wide-Web (or WWW or W3) hypertext information system offers a very suitable tool for the development of a global education programs. WWW merges the techniques of networked information and hypertext to provide a powerful global information system that is easy to use. There is the additional advantage that the programs are available over the networks and can be used as and when required. The WWW also appears to offer a reasonably stable and reliable platform, with the probability of continued support. A variety of browsers such as Netscape and Mosaic can be used to provide a flexible access to the EDUCATE programs. For this reason, it was decided to base the EDUCATE programs in the WWW.

The decision to adopt the WWW platform has had important effects on the fundamental design of the EDUCATE program. The networks can be used not only for the delivery of EDUCATE products, but the global hypertext links can also be used to provide direct links to information resources. Hyperlinks within the courseware itself provide an interactive and flexible learning tool.

The EDUCATE programs have been input in Hypertext Markup Language (HTML). HTML is a subset, a Document Type Definition, of the Standard Generalised Mark-up Language (SGML). SGML which was designed in the context of print publication, is extremely powerful and particularly suited to large scale publishing activities. HTML is more limited, particularly in the area of formatting, but it has the advantage that it is relatively easy to learn to use, and this was the reason that it was selected for the EDUCATE WWW input. [[1](#), [2](#), [3](#), [4](#), [5](#)]. The inputting of the program has been carried out at Limerick University, Ireland and Chalmers University of Technology, Sweden.

EDUCATE programs have now been produced in two subject areas: Physics; and Electrical and Electronic Engineering. It is hoped that it will be possible to produce modules in other subject areas.

The EDUCATE programs are based on an initial hierarchic structure on three levels, with many internal and external hyperlinks, so that users are free to follow their own choices. The first level of the hierarchy offers six choices: Pathfinders or routes to follow in different situations; Information Sources - direct points of access for experienced users; Course in Information Searching - with goals and objectives [[6](#)], texts demonstrations, exercises and self-assessment questions - particularly useful for self-study and distance learning; Texts - available in html for downloading; Introduction to the Internet with links to books and courses about the Internet; and finally an A-Z Index to the main items (see Fig. 1.).

Fig.1. EDUCATE program main menu

If you choose Pathfinders, you have a choice of access on the next hierarchical level to a number of different tracks designed to fit different situations: Starting to use the library; Starting a project; Starting research; Keeping up-to-date; Searching for facts; Tools for finding references; Handling the products of your search; Learned societies and Internet resources. (See Fig. 2.). Each of these tracks has a further hierarchical level with relevant components.

The Pathfinder approach suits those students who like to use a structured approach to learning (or to information access). The alternative access module - Information Sources - has been designed for users who prefer the "explorative" approach or "Test and Try." This is the type of user who, on receiving a new program, installs it directly, and tries to use it without reading any manual!

Fig.2. Pathfinder menu

The Course includes the goals and objectives, hyperlinked text modules, a section on online searching (developed at Imperial College) with demonstrations and exercises, and self-assessment questions (see Fig. 3).

At the present time the courseware is available in its entirety in English. The texts are also available in French and Spanish, as are the top hierarchic levels. The translations and adaptations have been carried out at the École Nationale des Ponts et Chaussées, Paris, and the University of Barcelona, Spain. This work will be continued. High priority will be given to the construction of appropriate French and Spanish indexes and to the provision of the self-study courses in these two languages.

Fig.3. EDUCATE course menu

The Texts include a basic text book Introduction to Scientific Communication as well as glossaries and a list of abbreviations. The French version of this courseware has been adapted at the École Nationale des Ponts et Chaussées, Paris and the Spanish text has been produced at the University of Barcelona.

The Internet section includes a brief Introduction to the Internet, a link to the W3 consortium, descriptions of browsers, and a means of keeping up-to-date with browser developments, links to courses and books about the Internet and a list of Internet terms (see Fig.4). This section includes a selection of search engines and meta indexes which can be accessed by a quick menu route.

The A-Z Index provides an alphabetic means of rapid access to sources within the program.

Fig.4. EDUCATE Internet section menu

Evaluation

Formative evaluation of these first versions has been carried out mainly at two sites - Limerick University, and Chalmers University. The evaluation has been carried out by means of questionnaires, interviews and observations. The formative valuation was directed mainly towards the educational process involved. The feedback from users has proved to be extremely useful for modifying some elements of the EDUCATE material. The overall reactions to the program were positive. During the next twelve months, the EDUCATE programs will be used and evaluated at the six universities involved in the project. Beta-testing of the programs now being carried out at a number of selected sites.

EDUCATE as a Teaching Programme

EDUCATE can be used for teaching information retrieval and handling in a variety of ways:

- in taught courses at universities and colleges
- in distance learning
- as a self-instruction tool

It provides for a structured approach, while at the same time as offering considerable flexibility. The structured approach is based on fundamental concepts in information handling.

EDUCATE can be used by students and research workers, by librarians and academics and by practising engineers already out in workplaces.

A training manual has been produced for librarians who wish to set up courses in information searching and handling. This handbook, provides a short introduction to a number of subjects such as promotion and marketing, course design, the use of various methods and media, evaluation and assessment. A discussion about methods, sample questions etc. are also included in the handbook.

Distance learning courses in Information Searching and Handling will be developed in Sweden as a joint project between lecturers at the physics department at Gothenburg University and staff from the Chalmers Library. These courses will be given at two sites- the University of Karlstad and the University College of Gotland, during the academic year 1995/96.

EDUCATE as a tool for information access and quality control

EDUCATE is however, much more than a teaching tool. Each external hyperlink is selected according to high quality and reliability. Information access is presented in a structured manner, thereby assisting users by reducing the need to remember a series of ad hoc approaches. The direct access mode to - Information Sources - provides a method for rapid information access. In addition there is an Index leading to the most important access points. It is hoped EDUCATE will provide students and research workers with a reference and access tool to global information resources of quality.

The Future

We hope that it will be possible to continue to develop new modules for additional subject areas. Further developments could also include additional language adaptations, where these are considered to be necessary.

It is planned to make EDUCATE available on a site-licence basis to universities and colleges throughout Europe, from January 1997. A fee will be charged to cover maintenance and running costs. At the present time EDUCATE is running on two main servers. This number will be increased as and when necessary.

Detailed records of use are kept. A statistics programme is used to generate monthly reports showing such things as users (according to frequency of use), the pages most frequently accessed, downloading, and activity according to day of the week and hour of the day. This is extremely valuable for planning and providing a reliable service.

Successful experiments have been carried out with the satellite transfer of the EDUCATE courseware with interactive Internet access. This means that EDUCATE could be delivered to sites with poor terrestrial telecommunications.

You can follow the progress of the EDUCATE project in the EDUCATE Newsletter which is available at the following URL:

<http://educate.lib.chalmers.se/>

If you select the Public access to EDUCATE, you can obtain the Newsletter in three languages and have access to the top hierarchical layers of the programs.

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Also available in the EDUCATE Newsletter in fulltext at the URL:
<http://educate.lib.chalmers.se/>
Note: This paper includes the goals and objectives of the EDUCATE courses.