

Virtual Library Services for a Virtual University

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Abstract

It is presented the concept of Virtual Library as it is developed in the Open University of Catalonia (UOC) a distance education institution that provides university level education. The UOC bases its educational model organisation on the exploitation of the Virtual Campus paradigm and the use of the latest technologies available in telematics, personal computers and multimedia. In this context, the Virtual Library of UOC is offered as a new model of library service, flexible and designed so that users can take advantage of the new information technologies regarding data registered and stored in any place all over the world.

Keywords: Virtual library, Distance education, Electronic information management, Multimedia contents, Virtual services, Flexibility, Knowledge managers

Introduction

Open University of Catalonia is a new model of Distance University, developed exclusively using new technologies. The goal is to offer a satisfactory offer for the need of distance education in Catalonia (Spain) facilitating the access to high education to a sector of the Catalan population that, for different reasons, has not been able to access to university education. For these reasons a virtual campus has been built, that overcomes the "boundaries of time and space" creating virtual spaces that allow the use of interactive means as a tool to develop its educational mission.

The Open University of Catalonia

The Open University of Catalonia (UOC) is a new model of distance university that answers to the needs of a society very diversified in age, activity, economic level, residence place and personal situation. These needs are very clear in Catalonia (Spain) but they are also clear in Europe and in the rest of the world, and to give an educational response to these needs in an effective way must be done with a flexible education system, open and using at maximum new technologies.

Open University of Catalonia has followed this way after considering different factors:

- Needs of training of adults that for different reasons have not been able to access to university level education.
- The big number of students that have difficulties for travelling to the university
- The needs of continuous education in all the professional career for answering to the fast evolution of the society.
- The non-answered request of accessing to the traditional university system.

It is for these reasons that a new model of distance education has been created that integrates a modular and advanced conception of the study materials that allows the interactivity teacher-student and student-student, through a virtual campus.

UOC bases its model in three axes:

- The docent quality
- The personalised attention
- The use of new technologies

Virtual Community

All members of the university community of UOC are virtual users. All of them use for their normal activity a computer of fixed characteristics, connected to an Intranet that makes the functions of a university and allows the intercommunication among its members.

There are different types of virtual users in UOC:

- Students that are distributed mainly for all the Catalan territory and in some cases they overcome this boundary and are situated in another distant zones: Brussels, New York, etc.
- Counsellors and tutors, that use the system of teleworking for its daily contact with students.
- Other members of the university community (full-time teaching staff, management staff, as the academic area or the library, etc.)

Virtual Campus

The Virtual Campus of UOC acts as a real university. Through it, it is possible to access to all type of actions and services characteristics of any university and to have access to other services that are only available for a virtual community.

UOC gives to the student and his learning process all new information and communication technologies. These elements are the way used for achieving the goals of education and learning of the students.

The Virtual Campus is the main space of communication in the UOC community: it allows the relationship of students among them, of students with teachers and of teachers among themselves, and also of all of them with management staff.

Courses are located in the Virtual Campus, where the students and the counsellor make a group. In each course a number of working possibilities are available: to participate in debates proposed by the counsellor, to give one opinion in the field of the course in the forum, to send electronic messages to the teacher or to other students, to participate in docent activities, etc.

It is also possible to interact with the materials. Part of them are located in the Virtual Campus, and this characteristics implies that it allows links with other materials, owned by the University or scattered in Internet.

Through the Campus it is also possible to receive a big amount of information about other activities that permit the student to dispose of enough elements to complement his studies: the Library, access to Internet, etc. There are also some other elements in the Virtual Campus that improves the life in the university; in the same way as "physical" universities, the Virtual Campus has a bar, a kiosk to read newspapers and magazines - national and international-, a mutual association, different shops, etc.

The pedagogical model

The characteristic that defines the pedagogical model of UOC is that the presence, neither of the teacher nor the student is not necessary. This model permits to the student to manage his own learning process. The elements that define the methodology of the University are related in a way that constitute a true integrated system that gives the needed support to the user in a non-traditional environment. These elements are: the student, the docent materials, the docent action, and the continuous evaluation, support centres, attended meetings, the Virtual Campus and the Virtual Library.

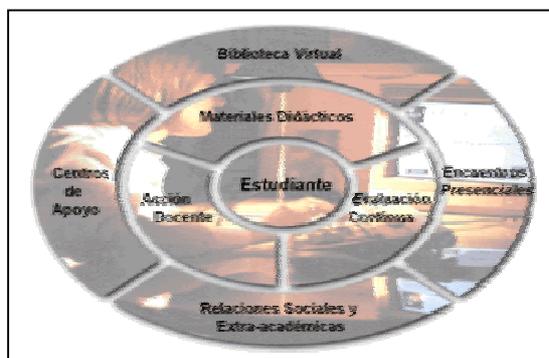


Figure 1. Pedagogical model

The student

It is the key piece of the model. All the elements that take part of the UOC pedagogical model are at the disposition of students to allow them to manage its own education process. For this reason we can say that the methodology of UOC is centred in the student:

- Through the potentiation of active methods that allow to reach the maximum level of implication and motivation of students in its own formative process.
- In the use of inductive methods by the teaching staff and in the didactical materials that assure a guide and orientation that makes very difficult the situation of an isolated or disconcerted student.

Didactical materials

UOC didactical materials explain the basic goals to reach of each course and have as a goal to facilitate and stimulate the learning process of the student and the acquisition of new knowledge. They are the basic guide in the development of each course.

The docent action and the evaluation are developed based on them. They are designed to permit each student to go at his own pace. They are materials that tend to be multimedia, this is that combine different technologies, always with criteria of maximum pedagogical exploitation: paper, web, CD-ROM, video, etc.

Docent action

In the UOC, the docent action to the students is specified in two typologies of teacher staff: tutors and counsellors. Both of them are co-ordinated by the full-time teacher staff of the UOC: direction of studies, co-ordinating teachers and associated teachers.

Counsellor: counselling in UOC can be defined as a whole as the task of following the assigned students, give them general directions and to counsel them in a individual way in all that refers to the progress in their studies. The counsellor has functions of orientation and assessing of students that will have assigned during their academic life; it is the referent of the institution for the student.

Tutor: it is a specialist in a specific subject. His functions are to guide, stimulate and help to evaluate the learning process of students, referred to a specific course. At the beginning of the semester, the co-ordinator presents a Docent Plan, that is the guidelines of navigation recommended to achieve the goals of the course, with determined rhythm and time. The docent plan is elaborated for each of the courses. Besides, the tutor solves the doubts of the student and verifies the learning process with the continuous evaluation (if it is chosen by the student) and the final exam.

Support centres

In order to ensure that students receive the most personalised attention possible, the UOC has established a network of support centres extending throughout all of Catalonia. These support centres, which can also be considered service and resource centres, are a result of the University's desire to make itself accessible to all Catalonia by bringing the UOC closer to local institutions and the society in general and by facilitating the gathering and arrival of suggestions, requests and needs.

At the support centres students have at their disposal the space, equipment and materials necessary to make their work and the gathering of information easier. At the support centres, which are also UOC information points, students can carry out administrative steps and academic procedures, and they can also meet with other students to work in groups or exchange experiences. These centres dispose of a space for a traditional library where they can consult the recommended bibliography or to pick up books asked in loan.

The attended meetings

Other "physical" complements are the attended meetings of all of the university community that are organised two weekends each semester, one at the beginning and one at the end. In these meetings, students have the opportunity of contacting with teachers, counsellors and tutors and also with other students, and to assist to workshops about the use of tools and services of the Library and Internet.

The Virtual Library

At the beginning of the 90's, the word virtual library appears very often and it is applied to the vision of the library of the XXI century, where computers and telecommunications technologies will make possible the access to a broad range of information resources. The virtual library is announced as the place from where there will be access to the universal knowledge from the own work place, no matter where it will be placed. The actual definition of the virtual library is adapted to this vision: remote access from any point of the world to library content and services, combining bibliographic news, electronic texts, image banks and all kind of information, through a computer network.

There are two essential elements in that kind of library: digital content and virtual services. Different users can access digital contents in a simultaneous way, irrelevant of the place where they are placed. These materials occupy a small space in computers, in contraposition of physical materials, that cover meters and meters of shelves, and make easier the consultation of rare materials, and at the same time they preserve them. Virtual services bring to the work point of the user the library and documentation services that are given in the "physical" libraries.

The Library of the Open University of Catalonia

Differential factors of the Library of the Open University of Catalonia

Three are the main aspects of the Library of the Open University of Catalonia that make it a different university library.

Distance library

Users access remotely, from the computer, in their home or from any other point of the world. For this reason, library services of the UOC, as the rest of services of the university, are thought to bring to the user, in the more friendly and ergonomic way, all the bibliographic information that can be needed by the user, and in the moment that it is needed, with the web of the Library.

Library based in the use of new technologies of information

The Library, as the UOC in general, is a dynamic institution that lives in a society where the change and revolution of the ways we use for communicating and access to the information are constant.

Information society creates new needs in the users, and the libraries, especially university and specialised libraries, must adapt to these new needs. It is for this reason that libraries are changing the role they have.

It is in this scene that the virtual library takes its real importance: it selects the information and resources, no matter the place where they are placed or stored, always bearing in consideration the users need, and puts at their disposition these resources in the precise moment they need them.

The Library of the Open University of Catalonia has exploited at maximum the telematics scene where the University has been built and has created its own tools: electronic texts databases, automated library catalogue and on line, a broad use of the electronic mail for communicating with users, connection with libraries all around the world, queries to local and external databases, and access to Internet. Nowadays, the "network of networks" is a basic source of information, and the Library of the Open University of Catalonia couldn't leave it aside: it is a very good source for obtaining specific data very valuable and all type of resources related with the University and the studies taught in it.

Just-in-time library

The exponential growing of scientific publications and the high price of bibliographic materials, and at the same time the restraint in the public budget oblige to a new reopening of the acquisitions politic of university libraries. Now it is neither possible, nor desirable or needed, to build a big library that hosts physically all the information that it is supposed will be used one day. It is the just-in-case paradigm. Instead, the orientation of the Library of the Open University of Catalonia is the just-in-time, this is a service that offers a collection of basic and reference documents in situ, but at the same time, and even with more emphasis, it offers the possibility of accessing all the information available all around the world, without considering the format, the medium or the geographical location. In this process it has a special relevance the databases in hypertext and two classical services in university libraries: the interlibrary loan and the document delivery service.



Figure 2. Virtual Library of UOC

Tools of the Library of the Open University of Catalonia

The Catalogue of the Library of the Open University of Catalonia (BUOC)

The challenge of the Virtual Library of the UOC (BUOC) has been from the beginning to organise the way of bring to the users the information and the services. For this reason, the catalogue of the BUOC has a number of special characteristics; the more outstanding characteristic has been that it is a combination of documents in traditional support and in electronic support, generated by the library, the university, information distribution services, or other services available in Internet; for this reason, it is not a traditional bibliographic catalogue, because it permits to access on line to the document, if this is accessible in the server of the Library, in the Virtual Campus or in Internet. This aspect is solved with the use of MARC field 856 for cataloguing of electronic documents.

The catalogue of UOC connects directly with these databases in a transparent way, and the user doesn't realise of the change, and it is consulted through a web interface. From this web interface, other software are developed that permit asking on-line loans and to complement the bibliographic information with abstracts and summaries of the documents, besides of accessing the complete document as it has been previously mentioned.

Document typology is assorted: books, magazines, didactical modules published by UOC, diskettes, CD-ROM, videos, cassettes, electronic documents, computer files, etc. It has been added to the web interface of the catalogue a series of icons that permit the user to access to different complementary tools: magazine summaries, summaries and abstracts of the recommended bibliography, full text documents, computer files, external webs and other Internet resources.

Catalogues of libraries around the world

In the option Other library catalogues it is important to emphasise the connection to the Collective Catalogue of the Universities of Catalonia (CCUC). It is a unique catalogue that gives access to the bibliographic collections of the public universities of Catalonia (Spain); one of them is the Library of UOC. In these moments, the CCUC has more than 1.500.000 bibliographic items.

In this same option a selection of catalogues organised by studies taught in UOC has been done. There is also the option of connecting with other types of important catalogues of general interest.

On line databases and Internet resources

UOC Library subscribes and give access to its users, to full text databases, related with the studies imparted in the University.

It also produces a selection of Internet resources for each of the studies of the UOC, with connections to official publications and other documents that are in Internet and that have been considered interesting for the task of students, teachers and management staff.

Virtual Library Services

Services offered nowadays by the Library of UOC are the following:

Library loan service, delivered to the user's home

Software developed in PERL as a complement to the web interface of the catalogue offers to the user interested in a document, the possibility of asking it in loan just clicking an icon. This software selects the data of the user, from his connection to the Virtual Campus (name, surname, address, kind of user and identification number) and the basic fields of the bibliographic description (author, title, edition and number of bibliographic identification) generating a form where the user just selects one of the three options of collection of the document: to the personal residence, to a support centre of the University or to an alternative address, as the address of the weekend, holidays, etc. Once this option is filled, the system generates automatically a supporting document of his petition.

Virtual Reference Desk

Bibliographic information, which includes reference service of intern and extern resources of complete text (encyclopaedias, dictionaries, statistics, etc), uses the Virtual Campus as a basic tool of communication with users. A Virtual Reference Desk has been created, in which the user finds, at least, all the information and support he would have if he would go to any real information and reference centre, as well as a daily answer service to every question or doubt he could have related to the library or documentation service.

Documentation service

The documentation centre provides the users typical bibliographic searches, Selective Information Diffusion (ISD), personalised services and any other interesting information for their users, who are daily answered by e-mail.

The students have direct access to electronic documents recommended by the professors, as well as to another works and complementary lectures of the subject.

User's training

The user's training is perhaps one of the most important services of the Library and where the Library has spent most of its efforts.

In order to reduce the inconveniences that the distance between the user and the Library could create different measures have been developed to increase the use and diffusion of the services.

The user's training can be personal or on line:

- Personal training: two times per semester, coinciding with the attended meetings at the beginning and at the end of the semester, the Library organises different Library workshops in order to divulge the knowledge of the offered services, how to use them and to answer all the questions of the users. These workshops change their contents according to new services offered each semester.

There are also special training workshops for professors, tutors and counsellors and personal staff. The purpose is to make them aware of the resources and the services of the Library in order to optimise their work.

- On-line training: The Library has developed an on-line help system who has as a principal tool the home page of the web integrated in the Virtual Campus. On-line training offers consult guides, FAQ's (Frequently Asked Questions), Internet courses, etc.

Document Delivery and Interlibrary Loan Service

The purpose of this service is to locate library resources that are not available from the Virtual Library. Internet has become the ideal method to access to the resources of the majority of libraries around the world. This situation justifies the just in time politic of the Library, as any library document published anywhere and in any support, can be located and requested to be consulted by our users.

Conclusions

The Open University of Catalonia has given an educational answer to the distance-learning education needs of the Catalan society, creating a new model of university based on the use of new technologies.

The Virtual Library of the Open University of Catalonia, according to the main principles of the University, has started a library that changes the schemes of the traditional university libraries, offering her services through a virtual campus that arrives directly to the users.

The model implemented by the Library of the Open University of Catalonia uses the schemes of a virtual library

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