



EDUCATION AND CULTURE

LEONARDO DA VINCI

Second phase:2000-2006

Project: «Title»

(www.nettskolen.com/in_english/megatrends)

Survey for case studies in the Megatrends project

Universitat Oberta de Catalunya

Facts about the institution

Name of institution	Universitat Oberta de Catalunya (UOC); Open University of Catalonia
URL of institution	www.uoc.edu
Country	Spain
Levels in the education system	Higher education level
Interviewer	Pedro Fernández Michels
Interviewees	Albert Sangrà Morer Academia Director and Responsible for the Application of New Technologies asangra@uoc.edu Lourdes Guàrdia Ortíz Responsible Teacher for the Postgraduate Program in ICT based Education lguardia@uoc.edu

In 1995, the Catalan government promoted the creation of a completely virtual institution in order to complement the Catalan university context with a set of academic e programmes that aimed to respond to new educational needs in the information society.

The UOC belongs to a number of international associations and participates in several international forums, contributing from its experience to broaden the knowledge about how virtual teaching and research universities could or should be managed. Examples of this include UOC's affiliation with the ICDE (International Council of Distance Education), European Distance Education Network, Centro Internacional de Desarrollo Universitario and the Latin American Network for Distance Education. In addition, the UOC belongs to all the Spanish associations, networks and consortia related to its activities.

Contextual factors

Market size

The UOC is a reference institution in the field of ICT based distance education that offers educational programmes not only in the whole of Spain but also in Latin America and, more recently, in the English speaking world.



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Until the creation of the UOC in 1995, the Spanish National Distance University was the sole distance education provider in Catalonia. However, Catalonia has a rich tradition of quality, higher-education institutions.

A number of conventional universities can be found in the region, such as the Universitat de Barcelona, the Universitat Autònoma de Barcelona and the Universitat Politècnica de Catalunya. More recently, the Universitat Pompeu Fabra has been created, and regional universities, such as the Universitat Rovira i Virgili, the Universitat de Girona and the Universitat de Lleida have gained their independence. Moreover, in 1990, private universities were permitted in Spain, and the Universitat Ramon Llull, the Universitat Internacional de Catalunya and the Universitat de Vic started their activities. Nevertheless, none of them offered any real distance, or virtual, education programmes.

For the Spanish national context it can be said that the total population of Spain is 40 million. Spanish is the common language in all 17 autonomous regions. Three of these regions have an own language which has official status within the region. Catalonia is one of them. As a result of migratory movements, many people from different Spanish regions live in Catalonia and are fully integrated. Catalan is understood by 99 per cent of the region's population and 100 per cent can speak Spanish.

There currently exist 70 universities in Spain, 48 of which are public. The total number of registered students in Spanish universities for the academic year 2004/05 was 1.535.626.

Market readiness to use online technologies

ICTs have not yet reached a satisfactory degree of diffusion in Spain, despite recent progress. Internet penetration among households is low compared to the other EU members. One important reason are the high prices for Internet connections. Broadband diffusion, however, has been comparatively fast in the last three years, in particular in the more developed and urban parts of the country such as Catalonia.

The country has a low score on the Digital Divide Index, which means that disparities in access to and use of the Internet between sub-segments of the population (genders, age groups, socio-economic groups) are considerably bigger in Spain than in most of the EU25.

Target group acceptance of e-learning

The acceptance of e-learning within university students can be considered relatively high. In spite of the lack of diffusion of ICTs and the disparities mentioned in the paragraph above, the large number of e-learning initiatives



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in Spanish universities indicate a satisfactory level of acceptance of the use of ICT in teaching and learning among the academic community.

Digital literacy in population

It can be assumed that digital literacy in the target group is relatively high. Spanish university students and teachers use computers and the Internet on a regular basis. However the percentage of the total number of Spanish people aged 16 to 74 that do not use the computer or the Internet is slightly higher than the same figure for the UE-25.¹

National policy

Neither the central government nor the regional administrations are carrying out a specific policy in order to promoting e-learning. The projects that are being undertaken are more generic and only have an indirect effect on the development of e-learning.

“Following the e-learning initiative launched by the European Union in 2000, the Spanish government has developed a set of policies and initiatives to promote eLearning. The main points of this policy are:

- providing all schools with the equipment and facilities for accessing ICT;
- developing Internet courses and training;
- setting up an observatory and laboratory concerned with the educational applications of ICT, thereby supporting innovation and development in such applications;
- strengthening cooperation between Latin America and Europe in the area of ICT in education.

Moreover, several plans and projects are dedicated to eLearning for vocational purposes. These are supported by the Spanish Government through the European Social Fund, and through FORCEM (Continuing Training Foundation). It is indicative of the situation that 30% of all training plans presented in 2002 were related to eLearning. Moreover, the Ministry of Industry Tourism and Commerce has created FORINTEL, a program to promote the use of ICTs in enterprises, which offers eLearning courses. Currently, the Spanish government has launched the Plan España.es for the period 2004-05.

¹ DEMUNTER, Christophe (2006): “How skilled are Europeans in using computers and the Internet?” [Online article]. In: *Statistics on focus. Industry, trade and services 17/2006*. (Data retrieved on 30/10/2006). URL: http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-NP-06-017/EN/KS-NP-06-017-EN.PDF



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One of the action points of the Plan is the promotion of accessibility to training and digital content."²

Historical context

1. How would you describe the history of distance education in your institution?

The Open University of Catalonia was created in 1995 by the Catalan government. It is a fully accredited distance education university with its headquarters in Barcelona. The UOC has developed in partnership with key stakeholders in Catalonia from both the public and private sectors. The institution was created with the aim to complement the Catalan university system in the sense that it made university studies available to everybody, regardless the work, residence, age or other factors, by offering highly flexible courses and study programs through technology based distance teaching and learning. The UOC intends to provide the highest quality university education delivered via the latest information technologies. With this, the institution reacts to the characteristics of a new society in which flexibility, ongoing knowledge development and lifelong learning are becoming key factors for personal and professional success. This response is based on a flexible and open educational model, which takes advantage of the possibilities offered by information and communication technologies, using them as support tools for a type of distance education where the student is encouraged to become an active part of the university community, promoting knowledge acquisition through interaction, cooperation and social learning. The Universitat Oberta de Catalunya was conceived as a global university rooted in a local context. Consequently it started its activities at regional level, in Catalonia, which made it easier to monitor its early development. In 2000, the institution started expanding to the national context (Spain) and the international Hispanic market. Recently the UOC has started to enter the international space of other languages, as English and Portuguese.

2. How has competence in e-learning developed in your institution and how has it contributed to your success?

It is certainly difficult to compare the UOC's case with the majority of institutions that offer e-learning scenarios. The UOC has been created as a virtual university right from the beginning. In that aspect, competence in e-learning has always been there and without it, the UOC would not even have

² www.euser-eu.org



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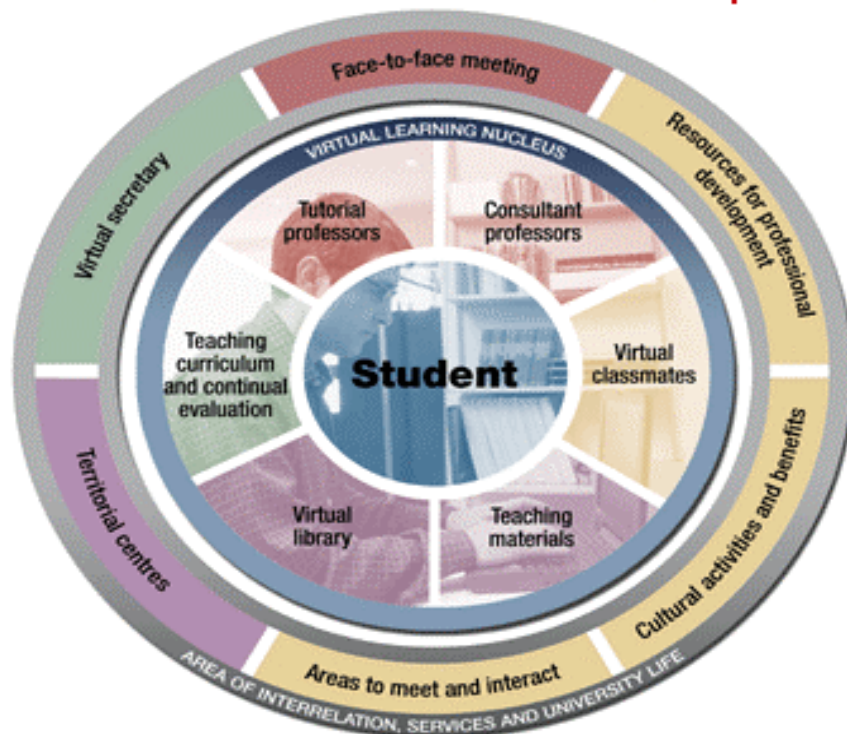
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been less successful. It just wouldn't exist. On the other hand it is true that competence develops constantly. The UOC started with a very small number of students (about 100) and offered a material centered teaching and learning model that was partly inspired by the traditional distance education models.

In fact, in the beginning, the virtual campus' main function was material delivery. It was only with time that the stress moved from the material centred model towards a pedagogy that focussed much more on the student and on learning processes. The pedagogical model of the UOC as it evolved with time is certainly the result of a development process in e-learning competences and an important factor for success.

Educative model

UOC teaching materials demo UOC Virtual Campus demo





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3. Has this development been abrupt or would you describe it more as a gradual step-by-step process)?

The development has been a gradual process based on analysis and evaluation of the experience gathered in the implementation and execution of courses and programmes. The development of the European Higher Education Area according to the Bologna Declaration of 1999 is another factor that is having its influence on course design, definition of competences, production and distribution.

4. How has online education been followed up by evaluation and research and how has this contributed to your success?

The UOC is part of the Catalan public university system. It is the Agency for the Quality of the University System³ in Catalonia that coordinates and maintains educational standards for all universities in the country, and so for the UOC. As there is no similar agency for the supervision of distance universities, the UOC is working with the Agency to establish indicators for measuring quality in a virtual learning environment. Quality criteria and indicators for the new Catalan and Spanish online programmes are also defined in collaboration with the Spanish National Agency for Quality and Evaluation.

Technical issues

5. How would you describe competence in information and communication technology in your institution?

Competence in information and communication technology is very high. It has been very high from the very beginning because the creation of a fully virtual university from scratch needed a highly competent technical team to implement all the necessary hard and software elements. Competence has evolved according to the changing needs regarding the maintenance of the virtual campus and the integration of new tools and functions.

³ <http://www.agenqua.org>



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- 6. To which extent are e-learning courses in your institution based on widely used technologies that can be taken into use by students without requiring them to buy additional hardware or software? (in addition to what they have from before)**

The technical requirements on the client side do not include any special items. The minimum equipment would be a Pentium-Based PC with 32 MB RAM (Random Access Memory), 1.2 Gb hard disk, a Windows 95 Operating System or higher. An Internet Browser and Connection to the Internet with minimum of 28 Kb/s is necessary.

- 7. How would you describe the integration between different IT-systems that are involved in e-learning in your institution? How has this contributed to your success?**

The Campus Virtual™, which was developed by the Information Systems Department at UOC, is an Internet-based e-learning delivery and support system that uses a client-server web technology and common interface to integrate wide set of services and applications. All functions of the Campus Virtual™ are applications that have been designed to provide an efficient environment for tele-cooperation and e-learning.

Campus Virtual™ uses the IDEASolutions™ platform, which was also developed by UOC. IDEASolutions™ has been designed specifically for e-learning through the Internet.

The continuous assessment and development of this platform has allowed UOC to build up a market product that can be adapted to a number of educational contexts. As such, it is of real interest to other institutions wishing to provide virtual university services.

IDEASolutions™ is installed over Oracle Database, Oracle Application Server and Netscape Web Server. It has been developed with the most frequently used programming languages on the market and uses Transmission Control Protocol and HTTPS Internet protocols. It is adaptable to the Instructional Management Standard for the management of training programmes.

The fact that the entire technological infrastructure of the university has been designed as a whole, integration of different IT-systems is not really an issue.



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8. What are the strengths and weaknesses of your e-learning administrative systems (from enrolment through delivery to certification)?

The UOC is a private entity with the vocation of a public service, and it is part of the university network of Catalonia. For this reason, the main administrative issues are basically the same as those for other universities in Spain. The biggest issue the UOC needed to manage was its virtual character, and the underlying philosophy of permitting students to undertake all their studies from home.

The tool that has been developed to meet this objective allows integrating the whole range of administrative functions and services is ergonomic, intuitive, easy-to-use, flexible and based on market standards. It has a customizable interface and is language independent. It holds, therefore, considerable strengths from the point of view of the administrative user and is also a very interesting solution for various different company and departmental contexts.

Courses

9. Which types of subjects are covered by online education in your institution and what is the relative importance of different subjects?

In an effort to provide an education that is complementary to what the other universities in Catalonia have to offer, the UOC has developed courses and degree programmes that are increasingly in demand but that conventional universities are not proposing in sufficient quantity to meet this growing demand. The UOC's offer focuses on an adult student population: people between 25 and 45 years old, who work and who have previous university experience.

UOC programmes and courses by discipline

Programmes/courses by discipline	Number of complete degrees	Number of programmes/courses
Humanities	2	130
Social sciences*	11	160
Health sciences	0	5
Engineering	4	92

* Includes Business administration, Education, Law, Psychology and Information Sciences

Source: UOC internal documents.



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10. How would you describe the “onlineability” of the subjects your institution has chosen for e-learning?

We believe that in theory every subject can be delivered online and that the ongoing development of new hardware and software makes such endeavour easier every day. But not everything that is possible is at the same time feasible in every context. We are very aware of the fact that the current situation in human resources and technical standards conditions the possibilities of success regarding the incorporation of determined subjects. The UOC always tries to cover the training and educational needs of society and reacts accordingly analysing the possibilities of including new subjects into its academic program if there is a clear demand for it. But at the same time it is obvious that some subjects like for example medicine or aeronautical engineering would imply such a raise of costs due to the need of employing specialists and developing virtual tools and simulators that it would be impossible to offer such courses at a reasonable price.

11. Do the online courses provided by your institution have flexible start-up and progression?

The UOC does not offer flexible start-up and progression. There are fixed dates (normally 2 a year) for the beginning and the finishing of the courses. Flexibility or even a non-stop system would be too costly regarding the workload and duty periods that would be generated on the teacher side.

12. What is the role or importance of synchronous and asynchronous communication between students and teachers and among students themselves?

The UOC teaching and learning model, in other words, the university's educational model, aims to overcome time and space barriers for education and training. From this perspective, the UOC is opting for an asynchronous model, which allows greater flexibility for students.

Management, strategy and attitudes

13. How would you describe involvement from the institution leadership in terms of being supportive, and how has this been important for success?

The UOC has been conceived as a virtual university. Participating in the leadership of a virtual university and being supportive regarding e-learning are two sides of a medal.



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14. How would you describe the attitudes of the different groups of staff towards online teaching? How has this affected your success?

In general one can say that the attitudes towards online teaching are positive. But it is to be mentioned that you can not avoid having staff members that still tend to move within face to face patterns due to their training and professional background. These people find it sometimes difficult to change their pedagogical framework for one that fits better into the virtual context and takes into account the change of the medium through which online teaching and learning takes place.

To minimize the negative effects of this phenomenon, the UOC offers special training units that help to assimilate the institution's pedagogical model.

15. Does your institution have a strategy for online education? If yes, what is (briefly) the content of the strategy and how is it followed up by employees in your organisation?

The core of the UOC's online education strategy is to overcome time and space barriers in order to offer students the highest possible degree of flexibility when they are carrying out their studies. Therefore the institution offers its entire academic program online, apart from providing the whole range of online administration and student/staff support. This was considered the most adequate way to respond to the educational demands of society, respecting at the same time the need of flexibility.

This underlying principle leads to the development of the institutions online teaching and learning model that encloses a clear strategy of online education.

The UOC tries to combine the best aspects of three different learning models, the media centred model, and the teacher centred model and the student centred model. It is considered that the balance can be found in a point that is closer to the student than to the teacher and closer to the latter than to media and technology which should remain a tool serving the other two elements.

In a virtual environment it is vital to keep student's motivation on a high point. One important aspect in this objective is the freedom given to the students regarding the organization and planning of their own learning strategies and working rate. Students need to feel involved in every aspect of their learning process. They have to be engaged in meaningful activities communicating and collaborating with their peers. However, inductive methods used by teachers, together with learning materials, provide guidance and orientation, enabling students to follow the right path, thus facilitating the teacher's role of making things easier.



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16. How does your institution deal with quality issues related to online education and has quality contributed to success?

Quality evaluation at the UOC seeks promoting internal self-improvement within the institution. It intends to better fulfil student needs and requirements and to evaluate student levels of satisfaction and their perceptions of the services received. It aims to validate the UOC's specific pedagogical system and innovations that are periodically introduced. Student opinion plays an important role in the functioning of the university. A survey is conducted at the end of each semester in order to gather student opinions and improve the quality of UOC studies and services.

All teachers are subject to an evaluation process that aims to better leverage their competencies and to identify areas that would benefit from professional and personal development in order to suggest suitable training activities.

In addition, the virtual campus and the UOC itself are evaluated by means of surveys and open forums of debate conducted and evaluated by the UOC. Updating the technical infrastructure of a virtual university is a permanent challenge and requires periodical in depth analysis. The latest of these processes included a full consultation listening to the voices of users, technicians and external experts and led to a new version of the UOC's Virtual Campus™ with new applications and functionalities.

17. How would you describe the effectiveness of your administrative routines in online education?

At present, there are a number of applications that help the organization handle the administrative aspects in an easy and efficient way. Some were developed in-house and some were bought externally.

The relationship between the UOC and its students with regard to administrative matters is almost perfect. For instance, students can consult their own academic record from home, in real time, whenever they want or need, and a back office will answer any questions they may have within 48 hours. Enrolment, delivery of teaching materials, assessment, evaluation, economical transactions, a virtual library etc. are some of the administrative services that take place entirely online. Their effectiveness is, at the time, totally satisfactory.



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18. To which extent do teachers involved in online education have predictable and manageable workloads?

There are full time teachers that work on a 40 hours contract basis. The "consultores" or e-moderators work part time (12 to 15 hours/week) and have a flexible employment contract. Workload is widely predictable and manageable due to the fact that the teaching materials and the syllabus for every course are very well defined so that they can give clear indications about how much dedication is needed to fulfil the declared goals. Obviously workload also depends on the number of assigned students for which there is a limit.

19. To which extent does your institution collaborate with other educational institutions and how has this affected success?

Despite its brief existence, the UOC has a clear and evident commitment to cooperation. The UOC believes that by helping other universities to develop high-quality virtual learning systems it will increase its own credibility. Hence, the UOC is launching a number of initiatives to offer universities interested in collaboration the opportunity to progress together, by benefiting from UOC's good practices and avoiding its mistakes. The UOC is proud to share its experience with other universities if this can improve university teaching through the use of ICT. The UOC further considers that it is very important to provide a framework for exchange between universities that offer virtual courses, so that they can offer more opportunities to their students. The UOC is promoting the 'Metacampus' experience as an example of cooperation in virtual learning environments. Cooperation is also an important issue in research. The UOC research institute - the Internet Interdisciplinary Institute (IN3) - is looking for partnerships with other similar research organizations in order to increase the efforts and importance of Information Society research. Finally, Campus for Peace is an initiative to provide an international and virtual university space for dialogue, cooperation and work to promote peace in the world.

20. How would you describe the credibility of your institution (both formal and informal) with the government and public administration and how has this been an important criterion for success?

The UOC was established by the Catalan Government in 1995. Therefore the credibility with the government and the public administration is total. The UOC's legal status is that of a non-profit private foundation, with the Catalan government as its main trustee.



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Other important trustees are key stakeholders in Catalan society, including the Chamber of Commerce, the Savings Bank Consortium, the Catalan Broadcasting Corporation and a number of publishing companies. On the basis of proposals made by the trustees, the Catalan government appoints the university Rector.

21. How are you able to handle the large number of online courses and students?

This is possible thanks to the organizational system of the university. There are two staff segments that can work independently from the number of students enrolled, which are the responsible teachers for each subject or group of subjects on one hand and the authors of the teaching material on the other hand. Online teachers that have direct contact with the students and conduct or monitor the teaching and learning processes are usually part-time employees that can be employed in a flexible way according to the number of enrolments.

Economy

22. How would you describe the cost-effectiveness of online education in your institution? How has cost-effectiveness affected success?

Public grants for its activities in the Catalan language make up about half of UOC's income. Student fees contribute a third. The university makes up the difference through revenue from consultancy services, managing other programmes, transferring its model to other universities and assessing other institutions.

23. To which extent is income from operation of online education stable and predictable?

Income is fairly predictable in the sense that you can base your future enrolment expectations on statistical figures and market observation. The UOC depends on 35% on student fees, and this is mainly the part of the income subject to fluctuation.

24. To which extent does your institution experience pressure to be flexible to be able to adapt to a changing market?

There is a lot of pressure because of the institution's commitment of covering the society's needs in higher education. Furthermore, the UOC tries to offer academic programmes that are strongly relevant regarding professional needs and clearly transferable to the working context. Professional needs and



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profiles are subject to constant changes and developments that need to be reflected in the training contents.

In this way, pressure comes from society demanding constantly updated programmes, from the government that needs to justify its financial support to the institution and, last but not least, from the students that are interested in high quality standards and a clear relation of the studied contents with their real needs.

The way the UOC is organized allows it to respond to these demands in a very flexible and efficient way: As the university was being newly created, it chose a new form of management and organization: a model based on a Process Management System, the European Foundation for Quality Management model, and structured to be able to respond directly to fulfilling student needs.

The UOC applies this management model to three areas:

- Strategic
- Educational programmes
- Operational

The university has adopted this model in order to achieve the following main objectives:

- increasing a client-oriented philosophy;
- avoiding barriers to horizontal communication;
- generating systems so that staff can participate more in the success of building UOC as a virtual university;
- improving internal information and communication systems;
- promoting quality assurance along all processes

25. To which extent does your institution apply a strategy of flexible employment and use staff to adapt to changes in markets?

The UOC combines a fixed staff sector with part time workers in order to gain flexibility. Outsourcing is another factor that allows the institution to adapt in a more effective way to changes because it makes it less necessary to create expertise in every single aspect of the activity linked to the educational service it provides.