Innovation strategies in higher education: the case of the Universitat Oberta de Catalunya?

Cristina Feniser a, Evencio Souto Rodriguez b

a Technical University of Cluj Napoca, 103-105 Muncii Avenue, Cluj Napoca, 400641, Romania
b Acantun Asociados SL, Camino de los Quiñones, 175, 33203 Gijón, Asturias, España

Abstract

Nowadays, the challenge that the universities are confronting with is the increasing competitiveness on the educational market. Due to this phenomenon, the higher education institutions have to find proper ways to improve constantly their main activities: teaching and research. One of the solutions of this issue, but not the easiest one, could be the implementing of an innovation system.

The main goal of this article is to analyse the concept of “innovation” in the sphere of higher education, through the model of open innovation deployed by Universitat Oberta de Catalunya (UOC). The project carried out by UOC is a model for strategic innovation. Its aim is to be open to the reception of collaborative experience and knowledge produced in the area in which virtual learning environments are created. It also aims at positioning the university as an institution that creates knowledge in a framework of constant change and improvement.

Keywords: educative innovation, higher education, Universitat Oberta de Catalunya, learning virtual environment

1. Introduction

While we look for new functions for higher education in the middle of the social, economic and political changes that the current world is experiencing, it is useful to think about the functions that have recovered universities in the past.

Mainly, these are the creation, transmission and conservation of knowledge.

The requirements of this new world challenges universities to adapt themselves, neither slowly nor organically, but by taking big steps that these new realities require.

Knowledge is not what it used to be. More precisely, knowledge is now created, transmitted and preserved by means of methods, institutions and configurations that were previously unknown, and with a speed that was, at the time, unimaginable. Universities do not play an exclusive role anymore, they are not even a priority, in the new environment of internet access, media overload and personalized products for undertaking tasks and everyday life. They are still essential, but they must accept that there is a need for change (Neubauer D., Ordoñez V., 2008).

This change is happening and, as Barnett affirms, “higher education has gone from being an institution in the society to being an institution of the society” (Barnett R. 2001).

In this new context, educational strategy must not only seek transmission of knowledge from the teacher, according to the new requirements, but students to commit to learning.

The university has an important challenge ahead since, in spite of the multiple social pressures, it cannot become a simple tool to help the economy and meet demand. It cannot only provide useful knowledge for the market. The education sector

Tel.: +40-752-105-451
E-mail address: cristina.feniser@mis.utcluj.ro
must keep an interest in consistency and the creation of new knowledge, whether or not there is immediate interest for its application.

But it cannot be closed either, teachers have to promote in their students the skills that society demands along with academic competency which requires knowing how to be reflexive and critical of the known and an ethical commitment to society.

The solutions are rather varied and there probably is no unique model. This depends a lot on the cultural and organizational context as well as on the characteristics of the knowledge available.

Often, creating research centres and other structures outside of the strictly academic area is also an answer for the difficulty encountered when working in an interdisciplinary manner within the university. As already mentioned, the ability of creating innovation has a lot do with the possibility of working in an interdisciplinary manner, as innovation is generated for the institution itself or for others, and this supposes elements of hybridization. Academic environments are much closed, and this type of task—which is very desirable from a point of view of creation of knowledge— is not easy to carry out (Gros B., Lara P., 2009).

In Spain, conventional universities are not aligned to the models based on interdisciplinarity and innovation, doing so makes one wonder why, overall, this still has not happened. Surely, both the model of institutions focused on knowledge and the one open to the market obey different social and cultural needs, and different models could coexist in an economic environment. Nevertheless, it is necessary for universities to define their strategies and to be able to communicate them efficiently (Gros B., Lara P., 2009).

Besides considering it as being a place for training technical personnel and professionals, universities still have the option of promoting intellectual and scientific work as an adventure in itself and not only as a profitable production. In other words, they have the responsibility to educate. Processes of innovation cannot be expected from universities, if they themselves are not capable of training students in exchange.

The question is: do universities work to train persons capable of integrating and generating changes, to understand the provisional nature of knowledge and to cope collaboratively? Some changes that are happening can facilitate new forms of educational aiming to deal with some of these questions, which is why we think that innovation in the training sector is extremely urgent and necessary (Gros B., Lara P., 2009).

2. Innovation for teaching and learning

Though teachers could be ones introducing innovation and change, the reality is that the process must be planned, directed, stimulated and encouraged from the institutions, this is what Hannan and Silver (2005) calls "guided innovation". These authors reveal the existence of six different types of innovation which researches must associated to improve knowledge in each of the mentioned topics. They are as follows:

1. Individual and group innovation. They answer directly—all while being related to the classroom and the course—to the needs of students and to the professional matters (seminars led by students, laboratory simulations, etc).
2. Material for associates. They are sponsored by associations and professional groups. Innovations that answer to the education through means of technology. They take advantage of new technologies and acquire or develop material for their associates.
3. Innovations provoked by the curriculum. They are implemented to satisfy the needs of the modular and/or biannual structure and to respond to changes of content in the fields of study and to interdisciplinary developments.
4. Institutional initiatives. They include decisions from different regulations and processes of professional development.
5. Systemic Initiatives. They help in the creation of an administration in new universities or different committees, each adapted to their institution.

6. Systemic Derivatives. They emerge inside institutions of higher education as result of regulations and policies in the entire system (Hannan A., Silver H., 2005).

Innovation in this educational level now means a process planned for the introduction of a change orientated towards new improvements for a person, a course, a department or higher education in its ensemble and context. This type of innovation, although used as the same concept, may not have the same implications for teachers than for students. There is no necessary relation between them both. Innovation in the learning procedures of students can be independent from any type of education in its traditional sense. Elements of analysis and measure are necessary, aspects that have scarcely been taken into account (Gros B., Lara P., 2009).

In our opinion, it is necessary to have a systemic vision of innovation. We cannot think that it is produced only from the incorporation of technology, this concept is ingrained in the educational sector, so much so that it has led it to make enormous mistakes when assessing and developing. Technology itself has been regarded as a factor for innovation. Nevertheless, real change has hardly been implemented, because technology is used with the same methodological orientations than those that were useful in the industrial revolution, but have little to do with the information age. The increasing use of the internet does not necessarily imply modifying practices or the incorporation of new dimensions of learning. With a few exceptions, this usage tends to impose an educational model centred on content, which is more than what the internet can offer (Gros B., Lara P., 2009).

The majority of training models still have the basic models of traditional education in which what is regarded as important is the transmission of information. Students access the contents of their teachers through the internet without much help or value added to the learning process. This is precisely one of the reasons why many initiatives for online education have failed. In fact, the approach of training centred on materials without significant help and accompaniment during the process leads to failure. The presence of teachers and social interaction generated between students is a key element for learning.

3. Innovation in the Universitat Oberta de Catalunya (UOC)

UOC, since its foundation in 1996, has been an open university, developing its educational activity across a model of online training. This makes a difference and has allowed to generate an important online learning experience (Gros B., Lara P., 2009).

The educational model of UOC is an online network model. Meaning it is a complex system in which the modification of a single element affects the whole organization. Consistently, it is important to plan and to systematize innovation to improve the training and organizational models which sustain the learning process. Also, UOC has not only made incorporating innovation a strategic target to obtain results within the current circumstances, but also is a mind-set of transformation and continuous improvement. A mind-set that must influence and be at the root of the different actions and changes undertaken in the system, in order to promote and to support a constant evolution that ensures the quality of the work carried out and the competitiveness of the institution.

From the model of online training, innovation in UOC is situated where three fundamental elements are joined (figure 1): the teaching model, the technological model and the organizational model. Innovation is established from the inputs generated across collaboration with other universities, organizations and companies. In this respect, innovation refers to products, processes and methodologies focused on the area of online learning.
The model of innovation we are developing is based on the model of open innovation and also utilizes the analytic approach in the management of innovation of products of the organization. Thus, the model of innovation is based on two different innovation processes (bottom-up and top-down) which must flow independently, but must have diverse moments of confluence, especially at the end of the process and when implementing the results obtained (Gros B., Lara P., 2009).

The actions are orientated towards the creation of systems which render innovation as a necessary practice for management and teaching. But this is not sufficient, it is fundamental for the innovation developed to have value in the process of evaluation and accreditation of the management and teaching personnel. In this respect, we feel it is of vital importance for innovation to be carried out in group work, emphasizing the creation of multidisciplinary teams in which people with different function inside the institution take part. This aspect is fundamental to favour mainstreaming.

The processes of emergent innovation (bottom-up) are those that depart from the initiatives of professors or from the personnel of management of the university. This innovation model emerges and stimulates the development of quality projects that have an added value in the educational and organizational model.

This flow of action is very much influenced by an analytic approach to innovation. It is based on the generation of projects which can be created as innovation only but which, in many cases, are also related to some previous researches realized by professors. For example, research projects existing on an analysis of behaviour of students that is used for improving learning methods and the application of technology.

The processes of strategic innovation (top-down) arise from the initiatives and areas marked by the management team in order to change them into main innovation projects. This type of processes of innovation is based on the existence of a
development and test laboratory, which allows the production of applications with the necessary conditions to be able to monitor and evaluate them systematically and continuously. From these generated applications, the best way for focusing and studying their eventual transfer and generalization is analysed, as much for within the university itself as for other contexts. This type of actions is managed from different fields: projects of technological, methodological and managerial type. Consequently, this implies the participation of diverse teams of the university.

This type of innovation is based on open innovation. Platforms for work are given priority, something which implies collaboration with different universities, organizations and companies. Likewise, these initiatives can derive when preparing joint official requests for the financing of research and/or development, whether nationally or internationally.

In short, innovation results obtained across strategic projects are made into products known as instruments, methodologies or resources for training and teaching purposes. These have to be proven and analysed before being considered as products. Ultimately, before the production process, it is important to think of its applicability and sustainability inside the organization. In some cases, it is possible that the product considered is not to be immediately applied to UOC but, on the other hand, another organization can find benefits from its utilization making transfer of knowledge important. For example, developing a tool for labelling forums of which immediate result can be its utilization for a company that needs to manage the actions of a great number of users. Ultimately, as previously said, we use a model of open innovation because it implies positioning UOC as an institution which generates knowledge.

Both types of innovation that we propose, bottom-up and top-down, are articulated and developed across projects that—although they can have very different dimensions and scopes—support a similar structure regarding its essential components and its flowing system. This structure forms what we could call the architecture of innovation inside our model (figure 2), which is characterized by incorporating a series of phases that must be completed in order for the cycle of innovation to be considered as complete, including the implementation, evaluation and dissemination (both internal and external) of the product elaborated or the results obtained. The implementation involves accomplishing tests in graduate and postgraduate UOC courses (Gros B., Lara P., 2009).

Fig. 2: Architecture of the innovation projects
Source: Gros B., Lara P., (2009)
To start the bottom-up approach, we created internal meetings for emergent projects, directed to both professors and the personnel of administration and management of the university. Its aim is to not only promote the activity of innovation in the different areas of work of the institution in order for it to become a base element, but also to find out the expectations, needs and existing initiatives of innovation. Often the initiatives are from daily happenings and people do not know what is happening inside the organization. As indicated by the name of the mentioned projects above, it is to emerge innovation to identify, admit and of join it to other projects or institutional initiatives.

As for the top-down approach, the type of action that stimulates it is the creation of strategies which are based on what we call "driving forces of projects". These are carried out in collaboration with other universities and with the managerial sector. In this case, it is for designing products that allow valorising the interest and the viability of new methodologies, resources or technologies for its application for training.

The basic strategy that motivates this type of action is to offer products that can estimate the potentials of innovation contained in every strategy, opening the possibility of its production and application in a real context, whether within or outside the university. It is therefore to generate innovation within the organization but also to transfer knowledge. Currently, four basic areas of work have been established:

- **Immersive Learning.** This is for the exploration of new learning systems across virtual worlds. The basic interest is that of the analysis of the power of learning through 3D environments and digital games.
- **Collaborative Learning.** Interaction is fundamental for online learning. The tools that allow collaborative learning and joint production of knowledge are increasingly abundant. Nevertheless, their incorporation in formative processes yet is not simple. It is for this reason that we are working on the creation of tools adapted to learning processes such as labelling of electronic forums, visualization tools, etc.
- **Evaluation of competences.** In the environment of the European space, the competences are key elements in university education. It is for this reason that acquiring systems that allow the evaluation of competences, the generation of portfolios for the students themselves and guided learning systems is another important area for UOC.
- **New formats and channels.** It is important to give access to the contents of the university using new channels that allow combining forms of accessibility and mobility. It is for this reason that we have developed a media centre to provide information through television. Additionally, we have been working for years on the adjustment of contents through multiple means: mobile, e-books, etc.

The ultimate objective of both approaches described is to reach processes of confluence with both flows of innovation. Some of the emergent projects can end up being transferred and generalized within the whole institution, and driving forces of projects can come together with emergent projects.

In the area of online learning, research is also an important aspect for innovation. In this respect, if we depart from a model of applied research, the relationship between innovation and research becomes rather interesting.

Communication also has a central role inside the innovation model of UOC. Not only is it fundamental for processes such as coordination and growth—necessary for ensuring global repercussion of the initiatives undertaken in the organization itself—but is also a mean for going beyond this context and to prosper from exchanges and the contributions of other bodies.
Innovation strategies for the training field, although stimulated by each university, also need external valuation from within the university system.

We are sure that without innovation, universities will not be able to make themselves needed, differentiate themselves and complement themselves efficiently (Gros B., Lara P., 2009).

4. Conclusions

The Innovation Process of organizations is not simple, or even in universities with few years of life, as in the case of the UOC.

University culture has been very focused, in the last years, in obtaining good results of academic research. The evaluation and accreditation of teachers is based essentially on the contributions made in impact publications in various academic sectors. Meanwhile, faculty initiatives related to improving teaching and knowledge transfer are much less valued by accreditation agencies. This is the reason why innovation strategies in the field of training, although they are driven within each university, also require an external assessment within the university system.

We are sure that without innovation, universities will not be reliable to make themselves needed, differentiate and complement themselves efficiently.

References