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Teacher training in the Knowledge Society

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Abstract
Integrating e-Learning in universities is a gradual process that can be implemented in a variety of ways, depending on the adoption of a greater or lesser degree of virtual resources leading to mixed, hybrid or semi-distant (blended-learning) learning models. Platforms are easy-to-use and provide a wide range of educational features through the multiple tools they embody. The aim of this paper is to analyse how the knowledge society has changed the way teachers share their knowledge and how technological platforms have been introduced into learning systems.

Keyword
University, Teacher, Knowledge

1.- Introduction

Whether or not 'Information and Knowledge Society' is the appropriate term to use, nobody can argue that our current model of society differs from that existing at the end of the 20th century. Broadly speaking, our society has evolved through different stages: agricultural, industrial, post-industrial and informational (or ITC – Information and Technology Communication).

Adell (1997) argues that throughout our history, the access to new technologies has offered a gateway to a world of possibilities. What was virtually impossible before is now possible. Technologies present new infrastructure, this is, new tools that allow using processes in a more effective and convenient way.

Thus, the evolution of society can be classified taking as reference mainstream technology: coding, storing and retrieval of information (Henríquez, 2002:90). In this regard, the following table shows the rationales presented by Adell (1997).

Revolutions occur in different socio-economic contexts, which enable their development, social transfers and production. Today's technological revolution, together with the economic and cultural globalization we are going through, causes rapid knowledge obsolescence and the development of new values, which lead to continuous changes in every sector of our society (Marqués, 2001).Several documents, studies, conferences, forums, articles, and interviews of the European Union discuss this matter and refer to Information Society as the *Learning and Knowledge Society*. The main difference between these two concepts is that information society deals with data management, whereas knowledge society aims to obtain knowledge through data interpreting so that such knowledge can provide solutions to real problems.

The European Union gathered a group of experts in order to develop some thoughts on the information society considering "*the information society as a learning society, and as a lifelong learning society"*. The group also claimed that: "*change takes place at such a rapid pace that people would only be able to adapt to the change if Information Society becomes a 'Lifelong Learning Society"*.

Most of the currently used definitions regarding Information Society agree, to a certain extent, that such society makes an outstanding use of the existing technologies for its citizens' personal and professional development. Carrasco (2000:58) states that "introducing ITC into the Information Society creates new paradigms such as workplaces".

The implications of information society have a further-reaching scope than the simple idea of granting everyone access to a great deal of information. Experts such as Adell (1997) claim that its influence is so significant, that it is even changing society's attitudes and way of thinking. However, the incursion of new technologies in society, as it often occurs when new ideas are launched, has been controversial and raised interesting criticism, even to promote their own development.

Such relevant is the topic that it has led to what is known as the *digital divide*: an element of exclusion between people, countries and groups within knowledge society. The digital divide is the existing inequality in our society caused by technology development. Technologies have proved to help people to be more efficient and to improve their quality of life. Therefore, those who have a limited access to new technologies are or will be less capable to participate in that technology-dependent society (Vidal, 2004). We need to bear in mind that the gap/division not only affects economy, but also generations, linguistics, genres, as well as the teacher and student culture (Cabero and Llorente, 2006).

The European Union takes specific action to diminish the digital divide through its multiannual "e-Learning" programmes. The objectives of suchprogrammes are firstly, to promote the means for e-learning in Europe in order to improve education in Europe; secondly, to achieve a more structured cooperation and provide mechanisms to enhance the quality of products and services, as well as the exchange of good practice and, finally, to foster European citizens' participation in the knowledge society.

According to Vidal (2004), the digital divide is caused by a number of different factors which can be included in two big categories: *Access and Use.* Some of the factors that cause the digital divide are: technological infrastructure, disadvantaged groups and political constraints (regarding *Access to ICT* category); and information technology background, language barrier and self-exclusion (for the *Use of ICT* category).

Reducing the digital and technological breach is a challenge for our society, for this reason collaboration among all sectors (public, private, NGO's)is crucial in order to evenly overcome such differences. What is undeniable is that these technologies are now part of our daily routine and all that remains is to live with them, using the positive to obtain the longed-for social well-being. The aim of this paper is to analyse how the knowledge society has changed the way teachers share their knowledge and how technological platforms have been introduced into learning systems.

2.- Teacher training in the Knowledge Society

Within the context of the knowledge society, teaching isone of the areas that need to go through a close scrutiny, especially, university teaching. When using ICT, new methodologies can be implemented and help adapt university's environment to the needs and demands of society: "*The knowledge society and the new EHEA set and enforce new competencies for professional development and for the Spanish University educational practices, which, can never lose its essence nor can it remain impassive in the face of the innovation process that surrounds all"*(Infante, 2004:10).

Integrating ICT in the universities can cause a major leap forward and, as it happens when educational institutions face a new challenge, teachers are a key to success. The question regarding the competencies an institution has or lacks, the usage of these competencies, further training needs, available support, time and space needed to adapt to the demands of the change, are a cause for concern and for higher education researchers to explore (CRUE, 2006; Margalef and Álvarez, 2005; Meroño and Ruiz, 2006; Suárez *et al*., 2005).

Training is essential in order to face the challenges our knowledge society is going through. Teachers need to face the challenges of today's complex socio-economic context where the purposes and the role of the university are on the line.

University teacher training confronts/meets the challenge/opportunity of supporting teachers in the development of cognitive and emotional skills in order to deal with a professional practice which is increasingly uncertain, complex, unique, and which shows a conflict of values (Donald Schön, 1992, 1998), essential for the conditions set by our knowledge society. It is not about eradicating uncertainty, but enabling us to coexist with it. According to Barnett (2002) university teaching has to face three forms of uncertainty: (1) live with uncertainty or with the sense of continuous challenge; (2) awareness of uncertainty and (3) show uncertainty when teaching, this is, teach our own students to engage in uncertainty. For this purpose, perhaps it would be necessary to reconsider teaching approaches and the most conventional teacher training techniques, support systems, counseling, promotion, mentoring, among others.

Understanding training as *production* more than as *reproduction* would require (among other factors):

- Linking the training to the desired innovation or planned change, by the person or group at the workplace.
- Creating appropriate devices, such as, a *think-tank* in different universities, a potential interdisciplinary group (our contemporary society is arising new problems; dealing with these problems requires crossing diverse disciplinary fields), considered a structure to advice and support teachers, capable to attend emerging needs within a context that is linked to specific contents, and help fulfill such needs.
- Using different types of support throughout the different times of the working experience.

Subsequently, an approach where teachers are key individuals, well- recognised and assessed for their knowledge; it is therefore vital to avoid mistrust and not to focus on any possible weaknesses, but on their abilities, and encourage them to share ideas,

resources, alternative forms of action, and other ways to create a more professional and collaborative culture.

As reported by Margalef and Álvarez (2005:61-68) teacher training in the knowledge society should have some basic premises:

- Acknowledging the experience of particular teachers, their life stories, working experience, knowledge on a specific scientific field, teaching styles, given working status…all of these factors reveal how diverse a university setting can be; consequently, not only students can be diverse, but also teachers.
- A good work experience built up through time should not be taken as a factor that resist change or inspire security and ease, since before the uncertainty caused by the unknown and what is "new", confidence should be put aside. Such believe implies, if applicable, adjustments, reconstruction work, and if necessary, changes to find alternative ways of teaching. Putting this into practice requires some training in order to facilitate the opportunity to experience a relevant learning process.
- Reflecting on the teaching practice contributes to foster a pedagogical thinking and as a result, serves as a source of innovation, either collectively or individually. Changing a given practise should necessarily follow that stage, and also should include time and support for the training. Furthermore, team work and cooperative learning should also be supported.
- Looking for the existing coherence between theory and practice, so that whatever valuable training is given to our students can also be experienced by university teachers when they undertake a training process. This is a demanding task which brings into light the complexity of the teaching task. These proposals oppose university teachers learning methods, as they go through a long learning process based on observation. It is a matter of teaching differently to how we were taught, accepting uncertainty, distress or insecurity that can arise during the process of teaching.

The current knowledge society and ICT can bring back key issues about teacher education, as well as approach the question of their future scope. Novoa (2007) suggests setting up again our teaching education and because of this, he proposes: understanding the teacher's persona and the teacher as a person in its diversity and uniqueness; taking priority over collective work and "routines" of dialogue, and making "sensible" proposals for what it is worth teaching and how it should be done.

3.-Characteristics of the New Learning Environments

The ICT used at universities has led to a new situation which is affecting the need to create new learning environments that, as stated in epigraph 1 on the learning environments of the EVF, disrupt the trilogy: time, place and activity.

These new learning environments offer technical and pedagogical challenges which professionals have to address. The disappearance of the physical spaces used for learning a new global market has been established where educational institutions, both public or private, now referred as "traditional" compete with one another to implement new learning initiatives. These new scenarios are determined by a series of important facts such as (Cabrero, 2005):

- Knowledge is no longer slow, scarce and stable. From different parts of the world men produce knowledge and spread it rapidly thanks to the Internet.

- Formal education is no longer the only resource through which new generations gain knowledge and information. The media and electronic networks have become great partners, competitors or enemies of the teacher, depending on how they are used. Yesterday, there was a lack of information and a difficulty in finding it; today, there is too much information and it is challenging, in many cases, to ensure its credibility/accuracy.

- Finally, educational institutions can no longer work as if the competencies they educate on, the learning they offer and the intelligence they develop in the students, could appeal the expectations of traditional education. ICT and the new global economy based on knowledge, call for the development of other disciplines and competencies in order to address this new society.

Cabrero (2005) states that the properties of such new scenarios are: technology and media, friendly, flexible, individual, collaborative, active, interactive/dynamic, physically delocalized information, multiple-users, and multidimensional/multiethnic.

CONCLUSIONS AND DISCUSSION

Integrating e-Learning in universities is a gradual process that can be implemented in a variety of ways, depending on the adoption of a greater or lesser degree of virtual resources leading to mixed, hybrid or semi-distant (blended-learning) learning models (Bartolomé, 2008).

A number of advantages can be listed when implementing any of the types of *e*-Learning programmes. For instance, it removes the constraints/barriers of space and time, which leads to a flexible and accommodated learning pace; easy interaction between all the users (teachers-students-materials and group-class); and easy access to the contents and material, among others. Notwithstanding, there are also a number of disadvantages that were thoroughly examined in epigraph 1, but, still, it would be important toemphasise the fact that today there is still a large number of teachers and users who lack the necessary knowledge, skills and attitude to participate and use digital technology and culture efficiently (Horton, 2000); in addition, *e*-Learning requires self-discipline and time regulation from students, which entails a high degree of maturity (Marqués, 2000).

A technology or digital platform is the heart of any virtual learning system (Ballesteros, 2002). Most universities virtually have a digital platform to offer *e*-Learning (whether it is an external or its own platform) (Boneu, 2007). Platforms are easy-to-use (users do not need to be IT experts), and provide a wide range of educational features and

possibilities through the multiple tools they embody: communication tools, learning-oriented, learning-efficiency oriented, support tools, and publication tools. The aim of this paper is to analyse how the knowledge society has changed the way teachers share their knowledge and how technological platforms have been introduced into learning systems.

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