Improving staff competences to promote quality of eLearning in Higher Education

Fernando Ramos, Nilza Costa, José Tavares, Isabel Huet

University of Aveiro, Portugal

fmr@ca.ua.pt

Abstract

Quality and innovation of Higher Education is clearly pointing to a better pedagogic knowledge of the faculty members aiming at the academic success of the students. This aim requires, from the institution and teachers, a much greater involvement than what has been the case, at least, in Portuguese universities [6]. The University of Aveiro, Portugal, is engaged in taking advantage of all the opportunities to improve the quality of more than 40 undergraduate and 130 postgraduate programs currently being offered, and to wide the catalogue of choices of students by the promotion of ICT/Internet based programs [2]. One of the main constraints to overcome is the change of mind required from faculty staff, most of which is not familiarized with the functionalities of ICT/Internet based technologies to deploy flexible and student-centred learning settings. The University of Aveiro is taking advantage of a major change in the European Higher Education landscape, the wiling to create a common European Higher Education space (Bologna Declaration), to induce changes in course design and delivery through the integration of ICT/Internet support. Furthermore, this paper presents and discusses a staff development program for faculty staff aiming to provide academics with essential skills in areas such as teaching best practices, curriculum design (student-centred), collaborative learning and the adoption of ICT/Internet technologies.

Keywords: eLearning, quality in Higher Education, teacher training.

1. Background

Founded in 1973, the University of Aveiro is one of the youngest Portuguese Universities with a staff of more than 900 in 2006, including senior and junior members. The traditional model of teaching has been centred on the teacher with the predominance of information passing style in lectures. However, new technological innovations, the globalisation of our society and culture, and new lifestyles will bring a demand for a different type of education. The role of the teacher as well as the student has been changing in the past years due to the new demands of the information society. Faculty can not only be focused on the delivery of knowledge but how that knowledge is acquired by students and the resources they use to make the information more accessible [7].

In 1998, deep concerns with student success rates, namely among first-year students, raised the interest to apply Internet based ICT to improve the student working conditions, namely: i) to provide easier access to learning resources, and ii) to provide an effective channel for interaction among students and staff.

For this purpose a pilot project was initiated. This project included the deployment of a LMS-Learning Management System (WebCT™ was the choice) to support 4 semester courses for first-year students from different science and engineering undergraduate programs.

From that early stage up to today the adoption of Internet has soared. At the present the University owns a Blackboard Academic Suite™, which includes a LMS and a Content Manager. More than 90 per cent of the 12.000 students and over than 80 per cent of more than 800 staff members use Internet based ICT to support their daily teaching and learning activities. Figure 1 shows the evolution of the total annual number of work areas available in the LMS platform of the University of Aveiro for the period 1998 up to 2005.

Continuous professional development (CPD) programmes for faculty members at Universities have never been a priority in Portuguese Higher Education institutions. Neither the rules for academic career progression nor the institutional authorities stimulate the personal and institutional investment in the development of pedagogical and didactics skills, except for a

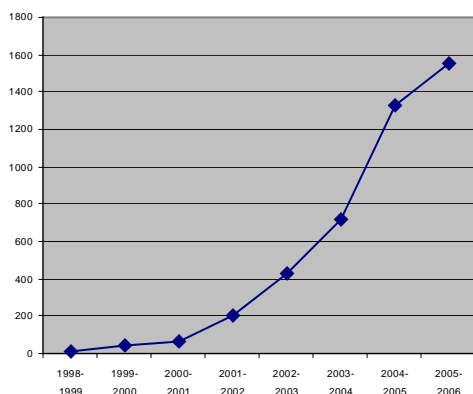minor part of self stimulated staff members or educational experts.

Figure 1: Evolution of the number of work areas in the LMS platform.

However, our own and other's experience is providing evidence that the use of Internet based ICT promotes a set of benefits to students but also to teachers, providing means for enrich student-centred learning experiences. Many arguments may be used to explain this effect, but a relevant one is that the use of Internet based ICT may lead teacher to organize learning as a set of activities that will engage learners in pre-established tasks that require their own effort to be accomplished. This leads to a direct involvement of learners, improving the chances of meaningful learning experiences, thus resulting in the acquisition of new knowledge.

Taking advantage of the reorganization of Higher Education in Europe towards the creation of a common Higher Education space, as defined by the Bologna declaration, the University of Aveiro has decided to organize a CPD program running in 2005 and 2006. This initiative aims to help faculty members to get a better understanding of the power of Internet based ICT in the promotion of their teaching and learning skills.

2. The staff development program

Technologies are tools to help build solutions. So is the case in education: technologies, namely Internet based ICT, are tools to help build and deploy learning solutions. But technologies are not the solution by itself. Technologies can even be a problem if not properly used. For example, if they are not used as a way to achieve a required result, but just as an easy way to create funny gadgets.

That is why the initial of the three modules that compose the staff development program covers the basic concepts and strategies relating to

pedagogy and curriculum design in Higher Education. The second module provides an in-depth view of the power of Internet based ICT in education, and addresses the most relevant issues concerning the current status of standardization and available products for the creation and management of learning solutions using Internet based ICT.

Finally, the third module addresses the practical issues related to building and managing distributed learning communities.

The next sections provide a description of the general organisation of the program and a short syllabus of each of the three modules.

2.1. General organisation

Each module of the staff development program runs for 2 months with 50-hour workload and is organised on a blended-learning approach, thus comprising face-to-face (f2f) and Internet supported distance activities.

In each module there are three 1-day f2f moments. The first happens at the end of the first week of the module. During the first days of this week some distance activities are proposed, namely a couple of ice breaking social activities and some initial readings. This first f2f activity is very important because it enables to build a common understanding of the learning outcomes to be achieved and of the work strategies to be used during the following weeks. It is, also, the moment for each person to get acquainted with the other participants and to understand the possible scientific, professional and personal bridges that may be interested to establish with each other, namely for the work to be carried out throughout the module.

The second f2f session is held at the end of the fourth week, and is used to share the work that each group has developed after the first f2f meeting and to (re) organise the work for the last part of the module. Each module ends with the third f2f session comprising final presentations and discussions. The edition of an online portfolio of the reports highlights the work carried out throughout the module. This final activity is strongly recommended since it will stimulate the reuse and dissemination of the knowledge acquired by the participants.

2.2. The Pedagogy and Curriculum Development module

Although the teaching function is usually regarded as having a lower status when compared to research, increasing worldwide

attention is being given to teaching in Higher Education (HE). Today, we acknowledge a growing concern of the faculty members about the issues of pedagogy and academic success [6]. It is clearly a turning point on the traditional conception of teaching and learning in HE [3]. Bearing in mind the continuous transformation of HE systems all over Europe, we believe that, more than ever, academics need to reflect upon issues such as university pedagogy and curriculum development.

In order to achieve this purpose, the course "Pedagogy and Curriculum Development" is build under three premises: i) the acquired knowledge on pedagogy and curriculum design in HE, ii) best teaching practices, and iii) professional experience of the participants. The activities developed throughout the course comprised, both face to face and on-line debates about a specific issue of the programme. These debates led to a set of written reports which culminated in a final report to be published further on. At the end of the course, participants should be able to achieve a number of competences, such as: i) critical analyses of the challenges of HE in the context of the Bologna declaration, ii) critical thought, with a strong theoretical emphasis, regarding the curriculum design and the process of teaching and learning in HE, and iii) ability to monitor their practices as a way of modifying and improving their daily teaching activities.

The course had two editions with 34 participants in total (20 in the first edition and 14 in the second). The course evaluation took into account the feedback of the participants and the teachers' perceptions. The data presented here are related to the first edition of the course since we are still analysing the second edition.

Two questionnaires were delivered to the participants: one at the beginning and at the other at the end of the course. These questionnaires aimed to evaluate the reasons that led participants to enrol the course and if those expectations were fulfilled at the end. Furthermore, we concluded that the initial expectations were, in general, higher than the final expectations in some issues. This situation is explained, in part, to the fact that the most discussed topic throughout the course was related to Bologna and curriculum design in HE. Indeed, since the beginning of the course we felt a strong concern and interest of participants to discuss this topic. For this reason some topics mentioned in the programme were not addressed in the first edition. Thus, in the second edition we had the concern to address some of those issues (e.g. the link between teaching and research in HE) and invite the

participants of the previous edition to participate in the discussion.

Participants' comments regarding the course included: (i) it promoted the reflection on Bologna and curriculum design, and (ii) it allowed the exchange of knowledge between peers, namely in the construction of a teaching and learning alignment matrix. Also, academics pointed out some weak points that should be carefully thought in future editions, namely: (i) the success of the activities was deeply connected to the group interaction. The collaborative work should be carefully planned in order to avoid a less effective collaboration between the elements of the group; (ii) the teachers had, at some moments, difficult to assume the role of leaders, and (iii) the number of f2f sessions was not enough.

Teachers' suggestions matched most of the participants' comments. In addition, they pointed out an intrinsic motivation of the participants to attend the course, which could be measured by the attendance at the f2f meetings and the quality of the work delivered. Overall, the course was an enrich experience for both participants and teachers who actively engaged in the proposed activities and contributed to the construction of knowledge.

2.3. The ICT module

The main objectives of the ICT module are to familiarize academics with the current status of the power of Internet based ICT in education and to provide a comprehensive view of the status of standardisation.

Concerning the first objective, learners are encouraged to read a few reference texts covering the main areas of application of technologies: content delivery, individual and group interaction through asynchronous and synchronous communication, and assessment among others. Furthermore, the need and advantages of using a comprehensive management environment is discussed, leading to the familiarisation with the typical functionalities currently available in Learning Management Systems (LMS), Learning Content Management Systems (LCMS) and Learning Activities Management Systems (LAMS).

As far as standardization is concerned, learners are introduced to the most relevant standardization organizations (e.g. ADL, IMS, IEEE) and an overview of current standard specifications is provided. Special attention is driven to the SCORM model and to the IMS Learning Design specification, and discussions are carried out concerning concepts such as re-

usability, content granularity and its interdependence.

During the first f2f session of this module, a general presentation of the main topics is provided. However, most of the time is reserved for practical exercises concerning the creation and organisation of work areas in a LMS and the creation of SCORM compliant learning objects and its integration under the LMS. For this last purpose the eXe™ Authoring tool is used, which provides a very easy and user-friendly tool. For the organisation of the learning objects content the use of the IMS Learning Design concepts and paradigm is encouraged, leading the way for an activity oriented learning strategy.

The work plan adopted in this module provides a complete and comprehensive view of the steps regarding the creation and maintenance of learning contents in LMS/LCMS/LAMS and, also, of the main technological paradigms and options that faculty staff has to face when designing a course.

2.4. The Collaborative Teaching and Learning module

The collaborative teaching and learning in Higher Education is certainly the secret for the academic success of students, academic staff, curriculum and institutions [1]. But the big question is how to effectively mobilize the actors of the process for contributing to the new teaching and learning paradigm. In fact, recent trends and meta-trends in educational theory and practice in Higher Education emphasise collaborative teaching and learning for students and academic staff construction or co-construction of knowledge, and pedagogical and technological innovations in teacher education systems [4]. This point is very important for different actors, mainly to the students and academic staff. One important issue that we should focus our attention on deals with the following question: how lecturers and students manage the different problems these learning situations pose and what they actually do and must do on the future? In this context, the learning communities assume a relevant importance. Recently, there is a growing attention on the development of on-line learning environments, which easily allow the 'partnerships between academics across faculties and disciplines; partnerships across multiple campuses; and partnerships online regardless of location' [5].

Thus, the aim of this module is to promote the development of learning partnerships inside the University of Aveiro and in the near future across countries. Following this main purpose it is our objective:

- To identify new forms of learning and its implications for the future of teaching and learning in Higher Education;

- To describe learning partnerships in the context of lifelong learning;

- To describe on-line learning environments and to explain the advantages of some e-learning platforms such as the Blackboard;

- To reflect about best teaching practices and new forms of teaching training.

The tasks are planned to engage actively the participants of the module with the broader objective to establish learning partnerships inside the work group. Furthermore, some of theses activities will imply the discussion of some topics in the f2f sections as well as in the discussion forums at the ICT teaching-learning tool: Blackboard.

3. Conclusions

The project main aims targeted the development of specific intervention strategies near academics to improve their knowledge on topics such as curriculum design or collaborative learning by using an ICT teaching-learning tool (Blackboard).

Faculty members acknowledge this staff development program with a lot of interest, and all the available places (more than 150 for the three modules) were fulfilled.

The courses are currently being run, and preliminary evaluation based on informal questionnaires and case studies developed by trainees show that the program helped academics develop their methodological and technological skills and, also, the perception about the adequate role of ICT as an enhancement factor to improve higher education teaching and learning practices.

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