

LEARNING SPACE

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Abstract: This paper describes an investigation project named Learning in Virtual Space, which main goal is try to find and test a set of factors and theories that enlarge the creation of high quality, pliable learning spaces and its sustainability to the future needs of the students.

1 INTRODUCTION

In the past the e-learning term referred to any teaching method that used some electronic means. With the Internet expansion, the e-learning term was used as on-line courses.

A multitude of systems are currently available to on-line courses. Its appreciation is related with the fact of providing the users a set of contents and functionalities in order to make easier the learning process. The success of this kind of systems has been, in the last decades, object of concern by investigators because of its huge sticking in academic, business and social world.

This concern becomes clear with Bologna's declaration signed in June 1999 that defines a set of measures to the different European higher education systems which aim is to coordinate their policies. This mission implies each university's system rearrangement in order to create the Science and knowledge's Europe.

The Bologna process submission, while bringing in a new reorganization of the Portuguese higher education system, aims to encourage people to go to the university, to improve the teaching quality and learning and to encourage the Portuguese students'

mobility. More and more the e-learning platforms and the virtual learning environments hold an important role in the higher education organizations. Currently, in Portuguese higher education systems, almost all or even all the universities and Polytechnic Schools have in their web space an e-learning platform available to support the learning process in order to improve the training quality and to allow the creation of access terms and learning to other potential new users.

2 PRESENT STATE

The Internet is an ideal way to store teaching contents. The great majority of the universities support their students with a set of material, including texts, images and links to further knowledge sources, where the students can access to that contents and study by themselves, developing therefore individual and group skills. As a result the students can access to the contents and study by themselves in any place with Internet and the also can, if they have questions, use the email to clear up all doubts and solve problems with their tutors.

At the beginning this systems or websites were just simple stores of text contents, or books that

support classes, which were used by the student to access, read and learn. This kind of applications are changing, many of these systems allow the tutors to comprise, for instance, notes, recommendations, presentations, etc. These applications are becoming more and more sophisticated. A huge number of commercial answers emerged in order to help the tutors to teach the courses and to make the contents available online. Its management as well as the access and the registrations are provided by those applications. As an example of that we have the Web Course Tools (www.webct.com), the Blackboard (www.blackboard.com), among others. These systems allow the students' access to restricted contents only available to supporters, where they are encourage to use the means and to participate in the online learning activities. Another kind of applications appeared also exploring the open source and they are being used by the great majority of Portuguese universities; systems like Moodle (www.moodle.org), Sakai (<http://sakaiproject.org>), among others. These systems offer a set of software modules which allow tutors to create online courses. This incorporated learning environments offer to students and teachers a new system to communicate, learn and exchange knowledge.

3 OUR INVESTIGATION

As the industrial revolution changed the traditional agriculture, the Information and Communications Technology will change the teaching and learning process. The traditional teaching will give rise to a new kind of teaching where is necessary to reconsider the physical spaces and the way how the information is taught and made available. Currently, the higher education institutions' main purpose, concerning Information and Communications Technology, is to create and improve their virtual environments in order to improve the teaching and learning quality. Therefore, it is necessary to analyse the consequences of these virtual learning environments in the traditional higher education learning system.

This investigation project is the result of a set of experiences to understand the problematic of the virtual environments in the higher education institutions. It is the problem of the investigation is the need of a referential system to guide the higher education institutions in the performance of virtual learning environments and in its adjustment from the physical teaching spaces.

The great majority of the universities have insufficient or inappropriate learning spaces; they are too small, very dark or cold, made in the wrong places, etc. These places have many deficiencies and so they waste learning opportunities. While managing these places managers don't think about the central role that these aspects take place in the teaching and learning process.

The localization, the design and the learning spaces construction quality in the higher education system, is a differentiation factor among its institutions. From our learning and teaching experience, the spaces we use everyday are not being correctly explored; these places should be designed and reorganized in order to make the learning process possible in any place. There should be places devoted to tasks and functions in order to support several kinds of learning.

3.1 Project's goals

The main goal of this Project is try to find and test a set of factors that maximize the creation of high quality learning spaces, pliable and sustainable to the future needs of the students. Therefore there were selected validation principles:

- The teaching and learning process is improved by experience
- The higher education teaching and learning process comprises ages between 18 and 65
- The teaching and learning process should be present in all sorts of spaces
- More than the academic influences the adjustment of the physical spaces and its relationship with the virtual changes, namely by the use of multimedia and its mobility
- The social and the learning spaces hold an essential role in learning and cooperation

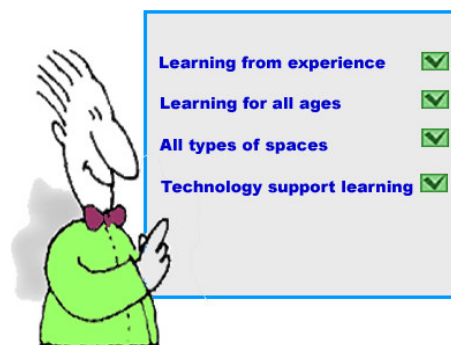


Figure 1: Validation principles

Learning from experience

Each one of us uses day by day learning spaces; so it is necessary to learn from experience and fix the wrong things. We learn with past mistakes and we change.

Learning for all ages

The learning spaces in the higher education systems must count with potential new users. Therefore, that causes complexities in the physical spaces of the universities. The learning spaces should maximize its reorganization in order to be adapted to the new reality.

All kinds of spaces

A learning space must fit all the activities we want to offer the users ("fitness for purpose"); this should be the main idea we should always bear in mind when we want to design a learning space.

It will be necessary:

- Consider the areas and curriculum of each learning environment

- Additional factors such as the sort of users and their supplies. For instance, younger groups require different activities and abilities approaches than the older ones

- Activities must be adapted to the learning space

We should bear in mind that our learning space can fit different learning ways.

The spaces must maximize not only the conventional learning but also the non conventional learning and, if it is possible, maximize the practical learning (hard to get, many times).

Technology as the learning support

As Carly Fiorina states we are in a period where all the processes and all the contents became variable, virtual and personal, where the technology perform a crucial role. Therefore, the higher education institutions should adopt this sort of technologies and take advantage of its potentialities and make them available to the learning process.

It is crucial to the success that Technology will be used as learning support and that the spaces will be designed in order to allow a pliable and easy technology access. Technology will change faster than you imagine. A redesign needs to reflect tomorrow's technologies rather than rely on today's. Staff development programmes focusing on teaching and learning in a technology-rich environment are essential to build understanding as well as confidence.

4 LEARNING SPACE

A learning space is much more than a classroom. It can be any place where the learning process is possible: home, halls, congress rooms, cafés, etc and, of course, the classrooms.

How to improve a space?

The classrooms of a higher education institution are, in greater number, used by different departments, different teachers, with different needs. So, it is essential, when it is designed a space, to bear in mind all these different perspectives and environments and the various satisfied needs. Therefore, it is important that at the beginning of a learning space design the regard of some aspects:

- How will the space be used by other in the future?

- The physical, technological and program needs

Answer the following questions is essential:

The shape of the classroom will be controlled by a presentation?

The room will have a front area where the teacher will be teaching?

It is necessary to consider a range of layouts to support reading, group working, workshops, sitting round a desk, case studies, etc.

Someone is going to use videos, we are going to include technology and change the room into a virtual classroom?

After analyzing these points it will be necessary to analyze also a range of features, such as:

Pliancy (how it can be quickly changed a room's layout), the enlightenment (ways to improve or

decrease its glow), the acoustics and the sound improvement, the kind of floor, chairs and ergonomic shapes, the room's orientation, ventilation and air conditioning, power access and network, kinds of switchboards and its positions, get a way to manage, if there is, the natural glow, room accessing (free or conditioned), etc.

4.1 Guiding Principles

The following principles should guide the planning of a Learning space:

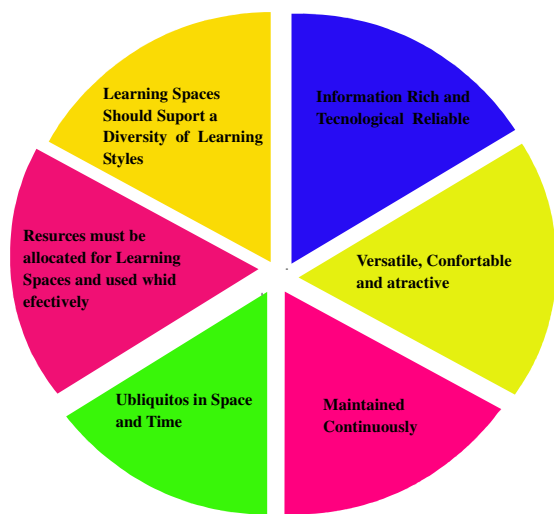


Figure 2: Principles

A learning space should support a diversity of learning styles, at the different times learning can be a social as well as an independent activity, the space should support a diversity of learning styles. A learning space must be versatile and attractive, versatile because he must satisfy many needs, and attractive to motivate the learners and teachers. The space must be maintained continuously and the technology must be present everywhere, a common space need live networks in accessible location to support the learning process. The resources must be allocated for learning spaces and used whit efectively. Class assignment must take into account styles of teaching needs for technologies and other aspects that demand specialized spaces.

5 CONCLUSION

The teaching and learning process won't be the same it was 10 years ago. The use of technology in

the learning process, through interactive switchboards, e-learning platforms, Personal Learning Environments, mobile devices, Internet and the easy access to large and fast information, change the teaching and learning method.

Therefore, it is essential that the higher education institutions follow this evolution and prepare their physical spaces bearing in mind these new realities.

As Vicent Tinto states that "the importance of the learning process goes beyond classroom, hallways and crossings are also important."

To this author these places are important to the students' success in the establishment of their objectives, monitoring progress and providing feedback.

The key to success:

To provide a physical space that hold up the multidisciplinary learning maximizes the team interaction in order to offer richer learning.

In order to provide appropriate space to teach and learn it is necessary more than a simple space. The educational activities are organic and flowing.

The places must be complex, inter connected and related in order to design and hold up the teaching and learning process.

They must be pliable and functional and bear in mind the aesthetic aspects.

There is lot to do in this area. Many people investigate this area but the changing of physical learning spaces requires many challenges and it presents so many opportunities that we can't even imagine.

We cannot find the right learning place but the challenge is try to get there.

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