

# THE IMPACT OF E-LEARNING IN STUDENTS' TIME AND SPACE ROUTINES

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## Abstract

In 2011 the Portuguese Ministry of Education approved a new e-Learning Master course, at the Faculdade de Ciências Sociais e Humanas, Universidade Nova de Lisboa, on Spatial Planning and Geographical Information Systems. Course's first year started on October 2012. The construction of the Master proposal was made side by side with a post-PhD theoretical and practical research on e-Learning, which included questionnaires concerning: a) the need for high education courses on this subject; b) e-Learning at the Portuguese universities from the students point of view; c) impact on students daily life as a result of choosing an e-Learning course and its consequences on the learning process (in comparison with their face to face learning experiences). One of the purposes of the research was to support teachers on the preparation of their disciplines for the first year of the new Master course. The other was to develop new data and allow new discussions concerning e-Learning studies.

As a result, we verified that students had no problems with the technological and methodological aspects of their e-Learning experiences (such as adaptation to the platforms and acquiring knowledge), but experienced various levels of more or less expected difficulties in their daily life (such as adapt personal schedules and create new learning habits and rhythms), with clear consequences on their learning experiences.

The paper aims to increase the e-Learning discussion, both from the universities and the students' perspective and will present some of the results of a case study (60 students), namely: reasons to choose an e-Learning course, comparison between e-Learning and face to face experiences and changes in daily life during the course. It will also present a preliminary analysis concerning the master's first semester (2012/2013).

Keywords: e-Learning, high education, spatial planning, geographical information systems.

## 1 INTRODUCTION

Since the end of the 20<sup>th</sup> century, the Information and Communication Technologies (ICT) have provided new models of distance learning in higher education, based on online platforms available 24 hours per day. The e-Learning is defined as a distance learning process delivered through the internet that is mediated by a teacher, who makes available learning resources systematically organized and presented in media and information technology. These resources can be interactive teaching aids (forums, chat rooms), virtual seminars and tutorials, live internet broadcast, virtual laboratories.

Jonathan Anderson [1] presents the learning process in e-Learning as a space where two dimensions are intertwined: communication and content. Communication is conducted over the internet, with little or no personal interaction, or with a high level of virtual interaction between students, between these and teachers, and even among teachers of various disciplines or courses. Content can be a simple delivery of learning resources produced by the teacher, or it can also be built in partnership between students and teachers, who create resources together in accordance with a learning project. According to the author, e-Learning can be divided into four categories (in ascending order): online resources, structured online courses, blended learning (which includes a classroom component) and communities of practice. From the first to the last, the richness of interaction and content produced increases.

In this context, given the growing potential that ICT – combined with the Web 2.0 features – allow, an emergent debate arises about the best way of tailoring content and teaching methodologies to the student's learning process. This debate adopts various shapes, creating the basis for a theory about learning processes in e-Learning [2], where is relevant the discussion on teaching in e-Learning, which

is assumed as student-oriented, collaborative and more targeted towards a contextualized self-learning, than to the transmission of knowledge by itself.

This debate is even more crucial when recent initiatives from world top universities, as the EdX (which has the Harvard University and the Massachusetts Institute of Technology as founding partners) and the Coursera (which has 33 Universities as partners), both launched in April 2012, put in evidence that the e-Learning massification is clearly established and the massive open online course (MOOC) is perceived as a key issue in the lifelong learning experience.

Nevertheless, teaching in e-Learning is seen as having great potential for personalization [3]. Actually, it refers to a new education paradigm since it is student-centered and focused on his learning process, raising new issues and creating challenges, different from those traditionally faced by teachers and students. In fact, the assumption that students have greater autonomy, as well as a progressive building of self-regulated and shared knowledge, creates the need to better understand students receiving this type of education, in order to adjust training offer and methodology to the targeted public and to ensure pedagogic adequacy to the goals of the course, through forms of knowledge transmission.

Some studies seek to examine this issue, with the aim to identify the advantages and disadvantages associated with e-Learning teaching, in order to maximize the firsts and minimize the seconds [4]. These studies show that students are typically older than those who attend similar levels of education, in the face-to-face regime, and are already professionally active ([5] and [6]). However, while the benefits and drawbacks of e-Learning are acknowledged in these studies, the impact of e-Learning on students' daily life routines is almost unknown, regarding their time and space management [7]. This point is quite important because it is directly related with the student's role in his learning process and with new ways of managing time and space in the contemporary world.

In this context, and following the approval of a new e-Learning Master degree in Spatial Planning and Geographical Information Systems at the Faculdade de Ciências Sociais e Humanas, Universidade Nova de Lisboa, a new applied research project was defined, dedicated to the impact of e-Learning in students' daily life. This project is simultaneously theoretical and practical oriented since it aims contributing to the discussion on these issues and to provide data to support the implementation and management of the course. By knowing the impact of e-Learning on students' daily routines it is possible to achieve a better balance between pursuing scientific excellence and successful completion of the course.

## **2 METHODOLOGY**

The methodological approach was based on a case study, an online survey, which was developed with the purpose of assessing the impact of e-Learning courses on students' daily life.

The academic year 2011/2012 was set as reference and an online survey was created in SurveyMonkey. This method was chosen after an evaluation of the resources available (manpower, time and budget constraints) and considering the target population that was defined as individuals who had previously carried out e-Learning courses and thus are familiar with ITC.

The questionnaire was composed by 29 questions, in a mix of closed and open-ended questions, covering student's profile, type of e-Learning course attended and its characteristics, motivations to choose the course, time dedicated to it, and time and space management before and during the participation, and finally a set of questions related with the ICT resources mostly used.

Despite the growing interest on e-Learning courses, presently, it is not possible to know how many individuals are studying through this regime in Portugal. Since the academic year 2008/2009, all courses offered by the Open University (Universidade Aberta) are taught in e-Learning regime. In Portugal, this is the most important high education institution in distance learning, which had a student body of approximately 10,000 students [6], estimating that these represent 90% of the students that were attending e-Learning courses at higher education. However, there are no estimates on the provision of vocational training courses which do not grant academic degrees. Moreover, ICT facilitate participation of a Portuguese student in a course at an international institution, and thus being invisible for these rough estimates. Therefore, in the absence of data regarding population size and its characteristics, the sampling method chosen was accidental sampling.

After a pilot test, some adjustments were made to the questionnaire. In order to reach the target population, the survey was disseminated online thanks to several mailing lists and discussion groups

related with geography and e-Learning, and it was also sent to the alumni of previous courses (Masters on e-Learning Systems Management and some from the masters on Sciences and GIS, both at the Universidade Nova de Lisboa). Data collection was made from 18<sup>th</sup> November 2011 to 18<sup>th</sup> January 2012, being 60 students inquired. Data analysis was done along 2012.

### 3 RESULTS AND DISCUSSION

#### 3.1 Students characteristics

The population inquired has a gender distribution with a female prevalence (47% men and 53% women) and it is mainly composed by individuals who were born between 1961 and 1980 (accounting for 75%, from which 45% were born between 1961 and 1970). Older students are also represented since 15% were born between 1951 and 1960 and 2% before 1950), showing that lifelong learning is valued for these individuals.

In addition, probably due to the age of most students, 68% of the individuals have descendants and therefore the consequent responsibilities of family life.

Students' educational background is relatively high, since 57% have a licentiate degree (4 years or more), 22% have a master degree and 3% a PhD (18% have secondary studies). Regarding their professional activity, the majority is employed (98%), mainly in senior positions (48%) (Fig.1).

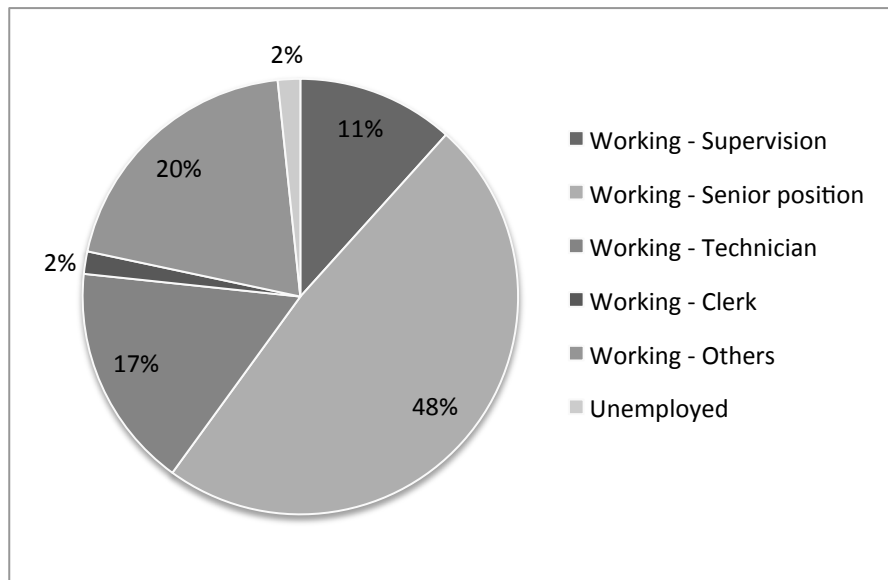


Fig. 1 – Students professional activity.

Population inquired participated in e-Learning courses from 2006 onwards and mostly in 2010 (32%), 2009 (28%) and 2011 (20%). The courses attended were vocational training (36%), licentiate degree (27%), master degree (27%), and others not specified (10%).

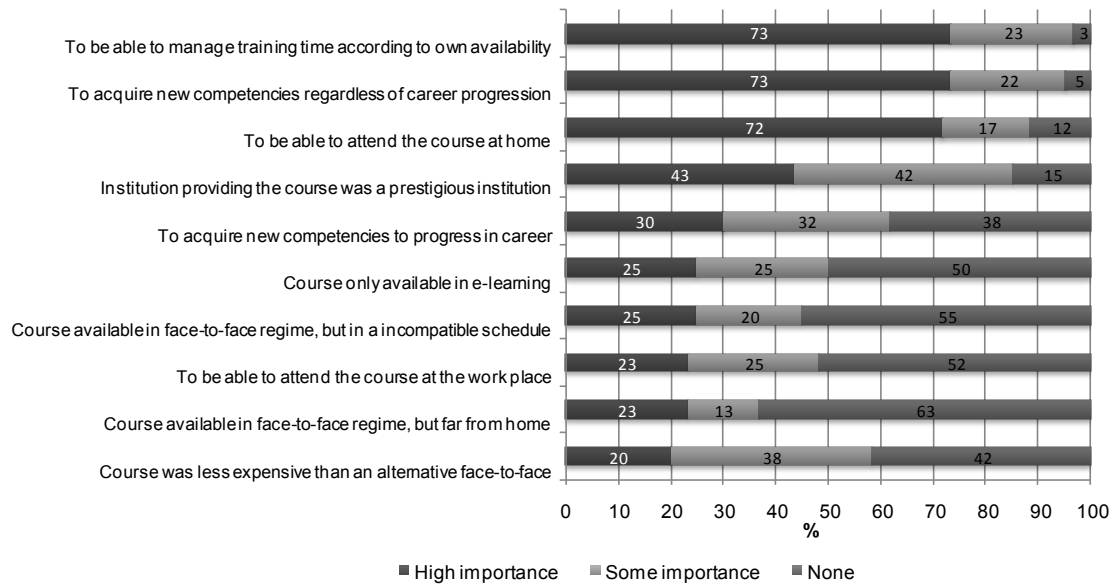
#### 3.2 Motivations to attend an e-Learning course

According to the results, for 77% of the students it was determinant that the course was on an e-Learning regime and only for 12% it was not relevant. Furthermore, when asked about the reasons why they choose this type of course, the answers highlight the importance of training as a way for acquiring new competences and skills (independently of being relevant for career progression), and the easiness of time and space articulation offered by e-Learning teaching (Fig. 3). In fact, time flexibility is the most valued reason for choosing an e-Learning course, being somehow important for 97% of the students.

Regarding space, for 73% of the students it had high importance to be able to participate in the course from home (and for 17% it had some importance). And, apparently, the spatial location of the institution providing the course was not considered important. This is reinforced by the fact that the vast majority of students live in the metropolitan areas of Lisbon and Oporto (63%), where the

universities offer is substantially high and diversified. Nevertheless, it is noteworthy that for 43% of the students the prestige of the institution providing the course had high importance, when choosing it.

On the whole, spatial location of the students and their potential access to classroom training does not seem relevant to the choice of an e-Learning model at the expense of personal time management to complete the course, which is of greater importance. This result is in accordance with an international trend which emphasizes the dimension of “time”, instead of the dimension of “space” in distance learning [6].

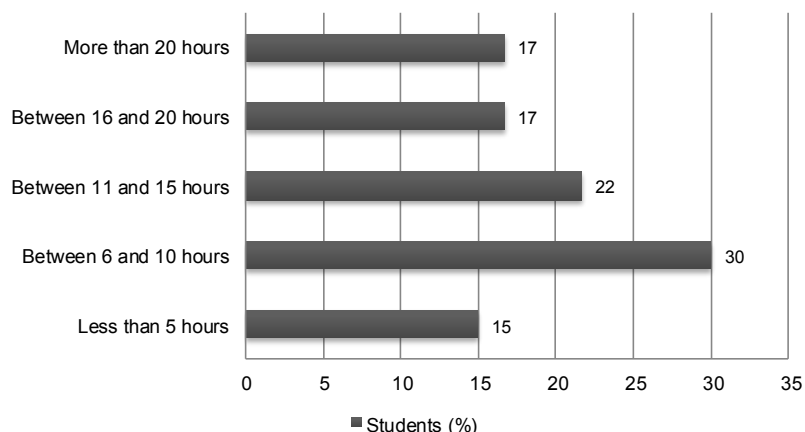


**Fig. 2 – Level of importance of the reasons for choosing the e-Learning course.**

The chance of doing the course in a face-to-face regime, but far from home was the motive less valued by the students. In fact, it would be more difficult to follow this alternative since most of the students are employed and have descendants.

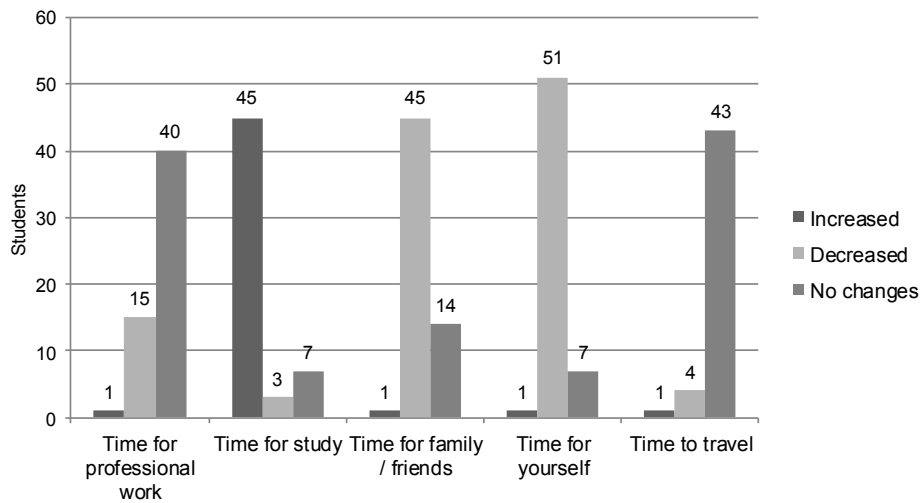
### 3.3 Impacts on students’ daily routines: redefining time and space

In order to assess the impact on students’ daily routines, it is important to quantify how many hours per week they had dedicated to the e-Learning course. As Fig. 3 depicts 52% of the students devoted between 6 and 15 hours per week and 17% demonstrated a dedication of more than 20 hours per week (almost 3 hours per day). However, we do not have data to clarify the reason of these discrepancies, since it may have been due to the effort of the students, due to the type of course (as vocational training – 47% of the answers - or a university degree – 53% of the answers) and its length (a short course might require a bigger effort for a reduced time period), or due to the course structure (which might be too time demanding and not properly suited).



**Fig. 3 – Time (hours per week) dedicated by the students to the e-Learning course.**

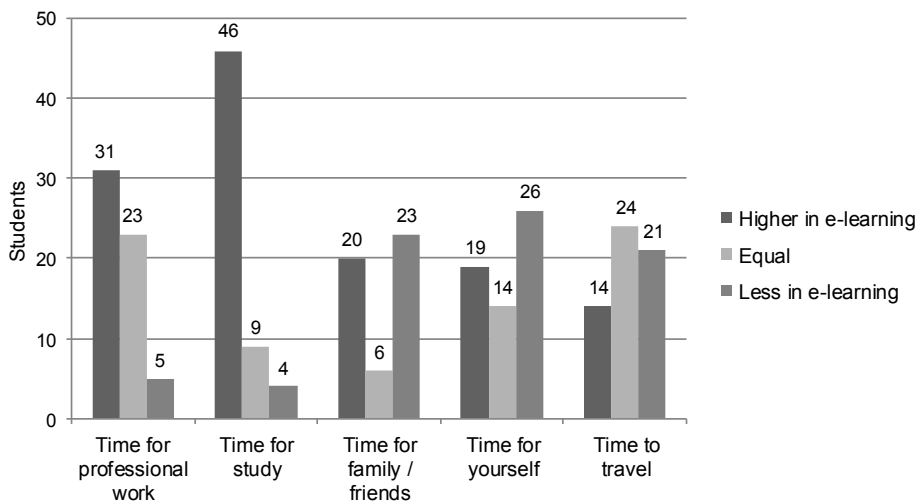
As regards the changes experienced in the management of personal time while attending the course, students refer - along with the increased study time - a reduction in the time for themselves and family/friends (Fig. 4). In general, time available to work and time spent on commuting/traveling are activities with less flexibility, and thus, time dedicated to them remained mostly unchanged.



**Fig. 4 – In which way did the e-Learning course change your time available to the several daily activities?**

These results seem to indicate that time needed to complete the course is made at the expenses of reducing personal time and that the fact of the course is in e-Learning does not interfere in the daily management of time spent on other tasks. If this underlines the personal sacrifice that usually is associated with part-time learning experiences, on the other hand, as it was previously referred, choosing an e-Learning course could provide room to minimize it, and this would explain why so many emphasize the possibility of studying from home.

However, as Fig. 5 shows, when comparing classroom teaching and e-Learning, students do not confirm this entirely, as a slight majority consider that time for themselves and their families/friends is less in the latter regime. Conversely, individuals clearly consider that e-Learning system allows more time to focus on study and to work.



**Fig. 5 – If you ever attended a similar course in a face-to-face regime, what are the differences regarding managing your free time?**

### 3.4 Preliminary analysis concerning master's first semester (2012/2013)

At this stage, the first semester of the e-Learning Master course on Spatial Planning and Geographical Information Systems is still on-going and so, it is not possible to provide yet a comprehensive evaluation of this e-Learning experience.

In total, 11 distance learners are enrolled, having among them a diverse geographic provenience, as 6 are from Angola and 5 are from Portugal, but from quite different locations (e.g. Lisbon and Azores). Only 3 students decided to do the master degree immediately after completion of the licentiate degree, and the others are already active in the job market.

The analysis of the platform accesses shows that most of the students study and work on their assessments during the evenings and the weekends. To confirm this, is the fact that assessments are always delivered close to the deadline on Sundays evenings.

## 4 CONCLUSIONS

At European level, Portugal included, there is an increased integration of ICT skills in several education levels [8]. In fact, a large number of scientific events, where national and international experiences are presented, confirm this dynamism (e.g. the annual conference of the EDEN - European Distance Education Network).

However, despite this and somehow in contradiction with the fact that some students and teachers of the courses analysed during the present study are not resident in Portugal [5], it still prevails the promotion and dissemination logic at national level. Actually, what Varis referred, in 2006, still occurs today: "Virtual education in Europe has mainly taken place on a national level thus far, and there is not yet a great deal of transnational collaboration" [9].

An outcome from the case study hereby described is that the e-Learning students' profile suits a training offer of transnational nature, since they opt for courses that enable them to acquire skills through individual management of time for study and work, doing the course preferably at home.

Therefore, in this context it is believed that there is potential for expansion of these courses, both nationally and internationally. However, the current economic crisis might jeopardize the pace of this growth, due to the fact that the majority of the e-Learning students are adults with professional activities and with descendants, and these individuals may have in the short-term some difficulties to invest in their skills, especially if this does not result in a career progression.

Moreover, the analysis shows that the e-Learning experience produces significant impacts in students' space and time management, with important effects on their daily lives. According to data collected, these impacts coincide with the aspects considered by students as advantages but, considering the profile of the students - who show maturity to perform autonomous study - are sufficient to mitigate the disadvantages of e-Learning when compared with the face-to-face regime.

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