

New Technologies integration in the Open University for elderly people at the Balearic Islands

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This paper presents the integration of new technologies in the Open University for Elderly People at the Balearic Islands (UOM) program. Being aware of the distance between elderly people and digital technologies, and of the improvement of their standard of life, we think it is necessary to include new technologies in elderly people education in order to reduce social exclusion risks.

Keyword: new technologies, elderly people.

1. Introduction

Nowadays, elderly people typology is changing; they retire younger, enjoy a higher standard of life and take a better use of their spare time, spending it on ludic or learning activities. This is a fact that, day by day, is more important within our society, as we can see with the universities for elder people. There are 74 university programs for elderly people where a basic content upon different areas of knowledge is taught. Learners are mainly interested on subjects related to the humanities, be it literature, history, history of art, etc., and lately, we have found their interest on new technologies has risen. Some students are interested in using computers in order to make their homework (text processing software); others are more interested in using the Internet as a communication tool; others use the Internet just as a source of information. In any case, we cannot forget that elder people are sensitive to suffer social exclusion for being one of the groups within the digital divide.

University programs for the elderly are social programs with main function is to integrate the elderly in the university ambit in order to prevent isolation, social exclusion, brain degeneration, lack of social nets..., and because of this, we must not forget the inclusion of new technologies in their university programs.

Today, one of the main challenges for education is to be able to assure equal opportunities to everyone accessing to a university or to any other education system. New technologies could be a way to improving the integration of people, independently of their capabilities, age, economic situation, etc., or it could enlarge inequalities within our society, since it could become a resource available to a few. This is why the university should promote the digital inclusion, the *full participation of every citizen in equal conditions, guarantying the access to and the use of the new technologies*ⁱ

If we review the typology of the UOM and of other university programs for elderly people, we notice they have a series of characteristics that make them sensitive of suffering the digital divide. Among the most relevant characteristics we findⁱⁱ

- Our students are elder people with an average age of 63.5 (range= 50 to 83 years); 60% are women.
- 40.1% of the students own a secondary degree, 26% a university degree and 34% is divided between primary studies and technical studies.

- 59% says they have some difficulty to continue their education in the past, as illness, lack of economic resources...
- 66% of the students have some visual problem, 16% have ear problems, 10% some motor difficulties and about 9% have some kind of learning difficulty, above all in speech and written expression.
- The perceived economic level is medium-medium (67%) or medium-high (22.7%).

The UOM was born in 1998 as a cycle of conferences for the elderly. After some years, it has changed in order to improve its educative offer. Nowadays, we can point out the following basic characteristics of the program:

- New students must be over the age of 50, must be retired or pre-retired and must have primary studies.
- It has changed from a 3-year non-formal education program with 50 students per course as an average, to a 5-year formal education program (title given by the Balearic Islands University) with 75 students per course
- The UOM has its base at the UIB university campus. It has 3 branches more, 2 at Menorca and 1 at Ibiza, and a program for Majorcan villages. Each branch is organized separately.
- The program provides a primary education; it includes modular subjects, between 10 and 20 hours long, of almost every department in the UIB: laws, economy, biology, chemistry, physics, education, psychology, history, philosophy, history of art and computing.

2. The evolution of new technologies within the UOM.

Table 1 shows the evolution of new technologies within the UOM.

	2003-2004	2004-2005		2005-2006		
Hours	30 Computing, Internet and new technologies	20 Computing I	20 Computing II	20 Computing I	20 Computing II	15 Web pages design
Year	2 nd	1 st	2 nd	1 st	2 nd	2 nd y 3 rd
Students	92	115	83	84	85	8
Classes	1	3	2	2	2	1
Computers	57	29 in two classrooms. 12 in another classroom.	29 per classroom.	They change classroom many times	29 per classroom	12
Teachers	1	2	2	2	2	1
Content	Internet	Internet	Internet and e-mail	Word	Internet and e-mail	Front Page and Internet.
Teaching Material	Yes	Yes	No	No	No	No
Average quorum	77 students	80 students	66 students	56 students	69 students	5 students
Students who did not attend 80% of the lectures	27	46	23	35	20	0

Table 1 Data of subjects related to new technologies.

The year **2003-2004**, we find a 30-hour subject on computing, Internet and new technologies for 2nd year students, with a total of 92 pupils. The course was given in a classroom with 57 computers and a quorum for 114 people, and it was taught by a teacher of the faculty of computing. The course dealt with Internet and e-mail. The teacher prepared a detailed teaching material with exercises and the steps to solve them.

The main problems we found were:

- The classroom was too big and had a bad acoustics, so students could neither see the presentations nor hear the teacher's explanations.
- Lack of resources for students: up to three students shared a computer, they did not have enough chairs and there was not enough room between computers for two or three people.
- Just one teacher was not enough to answer all the questions the students had during the lectures.
- The students had very different levels: some of them did not learn anything because they knew everything already.
- Too many people attended the lectures: students had some difficulties because of noise, hot temperature, low level of the subject, lack of resources, etc.
- The content of the subject was not adapted to the interest and knowledge level of the students.
- Lack of computers (most of them were broken down)

In spite of this, the students showed their interest on computers and the Internet. They were very satisfied with both the didactic material and the teacher.

The study plans change the year **2004-2005**. Computing became a compulsory subject built up by two parts, computing I and computing II, given in the 2nd and 3rd years. Both subjects were 20 hours long and had 115 students the 1st year and 83 the 2nd year. Another change was to split the students in two classrooms with a teacher per classroom. The subject explained Internet as a source of information and the use of the e-mail.

We found the following problems:

- Lack of room for all the students; there still was more than one student per computer.
- One teacher per classroom was not enough to attend the students.
- Previous knowledge of students was very different: some of them were able to use computers, Office and the Internet perfectly, and others did not know what a mouse was.
- Students did not want to share a computer; they said they did not have the time to practise everything if they had to share a computer.
- Lack of a well structured printed material to follow the explanations without problems. The didactic material prepared by the students was a list of specific vocabulary on computing. Most students said it was not worth to take the subject.
- Lack of organization; the 1st group had more classrooms than teachers.
- All the problems made students to feel uncomfortable and reject new technologies.

Moreover, we realised that 40% of the students in the 1st group did not attend the 80% of the lectures because they abandoned the subject or because the teacher had considered they knew everything; to attend 80% of the lectures is necessary to pass the subject. On the other hand, the 2nd course was better; less than 30% of the students did not attend the 80% of the lectures. This situation, together with the drop of the assistance since the beginning of the year up to the end (see figure 1) made us introduce some changes the next year.

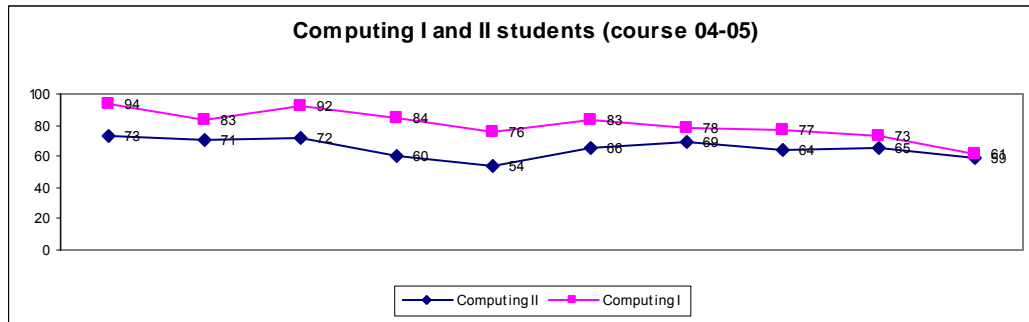


Figure 1 Number of students that attended Computing I and Computing II during the course 2004-2005 course at the UOM

The course 2005-2006, the most important changes were on space organization (several classrooms with one teacher per classroom) and the content of the subject (they were to use a text processing program as a first contact software, and then they were to use the Internet). In spite of the changes, we have had the same problems and assistance has kept going down.

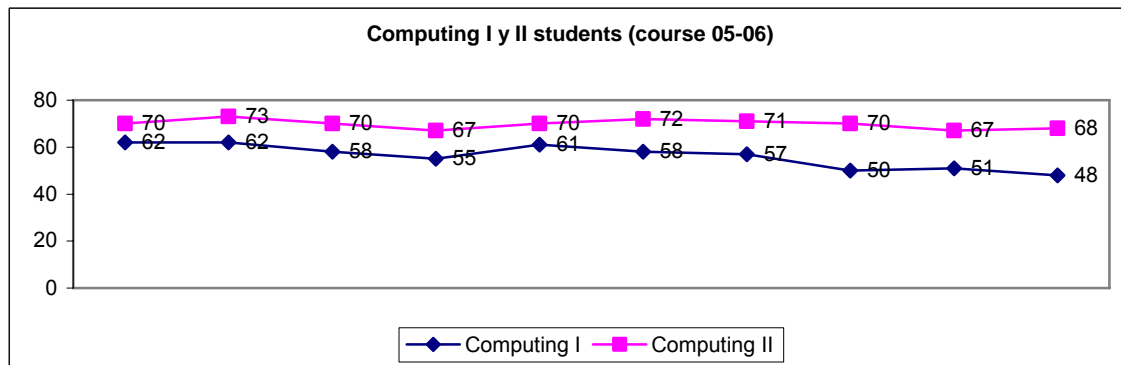


Figure 2 Number of students that attended Computing I and Computing II during the course 2005-2006 course at the UOM

On the other hand, the web page programming subject worked perfectly well; each student had their own computer and, since they were a small group, the teacher could help all the students although they did not have printed material. The explanations during the lecture were given slowly, so the students had the time to take notes. At the end of the course they had reached the objective of the course: to upload a webpage on the Internet made by them.

3. Conclusions and Future Proposals

We will try to improve the didactic offer of computing I and II.

The proposed changes are:

- Make groups by level. The subject must be divided into two groups due the amount of students and the size of the classrooms. Taking this into account, and making a level test to students at the beginning of the year, we could make two groups and teach the same material with different deepness.
- To have two teachers per classroom. At the moment we have one, but we have realised it is not enough to solved all the doubts that students have during the lecture. It takes 10 minutes to the teacher to solve a problem to a student. If every lecture is 2 hours long with a 15 minute break,

- it is possible to help only 10 students. Since there are about 50 students per class, they feel somehow lonely and frustrated, they think they are wasting their time, etc.
- Change the subjects program. Computing I should be a theoretical introduction to the different components of a computer, some basic concepts and the proper language of computing. Once they have this knowledge, they will work a text processing software. Computing II will be similar, but it will deal with the Internet; the first part of the subject will explain how the Internet works and a series of basic concepts; the second part will teach the students how to use the Internet in order to look for information, access to their e-mail, visit web pages, etc. As with computing I, two groups will be made.
 - To have the necessary adaptation so that every person can take the subject independently of their visual, ear or motor problems.
 - To prepare a proper didactic material for the students. This material would contain both the theoretical part of the subject and the exercises to do at the lab by students of both levels. The material should explain the exercises step by step, with images of the computer screen.

We want to widen our offer with more lab-subjects. Lab-subjects are 15-hour non-compulsory subjects with a very practical structure. The lab-subjects offer is based upon the interest of the students, and so they will learn things they will be able to apply during their everyday life. We will keep the web page lab-subject, but at the end of the course, students will have to make a web page that will be uploaded to the official UOM webpage. On the other hand, we are to introduce a digital image treatment lab-subject, since digital cameras are very common, but only a few people are able to get really good results.

We are to keep the subject New Technologies applied to Information and Spare Time, in the 5th year, reviewing it yearly in order to control the level of satisfaction of students and the concepts they are interested on.

We want to create a virtual environment to back up the normal lectures. We would use Moodle, since this is the software used by the rest of the UIB. The introduction of this environment goes along with lab sessions to learn how to use it. These lab sessions would be offered the first year and would last for 15 hours. In order not to widen the digital divide between those students with Internet at home and those without, the university gives them the change to use the computing classrooms. Moreover, everything available from the environment will be available on paper too.

We would like to improve the UOM website and its resources. At the moment, this website is not adapted to the elderly, it shows low ease of use and does not give all the information it could (important news, timetables, the possibility to contact the UOM campus by e-mail). We are working on a website able to give both to students and teachers all the information related to the different UOM programs, timetables, activities, student guides, teacher guides, a site to share pictures, an application site, etc.

We want to create learning communities, so that students from villages in Majorca, Ibiza and Menorca can participate. We consider this proposal a very new one; we also think it can encourage people to use new technologies, since they provide a place to share experiences and knowledge, and at the same time, it can help students to know each other better and work together from different locations.

We would like to make a virtual community to improve the management and control of the UOM. This proposal comes from the fact that the UOM is overwhelmed because of the high number of students – personnel ration. This project proposes that the elderly people, students of ex-students, coordinate a series of tasks through the virtual environment.

These tasks would be:

- To assure students and teachers have all they need (material) to give the lectures.
- To organize the cultural visits teachers propose out of the university.
- To keep a news table.

- To control the students' assistance
- To hand in the students' homework and send it to the teacher when provided.
- To hand out the homework given back to students.

All this work would be supervised by the academic coordinator in a systematic way.

ⁱ Soto, F.J y Fernández.J.J *Los retos de la educación ante la exclusión digital*. July 2006. [on-line]
[/www.tecnoneet.org/docs/2004/1-62004.pdf](http://www.tecnoneet.org/docs/2004/1-62004.pdf)

ⁱⁱ Data obtained from a questionnaire made at the university (181 participants, course 04-05).