

IMPROVING DIGITAL LITERACY IN PORTUGUESE TEACHERS CONTEXT - MOODLE AS A NEW PLATFORM FOR TEACHERS TRAINING

ABSTRACT

During last year, the ICT teachers' training in Portugal has been deeply restructured. The main objective was, after a decade of ICT teachers training using local approaches defined by teachers training centers, define and conquer digital literacy for all Portuguese teachers, independent of their basis area of teaching. Now, and a year after the beginning of the new model, it's important to reflect about the detected difficulties, to do the balance between the expected outcomes and the real ones. There are some relevant questions: are there any new advances? What are the new challenges for teachers? What are (or can be) the outcomes? Are the outcomes the expected ones? How can schools, teachers, students, teachers training centers' and trainers get together to make b-learning a real and sustainable approach in all Portuguese non high schools? This paper includes research about the Moodle dissemination in Portugal, reflections about the new and the old ICT teachers training model and guidelines to improve the new model success.

KEYWORDS

Digital Literacy, Teachers training, Education, ICT Training, Learning Communities, Life-long Learning;

1. INTRODUCTION

CRIE (in Portuguese, Workgroup for Computers, Networks and Internet at Schools) is the entity responsible for the new model for ICT (Information and Communication Technologies) teachers training. It has been launched by the end of 2005 (November). Its purpose is to deeply restructure the former ICT teachers training model, changing the learning paradigm to be focused not on applications but on students needs, and how ICT can be used to fill students and school project's needs.

The new model is based on a set of four different courses, the same for all the teachers training centers in the entire Portuguese country, using a b-learning (blended-learning or mixed training, with presence and distance classes) approach. b-learning has several advantages comparing to traditional/presence classes: flexi-

ble timetables for study and trainees interaction; physical trainees location is not relevant for course development; the costs are less than the ones for traditional/presence model; it's easy to reuse and update course contents; it's possible to innovate the training process by using multimedia interactions.

ICT Teachers training using e-learning is not a new method: Prof2000 project [1] [2] has developed many ICT courses especially for teachers, since 1997. But, as in [3], many teachers felt not being prepared for that approach and they prefer presence classes. However, since 2006 there is no other option: b-learning sessions considering 25 hours in a presence model and more 25 h for autonomous work, using Moodle as e-learning platform. From this moment on, teachers are conscientious that, if they are not ICT experts, they must be! As quickly as they can! School model is changing: students have special skills for computers and technology and teachers must understand them. Schools have international projects and need to communicate with many countries in a cheap way: now teachers feel that Moodle can be the answer. In a year, lots of procedures have changed. We can analyze 3 different phases: the first one from May to July – the first teachers' courses using the new model (Preparation); Second from September to December - the second set of courses (Assimilation) ; the third from January 2007 until now – the ones who need to know more about Moodle (Solidification).

2. NEW ICT TEACHERS TRAINING: THE FORMAL GUIDELINES

CRIE has proposed four different courses on ICT teachers training [7]: “A - Implementing and Managing ICT projects at school”; “B - Using ICT in teaching and learning processes”; “C - Leadership and ICT integration at schools”; “D - ICT on Inter and Transdisciplinary contexts”. Only B course is oriented to all teachers independent of their former graduation and their students level (pre-school, basic school or secondary). C course is focused on school’s executive boards, and A and D courses are for ICT teacher’s or ICT project leader’s. Those were, in 2006, the only options for ICT teachers training in Portugal. In 2007 there are more 4 specific courses aimed (only) to ICT teachers. According the Formal Guidelines [4] for ICT Teachers training, defined by CRIE, these courses must have, “as the first and most important goal, the ICT application with students at schools; Put together presence and distance sessions (b-learning approach) supported by a LMS platform; Be related to teachers context, aiming to use teachers work with their students; Creating products and online contributions as students and teachers outcomes related to their collaborative work (e-portfolios are a good example); self-training and peer-coaching are encouraged; the approaches for ICT teachers training must be active ones: workshop or ateliers and projects are encouraged as they demand from the teachers a significant amount of work beyond presence classes; all the courses must be certified by a Portuguese teachers training community: *Conselho Científico e Pedagógico da Formação Contínua de Professores* (Cientifical and Pedagogical Council for Teachers Training); the outcomes are related and support the school project mainly in what’s related to ICT; the courses should support national programs on ICT; the projects must predict their evaluation and the training impact”. All these goals and objectives define ICT as almost a mandatory and strategical area at Portuguese schools.

The workshop model, using a b-learning approach and a LMS (Learning Management System) Platform as Moodle, defines that, all the actors (trainers and trainees), must work together beyond the presence classes: teacher’s participation must be active (forums, chats and messages are important communication tools), the class must work as a Virtual Community (a sustainable one), the courses impact will be evaluated and, for this evaluation could be possible, there is a temporal gap - 2 or 3 months - since the teachers are expected to do real work with their students.

3. NEW LMS PLATAFORM: MOODLE

Moodle was the reference LMS Platform to implement ICT teachers training. This is an open source software and, although being a very recent LMS (it’s an

Australian Project in development since 1999), it puts together a significant user's community: Portuguese Moodle Community - <http://web.educom.pt/moodlept/> and International Community - www.moodle.org) as two distinct examples. Figure 1 compares the exponential growth considering two reference dates: December 2006 (the end of the first ICT teachers training) and July 2007 (the end of the first period of the second year). Registered sites, Courses, Users and Forum posts had a 30% improvement. Teachers grown less: only 17%. There are 186 countries registered (169 were registered in December 2006). Portugal had 581 registered Moodle servers (December 2006) and has now 1084, an 85% grown in a 6 months period. It means that Portugal belongs to the top 4 countries considering this value and also school population. Countries like Germany (834 -Dec. 06, 1232 now, 48% grown), Spain (1460 -Dec. 06, 2147 now, 48% grown), and United Kingdom (1549 -Dec. 06, 2052 now, 32% grown). Data for countries like Australia (611, 822 now, 35% grown), Brazil (874, 1459 now, 67% grown) and United States of America (3913, 5595 now, 43% grown) [5] [6] are also important because there are very active learning communities.

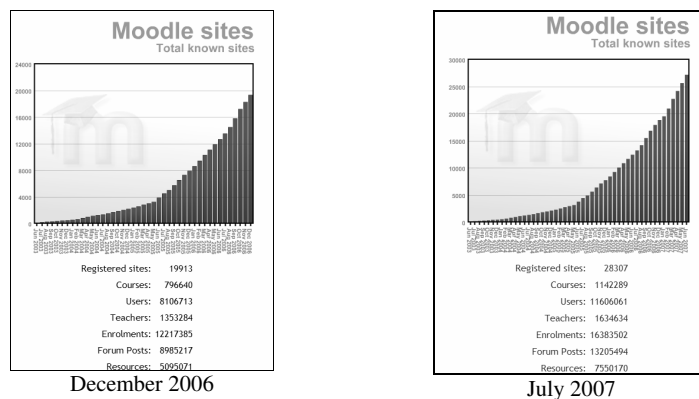


Figure 1. Moodle sites and other relevant data in December 2006 and July 2007.

3.1 Moodle – a new visibility paradigm

Moodle allows profile definition for users (teachers, students and groups), file sharing, chats and forums discussions (all the posts can be sent to all participants registered in a specific course), work submissions, sharing results and feedback for students as grades and comments, trace participants workflow, referenda, questionnaires, glossaries, wikis, peer-coaching using workshop activity. However, if we intend to explore e-learning tools beyond Moodle using as a complement for presence classes, lessons, diaries, and tests could be good tools. Moodle has also

other possibilities: a calendar where all tasks can be announced; a messages exchange system completely supported by the platform; an area where is possible to know who is online (could be important information in virtual communities).

In Portugal, there was no tradition on teacher's virtual communities besides some punctual projects like Prof2000, RCTS (in Portuguese, *Rede Ciência, Tecnologia e Sociedade* or Society, Technology and Science Network) or UARTE (in Portuguese, *Unidade de Apoio à Rede Telemática Educativa*, Supporting Unit to Educative Telematic Network). Teachers were not very familiar with sharing work with other teachers, other schools or other projects. Even during former projects, there was the challenge to online sharing using Internet Web Pages but there was also a difficult task because most of the updating work was centred on ICT teachers, they were not part of school staff for more than a year and so, there are many schools sites that are not updated for long time. With Moodle, the whole paradigm can change: for the first time, teachers have a platform where they can be completely autonomous - they can update their courses anytime, anywhere, for their own. However, they must decide what is relevant for students, the personal contents that can't be available like personal restricted data. To solve these problems, teachers are encouraged to use inscription keys besides user authentication on Moodle Servers: with this option, teachers can assure that there are no unwanted users among their course participants. Even so, it was not very friendly for teachers to get used to this approach: they weren't accustomed to their class visibility paradigm and now they must (or they could if they wanted to) to a global paradigm. Questions like: "can other teachers use my work without asking me?" were very frequent ones. Figure 2 is a course example, in Portuguese, using *Sofciências* Moodle Server. This course has been the virtual community for one of ICT teachers training class.



Figure 2. Moodle Course Example. Virtual support to B course-Centro de Formação de Professores Agora – Coimbra, PT (only available in Portuguese language)

3.2 Moodle – advantages and drawbacks in teacher’s context

The ICT teachers training focus now on processes that can be translated in a more efficient learning model for students in schools, while in the past was centred on applications (how to use Word, Excel, PowerPoint, for instance).

At the beginning (May 2006), there were many obstacles to conquer the aimed goals:

- Lack of information about the new ICT teachers training model: many teachers didn’t know that they had to do the training using a workshop model and b-learning. Many didn’t have internet access at home and the school internet accesses were very slow.
- In workshop model, working in a Project beyond presence classes is mandatory. Also, the presence sessions must be very separated in time for a 2 or 3 months since the beginning until last session. Teachers weren’t prepared for these exigencies.
- Schools were not prepared for Moodle Platform: there were not enough computers for teachers. Meanwhile, a Program to equip schools with portable com-

puters (Portables at School [3] promoted by CRIE) has begun and, from this moment on, this problem was solved;

- Many teachers didn't have the basic skills on ICT;
- Moodle was not adequate to nursery schools and even basic schools didn't have more than one computer for their students. These teachers had many doubts about the correct way to use Moodle with their students;
- There are many courses where it is difficult to interact with Moodle: expressions areas like music, sports, arts, are difficult to adapt to an on-line platform;

However, teachers tend to overcome all their difficulties and many schools have now their own Moodle Server. By the end of June 2007, there was a good evolution in what concerns to number of Portuguese Moodle Sites (servers) and the former teachers' expertise is now helping the ones who are just beginning. CRIE, with the Portables at School Program (in <http://www.crie.min-edu.pt/index.php?section=39>, only in Portuguese version) and all the reports and mandatory demanded questionnaires that generated an important dynamic for teachers to define that they need to do training to be able to get the expected outcomes from the laptop computer. Moodle can be also a very interesting platform for Long-life Learning: teachers must do training every year and they haven't free time to do it; schools are creating courses to get older students: these students have jobs and they don't have time to be at school. As the main obstacles are now overcome, it's important to create sustainable communities: as in [8] "the positive aspects recognized in learning communities sometimes fail to materialize, simply because the community doesn't function properly or because it breaks before educational objectives can be achieved".

4. CONCLUSION

There are many interesting and positive topics about this new model for CRIE ICT teachers training: Portuguese teachers' efforts to avoid the info-excluded phobia; the improvement of their digital literacy using Moodle to create their courses and other important projects at school; the students feedback to teachers courses; the Moodle Portuguese community growth during last year and specially during last 6 months; the courses visibility in Moodle and b-learning and virtual sharing contents communities; the focus on student's needs. However there are still improvements to be done: schools must continue their efforts to get more and better equipments; a Moodle Manager should be available at each school (a task that can be assured by ICT teachers, with a specific timetable or online); schools and trainers must try to get answers to anticipate the excluded teachers and define specific tools to evaluate the ICT training impact to measure digital literacy at Portuguese schools. There is an important question: for how long are the online communities sustainable? These teams need feedback and motivation to get together or the positive effect can be definitely lost.

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