A design of a postgraduate course on Google Apps based on an Institutional Personal Learning Environment (iPLE)

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Abstract
This paper focuses on the description of an educational experience in a postgraduate online course from three Spanish universities. Nowadays, there is a growing demand on virtual learning environments centered on the learner instead of the teacher, as it can be seen in Learning Management Systems. The design of this course, which is based on Google Apps, aims to test one of the possible solutions to this demand. Furthermore, this study pretends to expand research on Personal Learning Environments from the point of view of educational institutions, especially of universities. The results are expected to shed light on the possibilities of using institutional Personal Learning Environments in education, and also on methodologies and pedagogical principles and designs that could be applied into them.

Keywords
E-learning, PLE, institutional PLE, Google Apps, Higher Education

1. Introduction
An experience in a postgraduate course in educational technology is being carried out in the environment that provides Google Apps.

This exploratory study emerges from a research project on methodological strategies for their use in shared knowledge spaces included in learning environments performed by the GTE (Educational Technology Group) of the University of Balearic Islands, in Spain. The purpose of this project aims to a suitable exploitation of the possibilities of software tools and knowledge management systems. Another objective is to obtain methodologies of teaching-learning in virtual environments from the point of view of collaborative elaboration and the exchange of knowledge, which is in process of formation in the universities and institutions and companies of high and permanent formation.

One of the lines of research of this project points to the relevance of Personal Learning Environments (PLEs) in lifelong learning. Related to this framework, providing learning environments suitable to the changes on the Web is required by educational institutions.

2. Background
The dominant design in educational technology has the following features, which make us think about the need for change: asymmetric relationships between learners and teachers, design focusing on private tools and data for the course, institutional scope, restriction on access to content, a single context, and so on. Nevertheless, an alternative to this design with the following characteristics is proposed: symmetric
relationships between learners and teachers, coordinated connections between users, data and tools, multiple scope, open content, adapted and individualized context, etc.

Personal Learning Environments are considered as the concretion of the above mentioned alternative design described by Wilson et al. (2006). PLEs can be defined as a collection of tools, data sources, connections and experiences of activities that a person uses regularly.

According to Atwell (2007), PLE is formed by three basic elements: 1) reading strategies and tools, 2) reflection strategical tools, and 3) relationship strategies and tools.

In the last decade, many documents have been published about PLEs. Although there is no consensus about its definition yet, PLEs are believed to be one of the feasible near future educational environments.

Among PLEs, we are focusing on institutional PLEs (iPLEs). iPLEs preserve partially the institutional scope and restriction in access to content from LMS, while PLEs do not. Among different projects related to ours, the most relevant one is the so called MeMeTEKA. This project was implemented by Casquero et al.(2008), also in Google Apps. They designed some gadgets with Google App Engine and combined them into iGoogle, which is the interface to interact with the user. This environment was first applied in the Faculty of Medicine in the University of Basque Country in Spain.

Aside these experiences of iPLE outside our university, we are also testing some other forms of iPLEs, e.g. integration between Mahara and Moodle.

3. The experience
The purpose of this experience, and also of the other ones, is to put into practice one of the possible solutions around PLEs in university. In other words, we make the effort to put together formal learning from LMS, informal learning from social networks and personal learning experience.

3.1. Research questions
Some questions we want to explore with these prototypes of iPLE are the following:
- How does an iPLE interact with personal knowledge management?
- Can an iPLE facilitate the personal organization of the students’ knowledge?
- Which methodologies are more appropriate for the integrated use of an iPLE in a LMS?
- How does the use of an iPLE modify the didactical interactions?
- What is the teacher’s role in the use of an iPLE?
- What are the pedagogical principles that new open environments might follow?

3.2. Course description
The course where this environment is being tested on is related to management tools for educational training on the net, especially LMS.

In this environment offered by Google Apps, we have set some tools for the students to do the assigned activities. These tasks are:
• Discussion on the forums about self-experience in LMS and other similar environments.
• Create a template to evaluate different LMS in workgroups.
• After elaborating the template, all members in the groups are to evaluate a different LMS.
• Another activity, which is non-mandatory, is the collaborative creation of a glossary with the concepts used in the area of learning tools.

The tools selected for these tasks are:
• Google Groups: It is used as a forum for communication and organization between workgroups and for discussion of the topics proposed by the teacher. It also offers technical support to use this specific Google Apps.
• Google Docs: It is considered the main work tool of the course, because it allows participants to collaborate synchronously in the same document. The workgroups are supposed to elaborate the template with this tool. Then, they would evaluate individually a LMS.
• Google Calendar: It shows the schedule of the course. Students may also use it to organize themselves in their workgroup.
• Google Sites: In addition to being the base of the personal desktop and the main portal to the course, some other tasks will be carried out in Google Sites. As the possibilities of collaborative creation are also contained in this tool, it is a good place for the glossary to be built on. In addition, Google Sites would be the tool to use to present all the work done.

3.3. Some words about the initial iPLE
When logging into the virtual learning environment, institutional Personal Learning Environment (iPLE) is shown on screen. At first, there are some useful indications to take advantage of the personal desktop.

In the middle of this desktop, students can reorganize their PLE. It is preconfigured with some gadgets to follow the course such as Google Calendar, Google Groups, Google Docs and Google Search.

However, students can eliminate, modify and add new gadgets on their personal desktop. At the beginning of the course, they are encouraged to adapt their personal desktop the way that they like the most.
4. Assessment procedures
During this course, some procedures to evaluate and analyze the course of the iPLE use are being performed:

- At the beginning of the course, an email was sent to all the students of the course to ask them to make some screenshots of the personal desktop every week throughout the course. After the course, it is planned to analyze these pictures with software for qualitative data analysis management.

- During the course, statistics about the frequency of visits, devices to access, browsers, and time of performance are being collected. This data tells us about the quantitative part, about access and use of the main page. However, the part of the gadgets in each one’s personal desktop cannot be tracked.

- At the end of the course, interviews with students are scheduled. They will be asked about their impressions, feelings and opinions about iPLE in this course. The same will be done with the teacher of the course, asking her about the use of the virtual environment and her opinion about its use on education and on this course.

5. Outlook
This experience is part from a collection of iPLE studies carried out by GTE in the University of Balearic Islands. All results will be taken into account when analyzing. We expect to obtain valid and relevant data for research in educational technology related to PLE.
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