

EDUCATION IN THE 2.0 BAZAAR

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Abstract

Despite Learning Management Systems (LMS) popularity in most educational institutions (e.g. Blackboard, Moodle, .LRN), some teachers find their lack of flexibility very limiting and have therefore chosen Web 2.0 liquid and adaptable tools in their learning processes. However, the wide range of possibilities offered by 2.0 technologies may lead to disorder and confusion, making learning resources management and contextualized information assimilation more complex. In this paper, we will face these problems from a two-year teaching experience using only a Web 2.0 application perspective. Difficulties found in communicating via blogs, microblogs (e.g. Twitter, Yammer) or tumblelogs, and student-generated content dispersion will be analyzed, providing wiki and RSS based solutions. Finally, other upcoming complications related to this technological/pedagogical approach will be pointed out.

Keywords

Education, Edupunk, e-learning, LMS, RSS, Web 2.0.

1. INTRODUCTION

In this paper we will explain how to deal with problems caused by introducing Web 2.0 technologies at classroom, and what are the main benefits of switching from a LMS oriented approach to a social software oriented one.

The paper is organized as follows. Section 2 compares two opposing points of view on using technology in education. Section 3 explains the advantages of using Web 2.0 tools in a learning process. Section 4 addresses the main problems arose from this use. Section 5 proposes feasible solutions to these problems. Finally, in Section 6 other upcoming scenarios are pointed out.

2. TWO OPPOSING POINTS OF VIEW

During the last decade, LMS deployments have been consolidated in most of the traditional educational institutions [1], not only to replace face-to-face instruction (e-learning), but also to combine it with computer-mediated instruction (b-learning or *"blended learning"*) [2]. No problems have been found by teachers and students adapting to this change -apart from the usual technical difficulties- because these systems mimic most of the concepts used by traditional education: order, arrangement, standardized evaluation, etc.

At the same time, the popularity of Web 2.0 [3] has brought a slew of new interaction styles, boosting participation (collaboration), customization (flexibility) and immediacy (real-time). Such a radical shift has determined the development roadmap for other available platforms, forcing their adaptation to the new communication demands. Unfortunately, traditional e-learning platforms are too lined up with the conventional education structure. They haven't been able to follow flexible 2.0 applications' fast pace. Some teachers, fascinated with this new conception of the web, have decided to rebel against the imposed LMS and embrace the Edupunk movement [4]. Edupunks criticize the stifling rigidity of the archaic and closed LMS systems, reclaiming more open, agile and flexible platforms, focused on the learner instead of the content, by using a DIY ("Do It Yourself") approach. Despite the critics [5], Edupunks are not alone in the crusade against LMS. Recently, Bush and Mott stressed this point [6] with a *"Post-LMS Manifesto"*.

Are we witnessing a shift from formal to non-formal education? From education institutions to education experiences? In the late 90's Gatto complained about many absurd and anti-life situations related to traditional education systems [7]. Nowadays, many authors reclaim a ubiquitous education [8] [9], on-request and non-formal [10], an *"expanded education"* [11]. As Stephen Downes stated [12], *"learning is not based on objects"*

and contents that are stored, as though in a library. Rather, the idea is that learning is like a utility -like water or electricity- that flows in a network or a grip, that we tap into when we want". Is this just another top-down versus bottom-up endless debate? The Cathedral versus the Bazaar [13]? Or an intergenerational conflict caused by different views of the world and the learning process [14]? It remains to be seen whether the Web 2.0 Connectivism will oust the Constructivism, theoretical principles of popular LMS like Moodle [15].

3. EDUCATION 2.0: A POSITIVE EXPERIENCE

After two years promoting them, we could conclude that using Web 2.0 applications at classroom has been a very positive experience. The main advantages of this change are the following:

3.1 Less lectures, more collaborative work

Unidirectional communication and the lack of spontaneous interaction are common situations when teaching large classes (above 50-60 students). This trend can be broken easily with social software: prompting students to comment their opinions in blogs, following each other in microblogging networks or using them to interact with teachers. Education 2.0 is more than just adding technology to education. Teachers have to become DJs [16], combining miscellaneous sources and keeping their students on the dance floor. Content can be self-made, remixed -using someone else's material- [17], or even created by the students themselves.

3.2 No textbook

Instead of working with just a sole information source, several diverse resources are used: blogs for group work, microblogs for communication, RSS feeds, multimedia clips linked from a wide range of platforms (e.g. Youtube, Flickr, SlideShare) and a wiki to gather them all in a common place and support collaborative work (see Fig. 1).

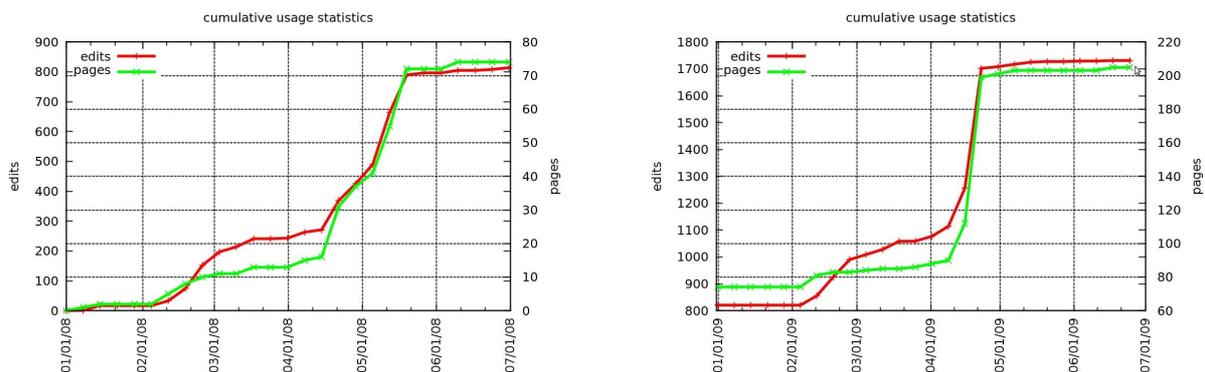


Fig. 1, Wiki use during Spring Semester 2008 and Spring Semester 2009.

Personal blogs or tumblelogs are used as virtual portfolios to store all subject-related resources created by teachers, students or any other online content service provider. Students can organize these Personal Learning Environments (PLE) freely, without being evaluated.

3.3 Beyond physical boundaries

Education extends beyond the spatial and temporal boundaries of the classroom. Interaction is not limited to teachers and students, is virtually global. This new scenario brings back the old question quoted by McLuhan and Leonard [18]: "Why should I go back to school and interrupt my education?". Forty years later, we can solve this problem.

Moreover, two interesting consequences arise:

- a) The teacher is not the only yardstick anymore: aside from their evaluation within the classroom, students also receive feedback from other users interacting with the contents.

- b) The teacher is not the only available data source anymore: collective intelligence of social networks [19] replaces the expert's role. Not only students are the subjects of their own learning, but also the sources of learning, functioning as the perceptual input for the wider network [12].

3.4 Non-formal communication, non-formal learning

Not every student is able to discuss a topic in public, but they are usually experts on texting and sending thoughts by mobile phones. Microblogging platforms such as Twitter [20] are based on a similar idea. Therefore, not much training is needed to use them and increase spontaneous interaction. Microposts can be shown during the class [21], in a less formal way of real-time participation. If lack of privacy is a problem, less public services like Yammer [22] or Edmodo [23] can be used instead.

As we can see, it is not casual that many teachers are gradually introducing Web 2.0 tools in their learning processes [24], due to their multiple advantages.

4. PROBLEMS

Web 2.0 features can also be considered problems in certain contexts. Where some see flexibility, others see lack of control; where some see cooperation, collaboration and syndication of several sources, others see confusion. These are the main problems detected during our experience:

4.1 Lack of order

Course content is not stored in a centralized and static location anymore. Instead, the content generated by teachers and students is scattered over the Internet, and may be compiled. Not being able to find and organize these resources will result in a limited vision of the whole working material. Therefore, developing this digital competency becomes mandatory [25], mastering RSS aggregation and social bookmarking platforms. In our case, we consumed RSS feeds created with Yahoo! Pipes [26], using blog widgets as clients, for aggregating all subject-related content.

4.2 Lack of control

Teachers lose control at two different levels:

- a) Technical level: control over technical infrastructure is usually lost using Web 2.0 platforms, because most of them rely on "cloud computing" based free services. Although is possible to deploy them "in-house", both Google [27] and Microsoft [28] are offering free professional services to academic institutions (regarding email, IM, VoIP, blogs, microblogs, sites, documents, etc.). The bad news is that service providers disclaim any liability or responsibility for any loss. Recently, popular Web 2.0 services experienced temporary failures [29], being some of them fatal to their users [30].
- b) Social level: the etiquette of the Internet [31] cannot be controlled by teachers. Their authority means nothing outside the academic institution. Spam, Internet trolls or even cyber-bullying can disrupt teachers' efforts, without an easy solution.

4.3 Privacy and arbitrary limits

Web 2.0 platforms promote participation and new content publication, but they usually forget about privacy issues. Mediocre or incorrect information can remain accessible on the web for years, lasting after the end of the author's academic career, and becoming a problem during professional life. Out of context blended-learning activities or teenagers' opinions may lead to similar problems. Besides, these platforms can add arbitrary restrictions to their Terms of Service (TOS), blocking some uses that can be considered legitimate by teachers. A clear example of this problem is the arbitrary age limit for some social networks [32], preventing their use in lower grades.

4.4 Scope confusion

Analyzing students' preferred social networks (e.g. Facebook, MySpace) and using them to deploy educational content is very tempting for many teachers, but such strategy doesn't seem to be very effective for some reasons:

- a) Teachers are not students' best option to share spare time with. They may take it as an invasion of privacy, so it is not recommended to try to be best friends [33].
- b) Such an environment specifically designed for leisure, *hyperconnected* with procrastinating friends, full of silly tests, chats, etc., is not the best place to work on educational content. Moreover, previously defined digital identities within each social network can alter online teacher-student relation.

5. SOLUTIONS

There is no specific solution for the problems mentioned before, but different tools can be combined to achieve a good trade-off among them. The solution we would like to propose is based in a combination of content-centered tools, typically managed by teachers, and learner-centered tools, managed by students:

- a) Course wiki: installed on a local web server, with restricted access for students (control, privacy) [34]. Teachers and students use them to:
 - Support collaboratively generated content, in a structured way.
 - Compile links to remote resources.
 - Practice with wiki syntax (Wikipedia contributions sandbox).
- b) Group blogs: created in a public service [35] and merged together in a blog planet [36]. Students use them to create and share subject-related content.
- c) Personal blogs or tumblelogs: used as virtual portfolios or PLEs. Students freely choose their favourite service to develop them, and select the RSS feeds generated by the rest of the tools.
- d) Microblogs: mostly Twitter (public, universal) and Yammer (private, under control), to encourage spontaneous participation and real-time communication inside or outside the classroom. Generated microposts are easily added to blogs through RSS widgets.

Since there have been no previous similar experiences in our Faculty, some confusion is understandable at the beginning of the semester, but students should be able to understand the dynamics of the work after a few weeks.

The use of more homogeneous systems could be another solution to the problem. The structure of the content can be hold in a LMS supporting Web 2.0 features (e.g. Moodle [15]), managed by teachers, and integrated with a virtual portfolio platform (e.g. Mahara [37]). In such systems students can organize, discard or add resources in a relevant way to their own learning process, interacting with a wider community and adapting the structure of the network as their experience varies [38].

6. CONCLUSIONS

When it comes to selecting appropriate tools to improve the learning process related to a subject, it is useful to keep in mind that one size doesn't fit all. Identifying learner's main features is crucial to design a suitable plan regarding educational technology. In this paper we have explained our experience with heterogeneous Web 2.0 tools teaching at the university level, some of the problems faced off during this time and two feasible solutions (RSS based and LMS-PLE integration oriented). Our best efforts have been made to ensure students' significant and autonomous learning [39], providing contextual content, but not limiting their freedom to rearrange and improve it with extra information gathered from the Web.

A remarkable simplification of previous scenarios -and maybe a merger of content-centered and learner-centered tools- could be near if Google's new communication protocol [40] becomes true. It is still too soon to evaluate its consequences [41], but it may be a way to end the discussion between LMS promoters and detractors.

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