Are Social Media Alternatives to Learning Management Systems When Teaching Online?

Ana-Paula Correia

Abstract This study explores the use of social media in a graduate online course as an alternative to the traditional learning management systems. It uses a qualitative research approach relying on interviews and document analysis as data collection methods. Findings show that students appreciated the flexibility of the mash-up LMS and the opportunity to learn about different learning technologies while using them to support their own learning. Facebook allows students to get to know each other better on a personal level and Edmodo kept the online conversations organized and easy to follow. As far as improving the online learning experience, students suggested an increase in number and frequency of synchronous sessions along with the use of additional content in audio and visual/video formats.

Keywords Social media · Learning management system · Online education · Higher education

1 Introduction

In today's world, the prominence of online learning is unquestionable (Liu, Kalk, Kinney & Orr, 2012). Social media have a wide use inside and outside the education field. The aim of this study was to analyze the use of social media in an online course in the context of higher education. Instead of using a specific learning management system, the course instructor relied on different social media tools to create a "mash-up" learning system that put the student at the center of the learning and teaching process and constituted an alternative to the traditional learning management system.

The concept of "learning management system" (LMS) grew up in the 90s from the development of the Internet and multimedia products. Since then, these systems

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such as, Canvas, Moodle, and Blackboard, have evolved and been adopted by many universities around the world. Also known as "learning platforms", "distributed learning systems", or "learning management systems", these systems combine a variety of teaching and management tools to create highly structured online learning environments. LMSs are scalable systems that can be used to support a wide variety of educational experiences, from courses and programs to virtual universities (Coates, James & Baldwin, 2005). Although there are many differences between LMSs, most of them offer similar features:

- Synchronous and asynchronous communication (e.g., e-mail, chat, synchronous communication, and discussion forums);
- Content development and distribution (e.g., learning resources, learning object repositories, and links to online resources);
- Formative and summative evaluation (e.g., project submission, multiple choice tests, participation records in discussion forums, and teacher feedback);
- Management of the learning and teaching process (e.g., registration, schedules, office hours, and teacher consultations).

Clearly, there is something seductive about LMSs that despite their complexities of installation and use, almost all universities feel compelled to adopt them. Access, cost, and quality are the three main reasons that lead to this adoption. Another important reason is that LMSs offer an unimaginable ability to control and regulate the learning and teaching process in the name of "quality control" (Coates, James & Baldwin, 2005).

The alleged "order" created by LMSs regarding learning and teaching appears to be one of the most compelling reasons for their rapid adoption in North American universities, it is also a target of much criticism. Not only LMSs perpetuate the control of universities, but also support the fact that the teacher is at the center of the learning and teaching process and maintains an almost absolute control in these online environments (Coates, James & Baldwin, 2005). Additionally, many LMSs are exclusively centered around technical and budgetary issues leaving pedagogical issues out or sending them to the background. Following are some of the most common unfavorable views of the use of LMSs in higher education:

- Used mostly in a utilitarian way. It can be said that the LMSs are based on a simplistic understanding of the relationship between teachers, students, knowledge, and learning. In fact, the textual nature of the first LMSs helped to strengthen teaching concepts such as transmission of decontextualized knowledge, limited opportunities for application of knowledge and skill development and a strong emphasis on text-based communication;
- One of the most obvious limitations of LMSs is the easy support of forms of assessment that can be corrected automatically, such as multiple choice questions tests. This poses a serious question concerning the fact that this type of testing and feedback, which is already dominant in higher education becomes

even more prevalent. Consequently, authentic assessment approaches like portfolios, projects, experiments, and demonstrations may be less used;
- In cognitive terms, there is interest in investigating the impact of LMSs on how students: (1) explore and contextualize course content; and (2) summarize, synthesize, and make judgments about their own knowledge. However, not enough research on the degree of involvement of students with teachers, peers, and content through the use of LMSs has been conducted;
- Restrictions on content migration are also seen as a major issue with LMSs. The question that arises here is whether these restrictions limit the diversity of teaching approaches, design elements, and topics selected by teachers. Without control over source code that supports the LMS, pedagogical choices may no longer be made by the teacher;
- The cost associate to LMSs' implementation is substantial since they require to be installed, configured, customized, deployed, and maintained at the vendor's data center or at a client location.

A multi-year survey study conducted at a large US Midwestern university on the uses and perceived benefits of using LMSs to support classroom teaching showed that "instructors and students value tools and activities for efficient communication more than interactive tools for innovating existing practices." (Lonn & Teasley, 2009, p. 686) It looked like that students focused their responses on *how* LMSs were being used rather than if they were being used. If LMSs were being used to support constructivist-based models of learning, then additional tools "to scaffold more interactive forms of instruction and learning may be required for success" (p. 693).

In sum, the LMSs seem to offer an "all-or-nothing" solution for institutions, teachers, and students. For example, LMSs are usually linked to academic calendars and learning experiences bounded in time (e.g., quarters and semesters), as well as students of the institutions they serve. This situation severely limits the continuity of learning beyond a particular class and restricts the exchange with students and teachers from other institutions. Students are not free to choose the best/preferred tools for learning and teachers hamper their teaching approaches to what the LMS can technically accomplish, which undermines the learning and teaching process. Bush and Mott (2009) explain that the monolithic and rigid nature of LMSs mirror the way that content has traditionally been made available for teachers and students (e.g., books and other resources, including online courses) in a policy of "all-or-nothing" or "take-or-leave it." As the online teacher moves away from traditional teaching practices and turns into a "guide on the side," students take on more responsibilities for coordinating and regulating their own learning (Bergel, 2009). It is at this juncture in time that alternatives to traditional LMSs arise in order to overcome some of these limitations and provide a flexible online learning experience and a more student-centered one.

2 Social Media as Alternatives to Traditional LMSs

Despite the fact that social media are being highly used as a form of socialization (Madge, Meek, Wellens & Hooley, 2009), more and more college students are looking for these tools, on its own initiative, to achieve their educational goals (Roblyer, McDaniel, Webb, Herman, & Witty 2010). These tools (e.g., Facebook, Twitter, Instagram, Wikipedia, DropBox, Edmodo, YouTube, Snapchat, and Google+) combine self-created profile pages with other features such as chats, blogs/forums, sound and video sharing, text and image to promote and enhance the interaction between its users/learners. They can not only exchange information and content, but also create content in a collaborative way. Social media is defined broadly as any website or application that allows for any of these activities, meaning communicate, share, and create content. Social media reinforce a sense of belonging in online communities and foster collaboration and knowledge co-construction, which makes them a strong alternative to traditional LMSs.

There are several ways to utilize social media in education. Examples are: the creation of a closed group on Facebook to support or extend a course, a debate on a particular topic on Twitter, a blog on Blogger to promote sharing and discussion of ideas and perspectives. Other advantages of using social media in education are, as follows:

- Students actively participate in their own learning, which means that the teacher is not in total control of the learning and teaching process. Teachers act as "guides" in this process and students are encouraged to take an active role in the regulation of their own learning. Teachers' role in these environments can also include support for dialogue and providing constant feedback on students' performance;
- The collaborative work increases motivation and engagement among students, which generates higher levels of academic performance and more opportunities for feedback and revisions. These activities, in turn, promote critical thinking, and greatly increase the diversity of knowledge and experience between students and teachers. Social media not only allow sharing of knowledge, but also the collaboration during problem solving, and even the development of innovative thinking (Alvarez & Olivera-Smith, 2013).

In this context, the idea of this research study started from a persistent dissatisfaction with traditional LMSs. The course instructor envisioned an online graduate course in instructional design with a continuous flow of interactions between students, teacher, content, and self. In addition, she wanted to implement a project-based pedagogy that required a constant coordination of team projects and intense communication among design team members. Based on the identified requirements, the traditional LMS did not seem to be the best support to provide students with a high-quality learning experience.

The idea of creating an online course that utilizes the potential of social media for learning and teaching emerged, and thus was born the mash-up LMS or modular

LMS (Culatta, 2010). In the case of this study, the mash-up LMS consisted of a combination of Edmodo (edmodo.com), Facebook (facebook.com), Dropbox (dropbox.com), Skype (skype.com), and e-mail. Mash-up, in this context, means the reuse, remixing or combining of various forms of social media (Lessing, 2008) to achieve determined learning objectives.

The learning and teaching process that takes place learning environments supported by social media is the result of multiple exchanges between participants who alternate roles between student (the one who learns) and teacher (the one who teaches). As Alvarez and Olivera-Smith (2013, p. 318) explain, "in these environments, learners actively take responsibility for and regulate their own (collaborative) learning, meaning that the teacher is no longer in full control."

The objective in this particular study was to create an online learning experience according to the needs of students and adapted to the specificities of instructional design as a study area. In this way, it avoided the monolithic approach of using a LMS, just because this was the only system offered at the higher education institution where the course instructor worked.

3 Methods

A qualitative methodology was used in this research study. The 14 students who participated were enrolled in an online course graduate (master's degrees and doctorate) in instructional design offered in a public university in the United States.

The participants group was quite diverse in terms of age, professional experience, study areas (education, design, human–computer interaction), and ethnic origin. They were part of a convenient sample as the author was the instructor for this graduate course at the time of the study. The data collection took place from May to July 2012.

3.1 Data Collection Methods

The methods used for data collection were: online interviews and document analysis of: (1) online interactions, (2) reflections written by the students, and (3) project presentations done by design teams via Skype. Below are some examples of the questions asked to the students:

- What have you learned the most in this course?
- Have the Facebook group added to the learning experience? Yes or No? Please provide an explanation to your answer.
- How was your experience on using a mash-up LMS (Edmodo combined with Facebook, Skype and e-mail)? Do you think this approach should be used again? Yes or No? Please provide an explanation to your answer.

- What existing elements were critical to your successful learning in this course?
- Which parts of the online course do you think were most in need of improvement? Why? How can these be fixed in the future?

As far as the students' reflections, they were asked to discuss their insights about the design project they were involved in as well as the overall online learning experience. They were encouraged to share stories about their experiences in this course in terms of their own learning, understanding of the field of instructional design and growth as practitioners.

3.2 Data Analysis Methods

For data analysis, an iterative and inductive process of analysis was used to formulate a set of qualitative accounts. Through a careful analysis of the data, trends and discrepancies were found and emergent categories were organized by topics.

Using Microsoft Word, data chunks were copied and pasted from the interview transcriptions, students' reflections, and online interactions into a matrix of categories generated during a preliminary analysis. Finally, each data chunk was transformed into a coding system. Through this process codes were refined (merged into broader sections or broken into less inclusive codes) and redundancy was eliminated. If necessary, new categories were created.

4 Findings

Overall, the findings show that students appreciated the flexibility of the media mash-up and the opportunity to learn about different learning technologies while using them to support their own learning. Facebook allows students to get to know each other better on a personal level and Edmodo kept the online conversations organized and easy to follow. As far as improving the online learning experience, students suggested an increase in number and frequency of synchronous sessions along with the use of additional content in audio and visual/video formats. The next paragraphs describe the most important findings.

4.1 Positive Aspects of the Online Learning Experience

Students identified the opportunity to interact with their peers and the teacher, and to learn *about* and *with* different learning technologies as positives aspects of the online learning experience. Other gains of the experience were the opportunity to deepen their knowledge in instructional design and the hands-on activities that

resulted in the creation of educational materials targeted to specific audiences. Students stressed the importance of starting the design process with a good understanding of the educational problem at hand, the target audience, and the learning context. Other students mentioned as additional benefits, the structure of the course, the pace of teaching, the resources available and the ability to move from theory to practice, meaning solving a real-world problem during their instructional design projects and applying the knowledge they were construing as students in the course.

4.2 Facebook Contributions to the Online Learning Experience

Regarding the use of social media in the online course, students shared differing perspectives. Some felt that, particularly Facebook, was not necessary, because it created a bit of confusion and demanded that they spent more time with the course. These students did not recognize the social function of Facebook and thought that their participation on Facebook was just one more course requirement. Another source of confusion was the students' perception that they had to duplicate their investments in effort and time on both systems, Edmodo and Facebook.

Conversely, other students have recognized the use of Facebook as a way of being continuously connected to the class and to get to know each other better on a personal level. One of them shared during his interview the following thought: "I think Facebook did add [to the learning experience]; it was nice to have a forum that was not cluttered up with assignments and was just for sharing resources and ideas."

Another student added: "I enjoyed the introductions and I liked reading the posts from others, but I feel that several of my peers did not contribute. It did add a personal touch in an otherwise distant environment."

Facebook also served as a way to share educational resources, career and professional development opportunities and extend the participation of the learning community even after the course ended.

4.3 Perspectives on the Mash-up LMS

The role of Edmodo in the online course was more didactic than socializing. As a result, projects required by the teacher were posted on Edmodo along with the online thematic discussions that counted towards students' final grade. A few students described Edmodo as "boring" and "sequential" and a mere way to organize and present educational content.

Other students reiterated that Edmodo offered a platform easy to use and navigate. It also allowed to structure the course topics in a logical and uncomplicated way. Students praised the combination of Edmodo with Facebook, Skype, and e-mail. One student in particular, explains that the "use of LMS mash-up was the most effective way to reach a larger number of individuals." She goes on explaining that the course could be part of a larger learning community and be kept active after the class ended. Another student says that "although at the beginning the course was a bit hectic with all of the technologies, I learned which was to be used when and ended up enjoying the mash-up."

One student, during the interview, refers to the course design as interesting as it allowed students "to learn while using all of the [social media] tools and get to know these tools in an educational context." He further explains that "all of the social media tools became part of my instructional design toolbox. It was also great to learn how to use Facebook for educational purposes!" Another student, during her reflection, reiterates that "from our online discussion posts on Edmodo, and from the more 'personal' posts on our Facebook group, I discovered that my peers in this class come from different walks of life, have different goals and aspirations, and are interested in varying fields of study and practice."

4.4 Key Elements for Teaching Instructional Design

The supplemental text readings, the constant incentive to communicate and sharing resources, and the workgroup structure, were some of the elements identified as essential to learn instructional design. Other elements consisted of: (1) thematic online discussions, (2) use Skype for synchronous sessions, (3) samples of exemplary work provided by the teacher, (4) careful course planning, and (5) evaluation criteria that mirrored what is expected from an instructional designer in contexts of practice. During the interview, one of the students shared that "I really enjoyed the textbook and putting pedagogy to practice—I have been working with aspects of instructional design for years now and I feel like I have a foundation of knowledge to back up my decisions as a result of this course. I also enjoyed the online aspect of it—I was able to work at my own pace (although quickly) and interact with my classmates on my own time."

Another student wrote on her reflection, "In fact, I would argue that [this course] has effectively changed the way I approach all instruction I design. Never before would I have thought of myself as an instructional designer."

4.5 Future Improvements of the Learning Experience

In terms of improvements for future iterations of the online course, students suggested using more synchronous communication tools to facilitate interaction among

participants. Adobe Connect and Google Hangouts were some of the tools suggested to increase the educational power of the mash-up LMS. Thus, the increase of synchronous interactions would allow for the establishment of closer professional ties between participants.

One of the students wrote in his reflection: "Maybe another synchronous session or two. One in the beginning to introduce everyone and explain the 'problem' approach. It was nice to see everyone in the end, but I'd also like to meet them in-person in the beginning. And then maybe also toward the middle, so everyone can touch base and see where others are at in their designing process." Another student suggested the use of prerecorded sessions in which the instructor would talk about various topics on instructional design. She explained that she missed the instructor's presence in the course. She used the following words: "I want to hear the instructor's voice, feel the emotion and excitement about the topic discussed in her voice and body language". The fact that the course was based too much on reading online texts was another of the problems encountered. Students proposed the use of more segments of audio and video as ways to express their thoughts.

5 Final Remarks

Similar to the electricity that transformed factories' monolithic systems into modular systems, the Internet is transforming knowledge from static volumes to modular and customizable learning modules. A good example of this transformation is the proliferation of media mash-ups in higher education. Mash-ups are a unique learning experience created by combining several different media, or systems in order to create a new product. For example, a mash-up is to use the photos (from a tool like Flickr) on a map (like Google Earth) to see where the photos were taken (see panoramio.com). The mash-ups differ from products "all-in-one" (e.g., Blackboard and Moddle) because instead of adding new features to existing systems, they take advantage of available systems that already have the desired features. Despite all the systems work independently, they are able to create a unique and personalized experience when used in unison. New products can be created simply by adding different kinds of media or functionality to the mash-up combination (Culatta, 2010).

The research study presented here on the use of a mash-up LMS in higher education relented the interest of students of exploring this approach. Their participation in the online course contributed not only to learn instructional design principles and practices, but also to experiment with different learning technologies in a unique manner. However, students were also critical of the online learning experience and suggested an increase in number and frequency of synchronous sessions and additional use of audio and video content. This seems consistent with Kuo, Walker, Belland, Schroder, and Kuo (2014) study of the use of web-based videoconferencing in online learning and teaching. They showed that learner–instructor interaction and learner–learner interactions were able to predict students'

satisfaction with the online learning experience. One of the reasons related with the use of "features such as emotions icons, talk, or raise hand functions" that supported and elevated these interactions (Kuo, Walker, Belland, Schroder, & Kuo, 2014, p. 161).

As Bush and Mott (2009) argue that student-centered learning technologies that are flexible and address the individual needs of each student are imperative. Social media allows the increase of educational content production as well as the sharing of challenges and victories between students and teachers from around the world. Bush and Mott (2009) explain that perpetuating an educational model focused on the teacher keeps the paradigm that supports the changes in student and teacher roles from natural evolution. However, such evolution is inevitable to the maturation of online learning experiences. The generic nature of the traditional LMS model means that the uniqueness of a particular culture of learning is hindered by a model that is more profitable for developers and software distributors than teachers and students. "Teachers and students are not free to choose the right/best/preferred tool for each teaching or learning activity they undertake, thus creating a technology paradigm that artificially limits possibilities and forecloses optimal teaching and learning choices" (Bush & Mott, 2009, p. 12). This study explored the use of social media in a graduate online course as an alternative to traditional learning management systems.

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