THE USE OF WEBLOGS IN HIGHER EDUCATION: BENEFITS AND BARRIERS

Sergio Lujan-Mora

Dept. of Software and Computing Systems. University of Alicante, Spain

Sergio.Lujan@ua.es

Susana de Juana-Espinosa

Dept. of Business Management. University of Alicante, Spain

Susana.Espinosa@ua.es

Abstract

Weblogs are personal web pages written in chronological order and maintained through a specific software that helps their administration. From an educational point of view, weblogs are the development of traditional learning logs for students and teachers, whether as a complement to traditional lectures or as a e-learning tool. The importance of these applications has increased due to the changes in the classroom dynamics that Bologna will bring shortly to the European Higher Education Area, which entail the substitution of conventional education for autonomous learning. Also, the number of Open Universities and virtual–environment courses offered by traditional Higher Education Institutions (HEIs), potential users of weblogs, has boosted in the last decade. The aim of this paper is to contribute to the scarce knowledge that HEIs have regarding the functionality of weblogs as tools for enhancing the teaching-learning process, specially in terms of identifying the barriers and benefits that the deployment of these tools may present. To do so, both a theoretical and practical approach have been employed. First, the paper establishes an explanation about the anatomy of weblogs. Second, possible uses of weblogs in HEIs are discussed and classified according to the users' perspective. Finally, from these experiences, the main benefits provided by weblogs are shown, as well as the possible barriers that may jeopardise its use.

Keywords
Weblogs, blogs, e-learning.

1. INTRODUCTION

The last decades of the XXth century have been marked with the development of ubiquitous information technology (IT) in every field of human life. This phenomenon is the so called "information society" [20], and Higher Education Institutions (HEIs) have played, and still do, a very important role in this instance, being a vessel for creating and transferring knowledge to society at large.
One of the latest developments that HEIs are starting to implement in their teaching-learning processes is the use of *weblogs* as a means for transferring the usual classroom activities to the cyberspace, while conferring students and instructors with a superior connectivity for the development of one-on-one and many-to one relationships.

In 1999, when Jorn Barger [2] coined the term weblog, he defined it as "A weblog (sometimes called a blog or a newspage or a filter) is a webpage where a weblogger (sometimes called a blogger, or a pre-surfer) 'logs' all the other webpages she finds interesting. The format is normally to add the newest entry at the top of the page, so that repeat visitors can catch up by simply reading down the page until they reach a link they saw on their last visit". According to the Wikipedia [22], "A blog is a website where entries are made in journal style and dis-played in a reverse chronological order. […] A typical blog combines text, images, and links to other blogs, web pages, and other media related to its topic".

The present relevancy of this kind of tools lies on the changes in the classroom dynamics that the Declaration of Bologna will bring shortly to the European Higher Education Area, which entail the

substitution of conventional education for autonomous learning, as well as the increasing number of Open Universities and virtual–environment courses offered by traditional HEIs.

The objective of this paper is to analyse the benefits and barriers of using weblogs in HEIs' courses. To do so, the next section of this paper introduces the concept of weblogs in the related literature. Afterwards, the principal uses of weblogs are presented, attending at the users' perspectives as well as the technical advantages of weblogs. The following section shows the benefits that HEIs users may attain from their deployment, and the barriers that may appear while doing so, according to the existing literature. The paper finalises with an introspection in the security concerns related to the use of weblogs, and the conclusions of the research.

2. RELATED WORK

Unfortunately, there is not much published material on the subject of weblogs in education. In [1], it is described an interesting teaching technique whereby students document their learning activities and learning results in a concurrent journal (log). According to the author, "A learning log is a tightly focused academic journal that is created as the student becomes knowledgeable on an individually assigned topic. The log can serve as the basis for generating Frequently Asked Questions (FAQs), support class discussion, and provide the basis for the creation of a class presentation and web site".

In [21], the author explores the idea of turning learning logs into weblogs. The author provides an overview of weblogs. Weblogs are defined as "personal web pages written in chronological diary form and maintained through weblogging software". The author identifies the following benefits that weblogs offer as improved learning logs: students can share their results with others; students can focus on content; students learn about web page creation in an intuitive way; students can jointly write a weblog, which supports group learning; instructors can monitor published weblogs easily; and finally, instructor do not need to convert student documents and publish them, as it is already done.

In [4], new English words related to weblogs are defined: *weblog* or *blog* for short, a cross between a diary, a web site, and an online community; *blogging*, the act of creating a weblog; *blogger*, the person who creates a weblog; and *blogspace* or *blogosphere*, "the connected realm of blogs that exists on the Internet and is accessible via links to other blogs, specialty search engines and weblog indexes".

In [23], the authors explore the potential of weblogs as learning spaces for students in the higher education sector. The authors believe that "blogging has the potential to be a transformational technology for teaching and learning".

In [3], the authors investigate the impact of weblog use on individual learning in a university environment. This study indicates that learning with weblogs enhances students' cognitive and social construction of knowledge.

Finally, in [13], the author describes the technology behind weblogs and presents the basic functionality of weblogs. Besides, the different roles weblogs can play in teaching and learning are discussed and some case studies of use of weblog in education are shown.

3. WEBLOG TYPES, USES AND ADVANTAGES

Before stating the benefits and barriers of weblogs in HEIs, it is necessary to comprehend the main characteristics of weblogs. To do so, research has been carried out on the taxonomy of weblogs, which has led to discussing weblog uses (whether for learning or other activities), and finally, to the disclosure of the major advantages that weblogs offer to the aforementioned institutions.

3.1 Types

In order to understand the functioning of weblogs, the first thing to be done is to address their nature. In this line of thought, literature shows some attempts to classify weblogs in terms of different features. For instance, in [7] the proposed classification is based on two dimensions: style and content. Regarding style, there are the interactive weblogs and the closed weblogs mostly based on whether

the weblog author allows for comments on the weblog. In relation to the content, there are many sorts of weblogs: personal topics, political/social/economic commentaries, information technology, etc. Merging the styles and the contents, some types are suggested: personal journal, links galores, interactive commentary, one-way commentary, hodge-podge, etc.

In addition, Mernit [14] proposes eight types of weblogs according to the author of the weblog: the professional journalist; the non-traditional journalist; bloggers focused on a specific theme (movement, event, topic or interest); the education community; the self-expression/journaling crowd; the business/marketing/promotion community; business weblogs behind the firewall; and the experimenters and innovators.

Focusing on educational weblogs, in this paper we propose the following classification according to the role (instructor or student) played by the writer of the weblog in the teaching/learning process:

- Instructor weblog: weblogs written by instructors are mainly used as an additional communication channel to share information with students. Instructor weblogs usually contain course content, course management information, general commentary to all students about their learning progress, etc.

- Student weblog: weblogs written by students are basically learning weblogs or project weblogs. A learning weblog [21] is "a learning diary, created concurrently with the learning experience, and reporting on the learning content as wells as the process (including time taken, sources used, and so forth)". A project weblog, often authored by a team of students, documents the project progress and findings.

3.2 Uses

There are many uses for weblogs in many fields. Nardi [15] discovered five major motivations for blogging: documenting one's life; providing commentary and opinions; expressing deeply felt emotions; articulating ideas through writing; and forming and maintaining community forums. Certainly, these motivations are not mutually exclusive and might come into play simultaneously.

Especifically in the education field, weblogs are being used to satisfy a variety of communication needs to favour e-learning practices. In [11], a matrix of some of the possible uses of weblogs in education is shown. These possible uses are analyzed in a two dimension space: who uses the weblog (instructors or students) and for what (writing or reading). Following this same matrix, a list of possible uses is provided in [12]: improving writing skills, encouraging reflective writing, reading student weblogs for assessment, sharing resources and ideas, recording progress and process, course administration, group work, etc.

Wagner [21] proposes the use of weblogs as improved learning logs, this is, as a tool for "enhancing and strengthening the best features of this teaching technique, while giving students more responsibility for the learning and publishing process".

Farrell [5] discusses five ways of using weblogs in the classroom, each with their own pros and cons: standard class web pages (class times, syllabus, etc.); professor-written weblogs which cover interesting developments that relate to the theme of the course; organization of in-class discussion; organization of intensive seminars where students have to provide weekly summaries of the readings; and requiring students to write their own weblogs as part of their grade.

In addition, the following practices relate directly to favouring e-learning practices in HEIs:

- A weblog keeps records for TQM (Total Quality Management) policies in teaching assessment. The information provided by the analysis of the weblog development may be used by the academic institutions to carry out a SWOT (Strengths, weaknesses, opportunities and threats) analysis of the teaching-learning process. Finally, improvement areas can be shown for future deployment [16].

- Faculty members use weblogs to post class announcements, syllabi, assignments, and more in addition to offering students a forum for discussing class topics [8].

- Weblogs can extend conversations and discussions past the school day, linking to resources and relevant materials, inviting parents to participate with their children, and inviting students from other parts to collaborate [19].

3.3 Advantages

Besides the advantages that weblogs inherited from being based on Internet technologies, weblogs have advantages of their own that can be translated into real benefits for users, as follows [16, 18, 21]:

- Weblogs are easy to setup and administrate in contrast to other technologies.

- Weblogs makes easier to publish all types of resources (text, images, video, etc.) to the Web when compared to traditional web publishing.

- Weblogs allow instant publishing with just one click: weblogs are easy to create and maintain, as opposed to traditional web pages that are labor-intensive and require at least some web design knowledge (HTML, CSS, JavaScript).

- Weblogs can be updated easily, from anywhere without having to worry about FTP connections, web authoring software, etc.

- Weblogs have the ability to reach a large audience without losing information quality and allowing for different levels of detail. Weblogs break the trade off between reach and richness of information.

- 24/7 (anytime, anywhere) access to information posted in weblogs.

- No special blogging software is needed to create a weblog: some bloggers use plain HTML to create their weblogs. Weblogs can also be created with some scripts coded in Perl or using some kind of templates that makes blogging easier. However, blogging software allows a person to create and maintain a weblog without knowing HTML. Even more, bloggers may focus on content without the worries of periodically archiving, nor keeping accurate recording times. Still, complexity of weblogs have greatly increased, therefore, blogging software becomes more necessary with time.

- Instructor does not need to periodically request the learning logs to the students.

- Other technologies can be applied jointly. For instance, using of Wikis as enablers for group writing and knowledge sharing. For example, building glossaries.

4. BENEFITS AND BARRIERS

After having addressed the technological features of weblogs in HEIs, users need to be aware of what are the main benefits and barriers that this kind of learning tool may bring to their classroom, whether real or virtual. With this interest in mind, this section offers teachers and students a list of benefits and barriers regarding weblog using in their activities.

4.1 Benefits

According to the work of [5, 9 10, 21, 24], the main benefits for using weblogs can be described as follows:

- The first and foremost benefit of weblogs in HEIs is their use as e-learning tools. This way, the teaching-learning process can continue outside the classroom.

- Weblogs help create connections between students with diverse opinions and interests. This encourages critical thinking and teaches the value of respect towards other students' points of view.

- Weblogs' features (linking, replying, and tracking) make easier sharing knowledge and information.

- Discussions in weblogs promote higher levels of thinking, because people can think before answering back.

- Collaborative weblogs support team work and group learning.

- Because of its format similar to that of a personal diary, weblogs encourage informal communication, creativity and self-expression.

- Accuracy of project outcomes increases due to the continuous flow of feedback from the teacher and fellow students from the weblog.

- Also, teachers may benefit from the possibility of monitoring projects in real time, thus indicating improvements before it is too late for the students to incorporate them.

- Final grading is faster and easier: instructors are able to review how students have participated and developed over the course.

- For non-computer science students, weblogs provide the chance of learning about web page creation, hyper linking and other www topics.

- Writing in weblogs is attractive in the sense that teens and college students, and people in general, want an opportunity to share their experiences and feelings, and weblogs provide them with the chance to do it in a easy, interactive way.

- The use of weblogs (new technologies) prepares students better for the current labour market.

- In those courses where there are many instructors and students, weblogs improve coordination and allow interaction to a far greater extent.

- Different instructors and students from different parts can share a weblog and teach and learn together.

4.2 Barriers

Although the barriers to using weblogs are low [21], bloggers may face difficulties in making the most of their teaching/learning tool. From our own experience, these are the most outstanding:

- Instructors may have difficulty in assessing student participation in the weblog. There are several indicators to take into account: group grading, individual posting, quality of posts, etc., as well as subjectivity vs. qualitative appreciations.

- The use of technology- based tools may be another barrier. It can be of a structural nature, for instance lack of computers, or difficult access to the Internet (as happens in Spain where the Internet connection is quite expensive and slow). Another source of disadvantage would be computer illiterate users, specially in those countries with a wide digital divide.

- Even though most weblogs are hosted in public, free ASPs, learning weblogs should be hosted in private servers, so that they do not show neither advertisements nor banners (which are the most common method of ASPs financing).

- System administrators tend to be restrictive in installing new software.

- If the weblog is public, it may suffer troll infestations, people that intentionally try to cause disruption by posting messages that are inflammatory, insulting, incorrect, inaccurate, or off-topic, with the intent of provoking a reaction from others.

5. SECURITY CONCERNS

Finally, there are several concerns regarding the security of the information logged in the weblog that must be taken into account. Therefore, certain questions are posed to those weblog users who intend to make the most of their teaching-learning process:

- Is it always preferable to have classroom discussions done publicly? Should all these weblogs be open to the entire blogosphere or is there value in having discussions open to class

participants only? This does not mean that only students in the classroom should be able to comment, but in general whether the readership should always be a wider audience. [6]

- Should there be a concern about people posting under other people's names? [6]

- Does anonymity plays a true role in people's willingness to disclose information on the weblog? Research shows that there is a direct relationship between the level of disclosure and the level of trust generated in a weblog, as happens in face-to-face relationships. According to [8], "The question of authentication also encompasses the idea of access to various weblogs. An open system would allow anyone to access all weblogs. While some faculty appreciate an open system and encourage students to read and comment on other's weblogs, there are many that would prefer that access to their class weblogs be given to registered students and invited guests only.

- Does the user's willingness to share information depend on the perception on how it will be used? If that was the case, a weblog with different levels of privacy may contribute to establish different levels of access to the information. Therefore, users may choose the level of risk of loss of control and influence, and the risk of not getting credits for their works. [18]

- What happens with the information once it is published? As a final point, people should be aware of the future effects of the information hosted in a weblog, since, as Nielsen has pointed out, yesterday's a comment may be read by future employers. [17]

6. CONCLUSIONS AND FUTURE WORK

The main contribution of this research comes from a review of the not-so-extensive literature existing on weblogs which, added to our own experience as HEI teachers, has provided a compilation of recommendations, cautions, and encouragements for other instructors.

Evidently, the declaration of Bolonia has forced many instructors to change the focus of their teaching/learning process and we attempted to show in this paper how weblogs can be used to develop successful e-learning activities and autonomous work, if their advantages and barriers are considered carefully while deploying them. Actually, many benefits can be sought for both teachers and students, although a careful use of these resources is needed in order to avoid technology misuses. For instance, the use of weblogs may increase the time spent in managing the course compare to traditional courses. The lesson learnt is that technology is a tool, not a goal.

As for our future lines of work, our next objective is to develop a list of best practices for using a weblog for teaching and learning.

References

[1]   *Baker, J.H.*The Learning Log. *Journal of Information Systems Education,* 14, pp. 11-13, 2003.
[2]   *Barger, J.* Weblog Resources FAQ. *Robot Wisdom Weblog*, September 1999. Internet: http://www.robotwisdom.com/weblogs/
[3]   *Du,H.S., Wagner, C.* Learning with Weblogs: An Empirical Investigation. *Proceedings of the 38th Hawaii International Conference on System Sciences* (HICSS 05), Hawaii (USA), pp. 7b, January 3-6 2005.
[4]   *Embrey, T.R.* You Blog, We Blog: A Guide to How Teacher-Librarians Can Use Weblogs to Build Communication and Research Skills. *Teacher Librarian*, 30(2), December 2002. Internet: http://www.teacherlibrarian.com/tlmag/v_30/v_30_2_feature.html
[5]   *Farrell, H.* The street finds its own use for things. *Crooked Timber*, September 2003. Internet: http://crookedtimber.org/2003/09/15/the-street-finds-its-own-use-for-things
[6]   *Hargittai, E.* Blogs and teaching. September 2003. Internet: http://campuscgi.princeton.edu/ ~eszter/weblog/archives/00000410.html
[7]   *Hargittai, E.* Blog types. February 2003. Internet: http://campuscgi.princeton.edu/ ~eszter/weblog/archives/00000191.html

[8] *Higgins, C.J., Reeves, L., Byrd, E.* Interactive online journaling: a campus-wide implementation of blogging software. *Proceedings of the 32nd Annual ACM SIGUCCS Conference on User Services* (SIGUCCS 04), Baltimore (USA), pp. 139-142, October 2004.

[9] *Huffaker, D.* The Educated Blogger: Using Weblogs to Promote Literacy in Classroom. *AACE Journal*, 13(2), pp. 91-98, April 2005.

[10] *Lee, J., Allen, K.* Edublogs as an online assessment tool. *Proceedings of the 4th International Conference on Multimedia and Information and Communication Technologies in Education* (m-ICTE 06), Seville (Spain), pp. 391 - 395, November 22-25 2006.

[11] *Leslie, S.* Matrix of some uses of blogs in education. *EdTechPost*, October 2003. Internet: http://edtechpost.ca/wordpress/2003/10/09/Matrix-of-some-uses-of-blogs-in-education

[12] *Lowe, A.J.* Blog use in teaching – Dragster activity. Internet: http://www.webducate.net/dragster2/examples/bloguse/. Visited January 20th 2006.

[13] *Luján-Mora, S.* A Survey of Use of Weblogs in Education. *Proceedings of the 4th International Conference on Multimedia and Information and Communication Technologies in Education* (m-ICTE 06), Seville (Spain), pp. 255 - 259, November 22-25 2006.

[14] *Mernit, S.* Blogger classifications: Some thoughts. October 2003. Internet: http://susanmernit.blogspot.com/2003_10_01_susanmernit_archive.html#1065547426350666352

[15] *Nardi, B.A., Schiano, D.J., Gumbrecht, M., Swartz, L.* Why We Blog. *Communications of the ACM*, 47(12), pp. 41-46, December 2004.

[16] *Newman, D.R.* Project learning blogs and reflective views. January 2003. Internet: http://itsoc.mgt.qub.ac.uk/notes/proj/learnlog.html

[17] *Nielsen, J.* Weblog usability: the top ten design mistakes. October 2005. Internet: http://www.useit.com/alertbox/weblogs.html

[18] *Razavi, M. N., Iverson, L.* A Grounded Theory of Information Sharing Behavior in a Personal Learning Space. *Proceedings of the 20th Anniversary Conference on Computer Supported Cooperative Work* (CSCW 06), Banff (Canada), pp. 459 - 468, November 4-8 2006.

[19] *Richardson, W.* The Guerilla Season Book Blog–Eric Langhorst. *Weblogg-ed*, October 2006. Internet: http://weblogg-ed.com/2006/the-guerilla-season-book-blog-eric-langhorst/

[20] *Toffler, A.* The third wave, Bantam Books, 1980.

[21] *Wagner, C.* Put another (b)log on the wire: Publishing learning logs as weblogs. *Journal of Information Systems Education*, 14(2), pp. 131-132, 2003.

[22] *Wikipedia.* Blog, Internet: http://en.wikipedia.org/wiki/Blog. Visited September 1st 2006.

[23] *Williams, J.B., Jacobs, J.* Exploring the use of blogs as learning spaces in the higher education sector. *Australasian Journal of Educational Technology*, 20(2), pp. 232-247, 2004.

[24] *Wiltse, E.M.* Blog, Blog, Blog: Experiences with web logs in journalism classes. *Proceedings of the 5th International Symposium on Online Journalism* (ISOJ 04), Austin (USA), April 16-17 2004.