World Conference on Educational Sciences 2009

To use or not to use web 2.0 in higher education?

Gabriela Grosseck*

West University of Timisoara, 4 Bd. C. Coposu, office 029, 300223 Timisoara, Romania

Abstract

Web 2.0 has been, during the last years, one of the most fashionable words for a whole range of evolutions regarding the Internet. Although it was identified by the current analysts as the key technology for the next decade, the actors from the educational field do not really know what Web 2.0 means. Since the author started to explore and use Web 2.0 technologies in her own development/improvement, she has been intrigued by their potential and, especially, by the possibility of integrating them in education and in particular in the teaching activity.

The purpose of this paper is both to promote scholarly inquiry about the need of a new type a pedagogy (Web 2.0 based) and the development / adoption of best practice in teaching and learning with web 2.0 in higher education (HE).

The article main objectives are:
- to introduce theoretical aspects of using Web 2.0 technologies in higher education
- to present models of integrating Web 2.0 technologies in teaching, learning and assessment
- to identify the potential benefits of these technologies as well as to highlight some of the problematic issues / barriers encountered, surrounding the pedagogical use of Web 2.0 in higher education
- to propose an agenda for future research, and to develop pedagogy 2.0 scenarios for HE sector.

© 2009 Elsevier Ltd. All rights reserved

Keywords: Web 2.0; e-learning; higher education; social artifacts.

1. Insight into Web 2.0 technologies in Higher Education

In the last four years Web 2.0 was defined from different perspectives (O'Reilly, 2008; Siemens, 2008) and by different authors (Zimmer, 2007; Alexander, 2006). Even the definitions of Web 2.0 terms are highly debatable, however, they don't exclude each other because Web 2.0 refers to the social use of the Web which allow people to collaborate, to get actively involved in creating content, to generate knowledge and to share information online. Beneath all the hype, Web 2.0 platforms are seen to have an emerging role to transform teaching and learning (Alexander & Levine, 2008). Specific technologies and services contributing in higher education include blogs, microblogs, wikis, syndication of content through RSS, tag-based folksonomies, social bookmarking, media-sharing, social networking sites and other social software artifacts.

---

* Gabriela Grosseck. Tel.: +40-256-592266; fax: +40-256-592320

E-mail address: ggrosseck@socio.uvt.ro .

There are already a growing number of actors from higher education sector who are exploring Web 2.0 technologies in their activities with students or as part of their PLE. It is important to realize that Web 2.0 has to share something new with higher education - the development of a clear picture of the features that might constitute a new ICT pedagogy in the 21st century: *pedagogy 2.0* (Dron, 2006; McLoughlin & Lee, 2007; Hargadon, 2008).

Table 1 renders some possibilities and examples of using Web 2.0 technologies by the authors of this article as a support for preparing and collecting didactic materials, evaluating and analyzing the progress made by students, putting together informative and formative presentations, time management, planning the timetable and the calendar of activities, developing projects in collaboration, digital storytelling, students eportfolios etc.

Table 1 Models of integrating Web 2.0 technologies in HE

Technology 2.0	Educational applications
Blogging	▪ use blogs for real-world writing experiences ▪ pull class blogs together into one area for easy tracking ▪ quickly give feedback to students, and students to each other ▪ students use peer networks to develop their own knowledge ▪ update new information such as homework and assignments ▪ using comments in blogs can encourage students to help each other with their writing, and get responses to a question without getting the same answer twenty times etc.
Microblogging	▪ classroom community, exploring collaborative writing, reader response, collaboration across schools, countries, project management, assessing opinion, platform for metacognition, conference or as part of a presentation or workshop, for reference or research, facilitating virtual classroom discussion, creating a learning experience, a Personal Learning Network ▪ use for dissemination of teachers' publications and materials, locating original sources of ideas, quotes, allows for very focused and concrete feedback to students to refine their thinking and improve their skills, fostering professional connections, informal research, for storytelling, follow a professional, get feedback on ideas, event updates, live coverage of events, build trust, build a community etc.
Wikis	▪ use for student projects; use for collaborating on ideas and organizing documents and resources from individuals and groups of students ▪ use as a presentation tool (as e-portfolios); as a group research project for a specific idea; manage school and classroom documents; use as a collaborative handout for students; writing: student created books and journaling ▪ create and maintain a classroom FAQ; as a classroom discussion and debate area; a place to aggregate web resources; supporting committees, working parties and university projects etc.
Photo / Slides Sharing	▪ share, comment, and add notes to photos or images to be used in the classroom ▪ inspire writing and creativity; create a presentation using the photos ▪ use tags to find photos of areas and events around the world for use in the classroom. ▪ post student presentations to an authentic audience and get feedback from around the world; share professional development materials and have it available anywhere, anytime, to anyone; post presentations of special events
Video Sharing	▪ video professional development on own terms; create an own subject specific videos with students; use video sharing sites to find videos on current issues etc.
Syndication of content through RSS	▪ professional development, time saving; updated information in teaching area ▪ information coming from constraining sources; sharing work with other educators ▪ RSS feeds can potentially replace traditional email lists, reducing email overload ▪ RSS feeds can be used to keep course specific webpages current and relevant etc.
Social Bookmarking	▪ create a set of resources that can be accessed on any computer connected to the internet; conduct research and share that research with peers ▪ track author and book updates; groups of students doing a classroom project sharing their bookmarks; rate and review bookmarks to help with students decide on usefulness of resources; setup a group tag in order to share educational resources ▪ share one del.icio.us account between a number of different subject specific educators in order to share resources with each other etc.
Social Networking	▪ event support and continuation, team and community support, aggregation of social media applications, personal learning environments etc. (Cobbs, 2008)
Other tools	▪ instant messaging increase the sense of community and accessibility which is required for collaborative learning; VoIP can promote international collaborations and understanding; calendars make calendar events, homework, anything you want available on mobile devices connected to the Internet ▪ survey and polls, online diagrams and web-based word processor, on-line spreadsheet, social search, mind mapping; virtual worlds - virtual conferences and seminars, team meetings and collaboration spaces, simulations etc.

2. Web 2.0 – Opportunities and Challenges for Higher Education

Obviously, there are both pros and cons to using Web 2.0. We shall mention some of them briefly below:

2.1. Advantages

- reduction of costs;
- flexibility, as far as the possibility of choosing technologies is concerned;
- easier and faster access to information, when and where it is needed;
- the integration of a variety of Web 2.0 technologies in the teaching-learning activities;
- extensive opportunities of information and collaboration by the agency of social bookmarking services;
- possibility to control access to resources by authenticating users;
- sharing accumulated experiences (blogs, microblogs, wikis, flickr, youtube) and resources;
- independence from the platform (a computer, with browser and Internet connection is enough);
- compatibility with the elements of the educational field and the existing contextual dynamics;
- the low level of complexity needed for use (minimum skills in using the Internet);
- reliability in continuous usage, over an extended period of time;
- redistribution of effort, so that less and less time and energy are spent during search and information management (del.icio.us, RSS);
- the increase in number of modalities of use and the heterogeneity of didactic practices and of types of formation, due to the diversity of the new technologies;
- the possibility to test the existing didactic practices, without great changes in the current modus operandi;
- the major focus on didactic innovation, and not on the technology per se;
- creating digital content (especially media, podcasting, videocasting).

2.2. Disadvantages

- an Internet connection is required (especially a broadband connection);
- it hides behind it a sum of technologies and concepts which are still insufficiently defined;
- it is based on Ajax, which depends on JavaScript and, therefore, a user without activated JavaScript, won't be able to use the respective page;
- it determines variations of interpretation between types of browsers;
- it offers free things, in open-source structures, with a rather vague significance;
- it leads to a low quality of the actual content, with sites which struggle in deep informational mediocrity;
- it promotes amateurishness by invaluable contents generated by users;
- it gives everyone the opportunity to complain, thus creating a community without rules;
- it has monetary quantification (the Internet as a business - Google);
- it is a kind of second-hand Web, a medium for persons with low digital abilities;
- it has limited security;
- the speed of programs is incomparably lower than the one of desktop programs;
- it doesn't mean anything per se, it is just electronic junk;
- the extremely diversified offer of technologies which can be used and which exist on the market at the moment, make the actual selection process difficult;
- time and knowledge invested in the Web 2.0 technologies.

3. Critical perspectives on using web 2.0 in HE

We need to interpret Web 2.0 technologies from a pedagogical perspective, so that students can become digitally fluent and ready for the challenges of the knowledge society. Thus, we as educators are firstly forced to follow neither a demanding curriculum, full of theoretical concepts, nor one which claims intellectual flexibility, but programs which involve those competencies which are useful to the future graduate in finding a job. Secondly, we must ask our students, when they use Web 2.0 technologies, to prove initiative and responsibility, curiosity and imagination, the ability to explore, creativity, to work cooperatively and constructively, to communicate and collaborate distinctly with each other, to be open towards identifying and solving problems. Most importantly, we should ask them to carry a fruitful dialogue, on both educational and social issues. Only in this way can we make students face knowledge experiences, by giving up frontal teaching and adopting a form of activity based both on group and individual work. It is also important to remember that changing the teaching method is closely connected to the attributes of Web 2.0 technologies, which allow students to collaborate, to get involved actively in creating content, and to share (exchange) online information.

On the other hand, the alliance between the technological context and the teaching-learning process poses a series of problems. Hence, the new technologies must be introduced in the curriculum properly and not randomly (for instance the teacher must prove that the technologies work before using them with the students). Then, as educators, we have the duty to uncover the mass of technologies, to make a selection suitable to our educational purposes because, the more things we could teach, the greater the need to make our students responsible in order to become effective and efficient partners in the teaching/learning act, active factors of their own (in)formation (we are referring to the production and diffusion of info-knowledge by exercising its most important competence - creating online content). We shouldn't forget that abusing Web 2.0 can block or annihilate information processing, and can decrease the quality of learning. In this context, all educational actors (teachers, administrators of learning institutions, persons responsible of policies or librarians) must be initiated by means of special programs or special-topic training sessions.

Although there is a general consensus on the positive aspects of Web 2.0 in teaching, there is still an ignorance of educators as far as its adoption is concerned. This ignorance materializes in:
- Producing a short circuit in the reflection and debate on the impact this new technological trend has on education;
- Rejecting the new by saying that we shouldn't tolerate „the vassalage to American culture";
- Technological immaturity, wrecked by indifference and by the absence of openness towards new ideas and didactic experiences;
- Intellectual and academic dogmatism;
- The sclerosis of scientific thought;
- The erosion of creativity;
- Taking up an opportunistic attitude and acquiring the ambiguous identity of an „information dandy";
- Limiting oneself to the periphery of intellectual work methodologies (in the context of proliferating Web 2.0 without being sufficiently informed, we risk offering the students a precarious training);
- Annoyed reactions from „basement communities" which can, many times, be tempted to consider introducing Web2.0 technologies in their institutions as mere whims;
- Tensioning work relations and creating notoriety complexes as far as the colleagues who have adopted the new wave of the Web are concerned, etc.
- Under these circumstances, we believe it is necessary to reconsider the role of educators. Thus, we need to:
- Assume a new attitude (without going to extremes);
- Set ourselves up as innovators in education, by promoting new pedagogical objects: courses under an audio/video form (podcasts, videocasts), books/manuals in the shape of a wiki, communicating with our students through blogs etc.;
- Try to bring arguments in favor of a taking a correct stand when faced with these realities;
- Plead in favor of renewing our psycho-pedagogical tools;
- Enjoy the pleasure offered by the act of knowledge;
- Assume responsibility for our own formation

and, last but not least, work a lot, spend a great amount of time for self-training, sometimes to the detriment of spending time with the family or of relaxing.

4.Instead of conclusions

The latest generation of Web 2.0 technologies (blogs, wikis, RSS etc.) are quickly becoming ubiquitous, offering many unique and powerful information, sharing and collaboration features. In most cases, the innovations are led by enthusiasts – whether in administration, IT, e-learning or libraries, or in academic departments. So why teachers should look up from their textbooks and take note of Web 2.0 tools? The reason these social technologies work is because teachers can foster collaborative work not only among their own students, but with colleagues, students, and community members from around the world. It is quite clear that the Universities need to act to ensure that it makes best use of such tools. Still, careful thinking and research are needed in order to find the best way to leverage these emerging tools to boost our teaching and learning activity.

The authors of this article hopes, however, that all the actors from the educational field (teachers, tutors, trainers, administrators, or those responsible for policies) will find the Web 2.0 technologies efficient and promising both for the educational process and for self development. We are certain that, once engaged in using the Web 2.0 technologies they will discover it is worth the effort and they will enjoy its benefits.

As Steve Hargadon (2008) said: "Web 2.0 is the future of education".

References

Alexander, B. (2006). Web 2.0. A New Wave of Innovation for Teaching and learning. *EDUCAUSE Review*, March/April 2006, 33-44, http://www.educause.edu/ir/library/pdf/erm0621.pdf.

Alexander, B., Levine, A. (2008). Web 2.0 Storytelling. Emergence of a New Genre. In *EduCAUSE Review*. Vol. 43 / no. 6. Nov./Dec. 2008. 40-56. http://net.educause.edu/ir/library/pdf/ERM0865.pdf

Cobbs, J.T. (2008). *Learning 2.0 for Associations.* [online 1 feb 2008]: http://blog.missiontolearn.com/files/Learning_20_for_Associations_eBook_v1.pdf

Downes, S. (2005). E-learning 2.0. In *eLearn magazine. Education and Technology in Perspective.* http://www.elearnmag.org/subpage.cfm?section=articles&article=29-1

Dron, J. (2006). Pedagogy 2.0. In *Proceedings of the 12th NETTIES International Conference - The Future of E: Advance Educational Technologies for a Future e-Europe*, 6-9 September 2006, pp. 27-32, Timisoara, Romania

Grosseck, G. & Holotescu, C. (2008). Can we use Twitter for educational activities? The 4th International Scientific Conference eLSE "*eLearning and Software for Education*", Bucharest.

Hargadon, S. (2008). *Web 2.0 is the future of education*. 4 March 2008. http://www.stevehargadon.com/2008/03/web-20-is-future-of-education.html

http://en.wikibooks.org/wiki/Web_2.0_and_Emerging_Learning_Technologies

McLoughlin, C. & Lee, M. J. W. (2007). Social software and participatory learning: Pedagogical choices with technology affordances in the Web 2.0 era. In *ICT: Providing choices for learners and learning. Proceedings ascilite Singapore 2007*. http://www.ascilite.org.au/conferences/singapore07/procs/mcloughlin.pdf

O'Reilly, T. (2008). Why Dell.com (was) More Enterprise 2.0 Than Dell IdeaStorm. 29 sept. 2008, http://radar.oreilly.com/2008/09/why-dell-dot-com-is-more-enterprise.html

Siemens, G. (2008). *A World without courses*. 6 March 2008. http://www.elearnspace.org/media/worldwithoutcourses/player.html

Zimmer, M. (2007). Critical perspective on Web 2.0. In *First Monday*, vol. 13/3 - 3 March 2008. http://www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2137/1943