

Web 2.0 Technologies: The Risks and Benefits to Consider when Expanding the Classroom Walls

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Abstract

During the last decades the way of living and working of society has changed significantly under the influence of the new generation technologies – the social media. Their widespread use in non-formal contexts generated ideas and hopes that they can play a significant role in increasing the efficiency of formal learning or creating opportunities for the development of a new learning experiences and practices. The interest among practitioners and academics in the integration of web 2.0 technologies in formal education has increased over the last years. The purpose of this study is to explore the benefits and risk of web 2.0 technologies for teachers, learners and education as a whole. In this paper, I introduce this special issue by discussing the different types of web. 2.0 technologies, looking at how they are used in information systems education, and examining some of the advantages and disadvantages of using them in the classroom. The final section of this paper addresses some future thoughts regarding the use of web 2.0 technologies in our classes.

KEY WORDS : Web 2.0 technologies, Wiki, Blog, Podcast, Social networks, Virtual world communities.

INTRODUCTION

Today the internet continues to expand its capability to inform and connect people, to provide them with opportunities to exchange information and knowledge, or to reuse or co-develop artefacts, to shape communities and discourses.

In an attempt to transform teaching and learning, educators in diverse context are exploring innovative ways to use web 2.0 technologies in teaching and learning. Web 2.0 is one of the major topics in recent professional conferences and journals in the field of Instructional Technology.

There are various definitions of Web 2.0, however, all of them highlight the improved communication flexibility and the increased interaction of users as the key attributes of these tools. Web 2.0 technologies are characterized by “creating network effects” through an “architecture of participation”. Today’s students many of whom are so called “digital natives” are making increasing use of web 2.0 in their daily lives. They also expect their teachers to use information technology to communicate their knowledge more effectively. While web 2.0 technologies are becoming ubiquitous in the everyday lives of students, they are still new to a majority of instructors, especially in higher education settings. Educators and researchers are becoming gradually aware of the role that social media play in young people’s life and informal learning which results in the development of models and approaches of their integration in the context of formal education. The instructional potential of different web 2.0 such as : social networking applications, web video conferencing, wikis, Twitter and blogging, annotation and sharing learning resources, sharing

photographs or audio files etc. has been explored in many different contexts in higher education. The research results suggest that social media applications can enrich student learning experience and improve educational outcomes.

What has also contributed for the growing popularity of web 2.0 technologies in education is the creation of specialized educational software applications based on the idea for pedagogically sound communication, collaboration and co-production. As Tagg (2003) noted, web 2.0 technology can be used just as effectively to reinforce teaching – centered practices as it can be to create learning – centered environments. Thus this study sought to provide a synthesis of key lessons in teaching with web 2.0.

In parallel to finding evidence for the benefits of social media as supporting learning through dialogue, exchange and collaboration, there appear doubts as to their educational efficiency and the spectrum of their educational functionality. The explored practice of their usage shows the existence of certain risks regarding the participants in the learning process and its effectiveness.

1. ‘WEB 2.0’ – ITS MEANING.

Web 2.0 refers to “web applications that facilitate interactive information sharing, interoperability, user-centered design, and collaboration on the World Wide Web” (Wikipedia, 2010). Web 1.0 was read-only where internet users went online to find information. It was similar to going to the library to find books. With Web 2.0, which is read / write, people have become active participants and content creators. They not only find information on the internet, but also create and share content (Thomson, 2007). Downes (2005) described the emergence of Web 2.0 as a shift “from being a medium, in which information was transmitted and consumed, into being a platform, in which content was created, shared, remixed, repurposed, and passed along.” He also argued that the emergence of Web 2.0 is not a technical revolution, but a social revolution that enables and encourages participation through open applications and services.

Blogs, wikis, podcasting, social book marking, and social networking sites are some examples of Web 2.0 applications. These new technologies have allowed users to easily publish content online and to connect and network with people who share similar interest without regard to physical location. The use of tags particularly enables us to collectively categorize and find content easily. In a nutshell, Web 2.0 could be characterized by openness, user participation, micro content, knowledge sharing, social networking and collaboration, and folksonomy (Alexander, 2006; Brown and Adler, 2008; Downes, 2005; Thompson, 2007; Richardson, 2009).

2. ‘WEB 2.0’ – ITS BACKGROUND.

Web 2.0 technologies encompass a variety of different meanings that include an increased emphasis on user generated content, data and content sharing, collaborative efforts, new ways of interacting with web – based applications, and the use of the web as a social platform for generating, repositioning and consuming content. The beginnings of the shared content nature of Web 2.0 appeared in 1980 in Tim Bernes – Lee’s prototype web software. However, the content sharing aspects of the web were lost in the original rollout, and did not reappear until Ward Cunningham wrote the first wiki in 1994 – 1995. Blogs, another early part of the Web 2.0 phenomenon, were sufficiently developed to gain the name weblogs in 1997 (Franklin

and Van Harmelen, 2007). The first use of the term Web 2.0 was in 2004 (Graham, 2005; O'reilly, 2005a; O'reilly, 2005b).

“Web 2.0” refers to a perceived second generation of web development and design that facilitates communications and secures information sharing, interoperability, and collaboration on the world wide web. Web 2.0 concepts have led to the development and evolution of Web-based communities, hosted services, and applications : such as social-networking sites, video-sharing sites, wikis, blogs and folksonomies” (Web 2.0, 2009). The emphasis on user participation – also known as the “read / write” web – characterizes most peoples definition of web 2.0.

3. THEORETICAL AND METHODOLOGICAL BASIS OF THE WEB 2.0 BASED LEARNING.

Web 2.0 technologies encourage and enable teachers and learners to share ideas and collaborate in innovative ways. They also force educators to rethink the way we teach and to transform our education practices so that we can support more active and meaningful learning that involves “ learning to be” as well as “ learning about”. The new Web 2.0 culture encourages students to reuse and remix resources as well as create new knowledge. Students take an active role in learning, rather than passively receiving information from instructors. Web 2.0 has the potential to create more interactive and powerful learning environments in which learners become knowledge creators, producers, editors, and evaluators (Richardson, 2009). Learners’ critical thinking skills can be enhanced through the opportunity to regularly compare their own contributions to those of their peers, and the affirmation of their relative standing in the class may be powerful motivation for learning (Hurlburt, 2008). Thus, Web 2.0 technologies has the ability to “support active and social learning, provide opportunities and venues for student publication, provide opportunities to provide effective and efficient feedback to learners, and provide opportunities to scaffold learning in the student’s Zone of Proximal Development” (Hartshorne & Ajjan, 2009; Vygotsky, 1978). In addition, Web 2.0 provides numerous opportunities for social interactions and collaboration among students, teachers, subject matter experts, professionals in different fields, as well as a host of others with related interests. Downes (2005), who coined the term “e-learning 2.0,” described the evolution of online learning application from a “content – consumption tool, where learning is delivered”, to a “content – authoring tool, where learning is created.” With web 2.0 and other emerging tools, “learning will continue to shift from the mastery of instructor – based content to problems to be solved and products to be created”. (Bank, 2009, P.369), and learning content will be “less static and more open for others to use, refine, distribute, and comment on”(P.371).

Web 2.0 offers increasing opportunities for students to find and join communities of practice when they can “acquire both deep knowledge about a subject (“learning about”) and the ability to participate in the practice of a field through productive inquiry and peer-based learning (“learning to be”). Indeed, web 2.0 has the potential to create authentic, open learning communities where students can discuss a wide range of real-world topics and collaborate with people around the globe, instead of discussing pre-assigned topics with their classmates.

Thus, today’s students are “digital natives” and make increasing use of web 2.0 technologies in their daily lives. But, in addition to the visible aspect of designing

effective learning environments with tools, educators also need to serve as coach, mentor, cheerleader, as well as task master to their students when the expected learner participation does not materialize.

4. ADVANTAGES AND DISADVANTAGES IN USING WEB 2.0 TECHNOLOGIES IN CLASSROOM.

In looking at the use of web 2.0 technologies in the classroom, we need to be aware of some of the advantages and disadvantages of using web 2.0 technologies in classroom.

4.1. ADVANTAGES

4.1.1. Students become part of the lesson.

When web 2.0 technologies are used in classroom, students become part of the lesson. They have the opportunity (or requirement) to be an active part of the class. Active participation means they add to the wiki or blog, create a presence on a social network, or become a participant in a virtual world. All of these web 2.0 technologies can engage the students and allow them to contribute to the lesson in an active manner, thus becoming a part of the lesson.

4.1.2. The World becomes the classroom.

The best way to learn is to become active. Web 2.0 technologies expand the classroom to the virtual world and allow the world to become the classroom. Because of easy access to the virtual world, the lesson can be open to anyone; it is not confined to a single classroom or a single set of students. This allows students to easily work across boundaries with others who may have different cultures, values and interests. It is imperative that today's students have a more global perspective and web 2.0 technologies can help to this.

4.1.3. Collaboration and Competition increase learning.

Most participants believed that using web 2.0 technologies in teaching helps build a sense of community, increases interaction and communication among the instructor, students, and other people, and promotes collaboration and resource sharing. Again competition also provides the opportunity for students to learn and widen their knowledge base. Web 2.0 and virtual world technologies are used for collaboration and competition in the classroom, for which learning can increase.

4.1.4. The classroom is available 24/7.

All of the web 2.0 technologies are internet based. This means they are available to students 24 hours a day, 7 days a week, and thus a student can interact in a classroom environment anytime as per their needs.

4.1.5. Knowledge creation.

Web 2.0 technologies enable students to "become creators of knowledge". Web 2.0 technologies give students the opportunity to create content themselves instead of just listening to lectures, and this supports active and student-centered learning in which students take responsibility for their learning. Several participants

also noted that web 2.0 technologies create an environment where a teacher becomes a facilitator of learning rather than a distributor of knowledge.

4.1.6. Ease of use and flexibility.

Web 2.0 tools are easy-to-use and flexible. Whilesome of the traditional course management system (CMS) are too static, web 2.0 tools remove time constraints by providing a more flexible learning environment that is not inhibited to classroom walls.

4.1.7. Writing and technology skill.

The use of web 2.0 technologies help students become more proficient in writing and in the application of technology.

4.2. DISADVANTAGES

The study results indicate that the major barriers university instructors encounter in teaching with web 2.0 technologies are (1) Uneasiness with openness, (2) Technical problems, and (3) Time, (4) Plagiarism.

4.2.1. Uneasiness with openness.

Some students are very apprehensive about the openness of web 2.0 technologies. Written assignments and responses are no longer just between the professor and student, but available for any one to see and evaluate. This openness causes extreme discomfort for some students.

4.2.2. Technical problems.

The students who have older computers often have technical issues when using web 2.0 tools. It was also noted that some web 2.0 tools are “still a little primitive”, having technical glitches and might not work well with current course management systems. Moreover most universities do not provide enough technical support for faculty who are unfamiliar with web 2.0 technologies.

4.2.3. Time

It takes time to learn and manage new technologies. Time is another barrier identified in web 2.0. Learning new technologies takes time away from learning subject matter content.

4.2.4. Plagiarism

Plagiarism is very easy in the online world; just copy the paragraph or sentence from the source and paste it to the blog or wiki. This can be a quick response to a question or assignment that result in plagiarism. Students need to be explicitly cautioned about plagiarism when using web 2.0 technologies in the classroom. Sometimes a quick Google demonstration to see how easy it is for an instructor to locate “lifted” passage is an adequate deterrent.

5. CONCLUSION

It can be concluded that Web 2.0 technologies pose a serious challenge to learning and teaching in view of all actors involved in it. Knowing both sides of using these technologies is a reliable basis for designing effective learning scenarios whose undoubted benefits are based on the social nature of learning, on the one hand and the accelerated development of digital technologies, on the other. As indisputable conclusions drawn from the study of practice in using Web 2.0 in order to support learning are:

- Their pedagogical effectiveness cannot be proven outside a specific educational context in terms of their capacity to foster the realization of specific educational aims. It is essential that a pedagogical answer is given to the question about the spectrum of educational aims to whose achievement Web 2.0 technologies can contribute (respectively about the achievement of which aims they cannot play a significant role), so that claims (myths) about a universal applicability of these technologies can be avoided.

- Drawing benefits from using these technologies for the purposes of learning calls for a relevant pedagogical design of learning tasks and activities when designing online education. This conclusion is confirmed by a great number of empirical studies: 'task-technology' fit. In other words the design should aim to achieve what Biggs calls 'constructive alignment' between assessment and intended learning outcomes.

- The design of the learning process supported with Web 2.0 technologies should be based on the needs of the specific learners taking the course – taking into account their preliminary knowledge and skills, their personal and professional needs.

The integration of social media technologies in the learning and teaching brings forward some serious questions/issues:

On an institutional level there is the issue about the capacity of the currently educational system to undergo a substantial change in the direction of its dialogicality, openness, adaptability and flexibility with all due ensuing consequences.

In view of the design of Web-based learning environments and scenarios, there is the methodological question about whether these technologies have to adapt to the dominant models of teaching and learning, pedagogical communication and assessment without changing them substantially or theoreticians and practitioners have to work to create models corresponding to the specific characteristics of Web 2.0 technologies?

At the level of the educational theory and practice there are the questions about knowledge, skills and competences of the main actors in the educational process so that effective usage of these technologies is achieved.

The answers to these and other questions should be sought by way of empirical study and critical analysis of specific educational practices done from the standpoints of all actors involved.

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