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The University and the Social Web Challenge

In this article, the authors, Luís Simões and Luís Borges Gouveia from the University Fernando Pessoa in Portugal, examine the implications of social networking technologies on higher education and the way knowledge is being taught and learnt. They highlighten the main challenges of adopting Web 2.0 in higher education, such as the balance between the conservation of traditional skill and knowledge legacy and the possibilities that technology introduces in terms of students' self expression and construction of knowledge.

1. Community, Participation and Higher Education

Higher Education Institutions (HEIs) are facing strong pressures to adjust their methods of knowledge creation, sharing and preservation (and even the way the knowledge evaluation process is conducted), due to the technological changes of the past years, in which the nature of online communication has changed dramatically.

Tim O'REILLY (2005) coined the term Web 2.0 to refer to the revolution in the computing industry caused by the move to the Internet as a platform. It is difficult to define concisely what this concept means, since it covers such a wide range of applications, including Blogs, Mashups, Wikis, feeds to social bookmarking, social networking and media sharing sites. Although few people use all of these tools, many use one or more. We can say that, in its essence, Web 2.0 is a participatory Web. By lowering the barriers to participation, the Web 2.0 concept goes beyond the idea of opening software code to developers: it states that content production of online information must be opened to all users, who must be allowed to re-use and mash up data as they want and need (O'REILLY, 2003).

A key feature of Web 2.0 services is what O'REILLY (2003) calls an Architecture of Participation, i.e. through normal use of the application or service, that service appears, to the user, to become better. Web 2.0 software is designed so that the user interactions have the side effect of improving the service (e.g. Del.icio.us tags, Yahoo Answers user points, BitTorrent sharing protocol).

Most Universities today still use a centre-staged model of teaching, in which discipline experts transmit theoretical knowledge that passive learners receive and consume. In a model of this type, collaboration is discouraged, and students who engage in collaborative learning strategies have to do so removed from the official lecture hall, as if they were carrying subversive or illicit methods in their learning

(HERRINGTON & HERRINGTON, 2005). Many teachers follow a traditional approach to teaching because they are just reproducing the way they themselves were taught, ignoring recent theory and research on human learning. Traditionally, the University is a place where theory can be learnt devoid of its originating context. In many cases, this potentially leads to superficial learning of theoretical materials by the student (e.g. textbooks) who then regurgitates the information on exams (HERRINGTON & HERRINGTON, 2005).

It is possible to take advantage of the free and open educational resources, opencourseware and open software that is available and to promote a participatory learning culture in which learners build, explore, share and collaborate together online.

The use of Web 2.0 technologies in the context of Higher Education could lead to the implementation of a model of learning centred on the concept of Community of Practice (Lave & Wenger, 1991), in which learners are seen as participants of a framework that has social structure, rather than being passive elements that acquire models of a static world. Peer-pressure to enhance performance and to participate in collective activities is a factor that promotes the building of ethical relationships between people involved in a Community of Practice.

In the wider community, there is a need for a dynamic and adaptable workforce, but employers and governments now realize that in many cases the learning outcomes they need from university graduates are lacking. Nations, employers and governments require graduates who are able to build communities, and to communicate in innovative ways, in the realm of their profession (HERRINGTON & HERRINGTON, 2005).

The growing influence of constructivist ideas in learning (VYGOTSKY, 1978), has prompted many educators to research and implement more authentic (real world) learning environments, in which teaching and learning takes place in settings closer to real-life scenarios, and thus adjusting better to the concrete needs of students and Society (e.g. MCLELLAN, 1996; COBB & BOWERS, 1999). Nevertheless, the adoption of new methods of teaching and assessing knowledge must be preceded by a careful analysis of their pedagogical justification, educational advantages and practical implications. There are persistent complains about the use of information and communication technology in educational contexts without a solid psycho-pedagogical foundation (e.g. Attwell, 2004; Barone, 2005; Stager, 2005). But even seemingly “obvious” assumptions, like taking for granted that students value the use of Web 2.0 tools in the context of their college education, have been disputed by some, based on empirical data. KVAVIK (2005), for example, found that although students value the

moderate use of technology in their classes (providing conveniences such as syllabi, class readings, online submission of assignments), they also ranked face-to-face interaction at the top of their list of educational preferences. According to OBLINGER and OBLINGER (2005), colleges and universities should not assume that more technology is necessarily better. For instance, in a campus where wireless communication has been implemented, its main use may be outside the academic realm. In order to take advantage of this technology to promote collaboration and harness collective intelligence, the whole community of learners and teachers must work together in creating an adequate architecture of participation.

2. Collective Intelligence, Collaboration and the University

The idea of Collective Intelligence, despite being around for more that a decade (e.g. Levy, 1997), is now giving rise to new insights on educational processes (Downes, 2006), and emergent phenomena like Wikis (e.g.Wikipedia) are a good demonstration of the power of collaboration through technology.

In the context of Web 2.0, O'REILLY states that there is an implicit architecture of participation, a built-in ethic of cooperation, in which the service acts primarily as an intelligent broker, connecting the edges to each other and harnessing the power of the users themselves. (O'REILLY, 2005).

Social-cognitive competences are being more valued each day, and they can also be developed through the use of the Internet (MONEREO, 2005). Social Constructivism emphasises the negotiation and the co-construction of meaning with others (BONK & CUNNINGHAM, 1998). VYGOTSKY (1978) and the followers of social constructivism view learning as a social process: the learner benefits from the support of a teacher or colleague who is at a higher level of development, in order to advance in her learning.

With the availability of Web 2.0 tools, publishing information becomes easy, and several studies (and the empirical experience of many teachers) have demonstrated that when the student knows that his/her work will be available on the Internet, they do it with much greater interest and effort (CRUZ & CARVALHO, 2006; EÇA, 1998). This effect is even more enhanced if there are channels through which the student can receive direct commentary on his/her work (e.g. via a Blog).

Collaborative learning involves the making of meaning in the context of joint activity. This learning is not merely acquired through

interaction: it consists of the interactions that occur between participants (STAHL, KOSCHMANN, & SUTHERS, 2006).

We need, therefore, to understand how the cognitive processes are influenced by the social interaction and how learning takes place in the interactions between participants.

Recently, SIEMENS (2004) has been applying ideas similar to those of the sound theoretical framework of Connectionism (RUMELHART & MCCLELLAND, 1986) into the realm of Education, under the term Connectivism. Although connectionism as proved to be a very productive theory to explain distributed cognition at the individual level, SIEMENS' Connectivism is an emergent perspective on how knowledge can be distributed through networks of people and appliances (and not just distributed in the individual's brain, as in the case of classic Connectionism).

Web 2.0 fits well into a connectivist model of learning, comprising a panoply of tools that could lead to an Education directed to the needs of a Society that requires skilled workers, and critical and creative thinkers, even if terms like Wikis, Blogs, Podcasts, RSS, Mashups might sound like hype and complex jargon to the general public (including many educators). In this respect we cannot restrain ourselves from totally agreeing with SIEMENS (2007) opinion that the tools are not central for an understanding of the potential impact that an idea like Connectivism may have in Higher Education: what is central is the change that this tools would allow if they were used in its full transformative potential.

3. Final Remarks and Recommendations

Web 2.0 services allow the harnessing of the power of groups. In order to take advantage of the network effects of these tools in Higher Education, open, participatory architectures for ICT systems must be in use. Students must be allowed and encouraged to produce their own content. Social networking technologies have the potential to enhance the dynamics of communication between life, work and school, thus creating meaningful educational experiences, adapted to both students' expectations and Information Society's requirements, taking into account that we are now in a true global society, and thus Higher Education Institutions must provide the knowledge to develop a global citizenship. This also leads to an emotion-related type of learning.

What remains the core challenge of the adoption of Web 2.0 in Higher Education is the balance that must be made between the necessary conservative part of Education, which is necessary to preserve past

human effort and talent, as also traditional skills and knowledge legacy, and the possibilities that technology introduces in terms of students' self expression and co-construction of knowledge.

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