Learning in Knowledge Society: the different roles of VLEs & PLEs

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Abstract. In the connected world we live in today, people no longer look for information only in formal places. The internet has become a place of choice to gather information. Social networks are no longer only used for pleasure and maintaining contact with friends, and have grown to became platforms where knowledge is created, shared and where connectivity and collaboration are natural. Many people look at the web as a place for learning and use it to create a network which allows them to gather, select, share opinions, reshape ideas and create knowledge to then share on social networks. Students' learning profile is becoming more proactive in the search for information and constructing valid knowledge.

Keywords: VLE, PLE, e-Learning, knowledge society, connectivism, tutor, e-knowledge, LMS

1 Introduction

Today's society is considered the digital society, due to the proliferation of computer and communication technology. Computers, cellphones and Internet have become more accessible for personal use, and a requirement of the workplace. Castells (2005) states: "*the network society is not the emerging social structure of the Information Age: it already configures the nucleus of our societies*". In the past few years academic researchers developed various studies that show "*the commonality of this nucleus across cultures, as well as the cultural and institutional differences of the network society in various contexts*".

Students learning processes have changed with digital technology, no longer relying only in formal learning contexts for acquiring knowledge, they became more proactive in their search for information and turn to the contents they can find in the Internet. The search for online courses has grown and it's not showing signs of stopping, "*more than one in four education students now take at least one course online*" (Allen & Seaman, 2010). Students are in a continuous process of learning, through their personal networks and connections they update throughout their lives. Learning is no longer formal, it is informal, non-formal and natural. It occurs in several and different contexts.

This paper aims to present some key considerations about the way learning occurs in a VLE and in a PLE. It includes a literature review about the concepts of personal networks and connectivism, how both impact learning.

2 Learning in knowledge society

Web 2.0 and 3.0 is changing the way students learn. It has already changed the way they interact with each other and with the world. The social web is part of their daily lives, giving them the possibility to connect and share with peers their personal lives, through social networking. But they don't only use Internet socially, they use it to read the news, listen to music and also gather information about school related subjects. In fact students are used to utilize simultaneously diverse types of media, giving them a new profile as students, who find traditional teaching uninteresting. E-learning environments, such as VLE (Virtual Learning Environment) or PLE (Personal Learning Environment) are now complementing traditional teaching, giving access to live conferencing, video sharing, and other collaborative tools that permit students to organize their learning spaces as it suits them best.

Students proactiveness in using the web to gather information is no longer an issue to the teacher; students are already doing it. The teacher's role changes, and now includes giving them competences to guide them in knowing where, how and what information to select from all what its available.

A crucial competence is that of networking (i.e. being connected). The more relevant connections one has in one's study field, the more relevant information one accesses. Therefore, social networks play an important part in gathering sources for valid contents.

2.1 VLE

Most tertiary education institutions have implemented LMS (Learning Management System), CMS (Open Source Course Management System) or VLEs (Virtual Learning Environment) in order to better manage, organize and deliver learning contexts. By their nature VLEs are formal and closed environments, confined to a class, a course or a specific subject. Currently, the most popular VLE is Moodle.

"*The focus of the Moodle project is always on giving educators the best tools to manage and promote learning (but) it needs to be installed on a web server somewhere*" (http://moodle.org/about/).

Moodle is a space-based web application that integrates a set of features that allow you to create and manage a space for students to access content provided by the teacher, and where there is a diversity of interactions between the agents, synchronously and / or asynchronously. The main features of a VLE, in particular Moodle, are gathered in four dimensions (Alves & Gomes, 2007):

- protected access and management of user profiles - thus creating a web environment reserved for participants in a course and define the various permissions, at teachers and students level;

- managing access to content, allowing teacher to put content online in various formats and set the times and ways how students can interact with them;
- tools for synchronous and asynchronous communication, enabling communication between stakeholders;
- means to control activities, allowing the registration of all activities / actions made by students and teachers.

VLEs facilitate student's access to information teachers make available, allows contact with peers and teachers through forums, chat rooms and message service. An additional modules makes it possible to do live video conferences. One other advantage of a VLE is making courses available to students in remote areas, or with scarce economic means. However, VLE visually have a static appearance, don't allow individual personalization and therefore it's not very motivating to students, especially those whose only contact with an institution is done through this virtual space.

Learning environments should encourage students to use meta-cognitive skills, reflect on relevant content in order to create knowledge. Therefore, to become more appealing, a VLE "*should be designed to address learners' diversity in terms of learning styles, prior knowledge, culture, and self-regulation skills*" (Vovides et al, 2007).

Since it is normal to be surrounded by all sorts of media and to use them simultaneously, a static place is poorly motivating to todays' students; and as they restricted environments, contributions and collaboration are limited to those attending the course. This limitation drives teachers to search for other more dynamic applications to complement the institutional VLE, like PLEs.

2.2 PLE

Besides VLEs, online learning can, nowadays, take advantage of other platforms and services available on the Web. Some of them have become very popular lately amongst students (and teachers) - such as social networks and virtual worlds. These virtual environments are open and visually more attractive - since they are graphically based. Social networks appear to be emerging environments providing channels of communication, sharing and distribution that enhance communication with e-learning students; these are beginning to replacing or supplement traditional communication with VLE (such as Moodle), ensuring the participation of the whole community.

With today´s networks, students have access to live conferencing, video sharing, social networking, collaborative tools - directly from their computers. Students can now create content, work collaboratively, socialize, interact and communicate in a more direct way with their peers and teachers. Instead of merely searching for information, applications such as bookmarking, RSS feeds, twitter and pinboards, digital portfolios, etc., along with the possibility of creating their own personal website, today's Web gives students the chance of creating their own Personal Learning Environment (PLE). As Attwell (2007) suggests, a PLE "*recognizes that learning is continuing and seeks to provide tools to support that learning*". In a PLE students are responsible for the management of their own learning environment and for the selection of tools and contexts where learning will take place. According with

Schaffert & Hilzensauer (2008), learning with PLE implies certain changes, such as the role of the student as being more proactive and self organized in constructing and sharing his own knowledge, supported by data retrieved from countless and varied information, made available by community peers; therefore social involvement plays an important role, as the more social software tools multiply sources and connections, therefore more information is attainable.

PLEs are therefore environments undergoing continuing change, evolving not only with students knowledge interests, but also keeping up with all new applications that appear on web.

For some academics PLE is an environment which aggregates all used tools, such as email, websites and applications; however, to a wider majority, a PLE is an environment containing social software application as well as web services, where students are able to gather information and produce knowledge and reflections. Furthermore, in such environment, students can make RSS feeds to follow the blogs and webpages he finds interesting. According to Schaffert & Hilzensauer (2008) PLE can be seen as "*mash-up in a single portal for the purpose of learning. (...) Examples for PLE applications are Netvibes15 or WordPressMU16 (a multi user Weblog), but also I-Google17 or Flock18 could serve as a PLE*".

3 Learning with personal networks - benefits for e-learning contexts

An e-learning environment's main goal is to convey knowledge to anyone who wants to learn, regardless of where you are in the world. Most of the users look for e-knowledge due to geographical distance, economic limitations or limited time schedules. However few tend to follow through the entire course. Motivation is therefore one central topic when creating an environment for e-learning.

VLEs are nowadays more evolved, and allow more connectivity, such as synchronous chat rooms and live conferencing; however, connectivity in these spaces is always restricted to the ones who enroll in the course. Teachers try to make the place more inviting, making available a wide range of activities in order to motivate students for the course. In many situations they engage the help of tutors to deliver e-learning support. Tutors can perform a major impact in closed learning environments (such as LMS and VLEs). They are responsible for course moderation, being a guide and a facilitator. Students can rely on tutors for their immediate feedback (Loureiro et al, 2011). Tutors help to students' socialization, being a close peer in the learning process, maintaining class cohesion and high levels of motivation and participation.

In a personal learning environment learning is focused in the '*self*'; different from learning in a VLE, with only forums and text chat to communicate, and focused on a whole class or subject. With a PLE students are independent of a closed environment, but in a space where one can still collaborate, share, learn and search with a broader community, leading him to develop an attitude of independent learning. Furthermore, personal networks appear to be emerging environments providing channels of communication, sharing and distribution that enrich communication between e-learners. Students tend to create their own personal networks, engaging in different

services, communities, groups and networks, according with their needs, interests, likes and motivations, looking for connections. This lead us into a modern learning approach, Connectivism, described as the learning theory for the digital age. This approach states that *"knowledge – and therefore the learning of knowledge – is distributive, that is, not located in any given place (and therefore not 'transferred' or 'transacted' per se) but rather consists of the network of connections formed from experience and interactions with knowing community*" (Downes, 2009).

According to Siemens, theories most often used to describe the learning process, like Behaviorism, Cognitivism and Constructivism, do not take in account the way learning is impacted by technology, a fact one cannot ignore in the digital age we now live into. Technology already "*has reorganized how we live, how we communicate, and how we learn*" (Siemens, 2004), therefore new age learning theories should consider the widely influence of social environments have on learning (especially in its informal and natural form), and reflect about the type of connections that the World Wide Web allows. As Vaill said, referred by Siemens, "*learning must be a way of being – an ongoing set of attitudes and actions by individuals and groups*" (Vaill, 1996), and so we must perceive the learning process which transforms "*experience into knowledge, skills, behaviors, and attitudes*" (Cobb, 2009). To learn is to "*acquire certain patterns*" (Downes, 2009).

The connections within a personalized environment shape the knowledge one creates, by collecting and sharing information from varied sources, enriching the learners personal data collection, and contributing to the evolution of the students' learning profile from being a mere information gatherer to an active and reactive user, developing and sharing content and information, influencing the build of knowledge of the other users (Semantic Web). As social beings each one of us has an intrinsic need of being part a community, of being known by our peers, an unfulfilled eagerness for communication, and to share our ideas, needs and knowledge. We are now emerged in the "*real time, co-creative Web*" (Hayes, 2006). Students are now content builders, information sharers, communicators, belonging to a common space with no barriers, made of links, nodes and connections. Every day students establish new contacts, increasing their networks, sharing and collecting new information, rebuilding knowledge, and therefore learning (Loureiro e Bettencourt, 2010).

4 Conclusion

As digital technology continues to evolve, a wider range of technological solutions arise. Students are able to engage in different structures, groups and communities, making their own connections and creating their personal learning networks.

VLEs emerged before the onset of web technology and enabled institutions to provide a structured environment for engaging students in a more flexible way than traditional ("*talk and chalk*") methods, with the disadvantage that the environment is limited to a course, class or subject.

PLEs don't substitute learning management systems, as they are too unstructured from the learning management point of view, they rather act as a complement. They

enlarge students' contact with valuable information sources, allowing to share and construct knowledge while constantly reshaping and updating it.
With the combination of VLE and PLE, the following learning scenario emerge. A Teacher initiates a learning task in the VLE which the student imports into his own PLE, the student can then engage with his socially connected learning network to explore the topic then deliver the result of that process back to the VLE on completion of the task. It is not the concern of the teacher what tools are used to build the PLE, but only that the student engages with a wider network to enhance his own learning.

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