Language learning using the Sakai collaborative learning environment: current experience

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Abstract
It seems undeniable that the digital revolution we are experiencing nowadays has several implications in the current systems of learning and training. In this context, e-learning may provide a better and innovative way to "learning at an accelerated rhythm" and to "transforming information into knowledge".
Nevertheless, changes in pedagogical theories have already occurred for some time focusing the debate on the learning process based in problems, "situated learning", "process writing", works of project, among many others.
In this sense, internet and e-learning may be considered as tools which are harmonised with current ideas in education, thus contributing to the evolution of these pedagogical theories and to the development of new techniques, supplying incentives to the learning process, facilitating communication, and improving information management.
From a pragmatic point of view, in this paper, we shall focus on the application of ICT to language learning and training, considering the current b-learning courses of Portuguese for Foreigners (Erasmus students, in Porto, and Spanish students, in Las Palmas) that one of the authors teach using Sakai, the e-learning platform adopted in our University.
In short, assuming that the digital revolution is of great importance for the learning process of the individuals and organizations, we argue that the use of an e-learning platform for language learning and training enables us to become active agents, to a certain extent, of the main changes that this revolution implies in learning and training

1. Collaborative learning

Schools and universities today emphasise working in isolation; however, digitalisation will encourage teamwork (Weir, 1996). This is reinforced by (Goeller, 1998) who states that western business, social and academic culture is ruggedly individualistic; education's focus is on individual performance while employment performance assessment is based almost exclusively on individual performance. Nevertheless some experiments with group assessment are reported in the literature (Gouveia, 1998). To confront students with group work, teachers must explicitly teach and model teamwork including it in curricula because as Goeller states, technically competent students are actually deficient if they cannot apply that competence in a team setting (Goeller, 1998). We can say that co-operative learning is a recent concept as a way of thinking about and conducting the educational process. Although co-operation in learning is not in itself new, the idea of "cooperative learning" as a particular system of learning can be considered as a new proposal (McConnell, 1994).
Co-operation is defined by Argyle as "acting together, in a coordinated way at work, or in social relationships, in the pursuit of shared goals, the enjoyment of the joint activity, or simply furthering the relationship" (Argyle, 1991). McConnell states that co-operation "is seen as central to our everyday lives" and "cooperative learning is process driven" (McConnell, 1994). In the definition of the group, McConnell states that a human group is a collection of individuals, who have interdependent relations, and who perceive themselves as a group that is recognised by non members. Finally, group members have interdependent relations with other groups and whose roles in the group are functions of expectations (internal and external) (McConnell, 1994).
In open learning situations where there are many different simultaneous influences on the group including distributed systems and the use of virtual technologies to augment the group environment it

is possible to add some influences from beyond the social structure of the group itself (Wexelblat, 1993). Co-operative work produces information products such as decisions, design, and analysis, minimises information loss, and operates a finer level of details (Scherlis and Kraut, 1996).

In addition to the individualistic and competitive learning goal structures, cooperative learning can be relevant to education, learning and training, justifying the introduction of ICT that support it. When dealing with technologies some practices must be well planned especially in an environment with a great number of systems owned by multiple kinds of users. This can become even more complex as it can be stated that technology is a less stable resource than users and work practice. To complement, technology is developing fast and the users have just become aware of a potential change of the traditional work practice (Kommers et al., 1996).

Since the notion of cooperation is inherent in collaborative learning, research can also be applied to collaborative learning environments. Both cooperative and collaborative learning are built around the idea of socially constructed knowledge.

Collaborative learning can be defined as the interaction of two or more people to engage in value-creating activities based on improving, practising, and transferring learning skills both within the group and to the organisation or group of organisations to which they belong. The outcomes of collaborative learning activities are improved work performance, strategic awareness, and positive business impacts. Johnson and Johnson have shown that students in collaborative learning environments outperform students in non-collaborative environments (Johnson and Johnson, 1990).

The kinds of activities referred to as collaborative learning are tasks that students perform in groups of two or more. These tasks might include peer critiquing of papers, working together on a project or assignment, exploring content and practising skills. Knowledge is not generated in a continuous way. Its change is often characterised by alternating periods of slow movement and rapid transformation. Information and theory help to outline an alternative paradigm and encourage individuals for further development where knowledge can be developed. Sipusic and others enumerate a collection of five theories that have been devised to explain the collaborative learning effect (Sipusic et al., 1999):

1. the small group environment provides more time for each student to communicate. It allows more opportunities for students to ask questions and thus acquire new information;
2. during collaborative learning, students make public considerations about knowledge. The feedback from others helps group members to refine their ideas even further;
3. the social necessity to communicate their ideas requires students to articulate and elaborate their knowledge. The acts of articulation and elaboration encourage the active use of the conceptual content which, in turn, fosters learning;
4. students in collaborative groups exhibit helping behaviours – offering emotional encouragement, tutoring, sharing notes, etc. – that increase learning;
5. collaborative learning leads to increased receptivity to learning by increasing motivation and attention.

Collaborative learning needs to be distinguished from cooperative learning. Both are non-competitive forms of learning, and in both the reward structure encourages students to work together to accomplish a common end.

Cooperative learning, however, generally leaves established authority structures unexamined and untouched. The end is defined in the beginning by an instructor-in-charge, who also prescribes the means by which the goal is to be obtained and evaluates the entire exercise, without his/her own role being seriously questioned or open to significant change in the process.

Collaborative learning is comparably cooperative, but it takes all of the participants one step further: involving them in self-reflection of a kind that generally raises serious questions of "meaning" and "power" and forces them to confront issues implicit in any classroom learning regimen but rarely explicitly defined and dealt with.

Collaborative learning fosters an openness to change that enables participants to work together closely and self-critically, towards an eventual improvement of the effectiveness of their teamwork. Such a system characteristically evolves beyond cooperative and adaptive learning, learning needed to survive, and develops generative learning capabilities – a process by which participants enhance their creativity, and rationally direct their evolution.

For a class to become such a learning system, the teacher must become a collaborative member of the system without losing his/her leadership that can and must facilitate and guide the learning process.

2. The SAKAI collaborative learning environment

After an initial survey of the available Learning Environments, UFP decided to adopt Sakai, a then new project resulting of the merger of the software of several US universities.

Sakai is an open source initiative (community source licensing). When it was starting, there was an opportunity to work and influence a product which had, under different flavours, been used in large scale by large institutions. More information about Sakai can be found at www.sakaiproject.org, and project specific information is available at http://bugs.sakaiproject.org/confluence/dashboard.action.

University Fernando Pessoa (UFP) started a pilot with Sakai 1.0 in October 2004, opening it to all instructors and students. One year later, around 782 users had logged in at least 5 times, and 150 sites were active. Assignments and Resources were driving the adoption of the platform. Project sites were also a major argument for adoption of Sakai, as instructors realized how easy it was to set up and run such a site.

As of March 2007, 4623 users had logged in at least once. There were 6500 registered users, staff and students. There are 1860 distinct users logging in per week, and 2600 logging in per month. We believe this figure, 2600 users, represents roughly the active Sakai population, meaning instructors that use the platform to deliver content, grade, deliver assignments, and communicate with their students (the university population was 4600 students).

There are roughly 27000 logins per month, which means a user logs in on average 10 times a month. There are 19500 stored digital resources. 200 online tests were published and taken, and we registered 3800 student online assignment submissions.

Since September 2007, 200 course sites were created and are registering activity. Some are blended, meaning students are required to perform some of their work on the platform. Among those, are the b-learning courses of Portuguese for Foreigners. Current version on use is the 2.4 and it provides a large number of tools that covers mostly of the know features that we relate with the e-learning and such Web based learning platforms. Each course can selected some of the available tools in order to make its own learning experience and support the best strategy for the skills to be developed.

The UFP Sakai installation known as UFPUV (Virtual University) can be reached at http://elearning.ufp.pt.

3. Pedagogical Implications of E-learning

It seems undeniable that the digital revolution we are experiencing nowadays has several implications in the current systems of learning and training. In this context, e-learning may provide a better and innovative way to "learning at an accelerated rhythm" and to "transforming information into knowledge".

Nevertheless, changes in pedagogical theories have already occurred for some time focusing the debate on the learning process based in problems, "situated learning", "process writing", works of project. Those are just fws of the available learning strategies that were turned possible with less effort from the actors of the teaching and learning process (Rosset, 2002); (Wiley, 2000); and (Smith, 1999). In this sense, Internet and e-learning may be considered as tools which are harmonised with current ideas in education, thus contributing to the evolution of these pedagogical theories and to the development of new techniques, supplying incentives to the learning process, facilitating communication, and improving the management of information (Gagne, Briggs and Wagner, 1992). Hence, e-learning reveals to be able to improve the learning process, in a context where both tutors and students adopt the concept of "learning communities", collaborating in the educational project which becomes more centred in the student (Keegan, 2000).

That is why, for some, e-learning implies radical changes in the traditional role of the teacher, while for others it is barely a technology that, by itself, will not do any difference. These different positions depend mostly on the way we conceive the roles of the teacher and the student in the learning process (Khan, 1997).

In a traditional perspective, the teacher is considered as a specialist and as the holder of the knowledge that he transmits and as the one who orients the actions of the students. When confronted with this paradigm, e-learning represents a change, insofar as the use of Internet and of others multimedia tools interferes with the authority of the knowledge of the teacher since the sources of information become more and more diversified and are not concentrated in a single person. This change in the role of the teacher implies, in its turn, a direct consequence in the student who has to become more autonomous and active in the search of the information, thus increasing his responsibility in the learning process (Cyrs, 1997); and (Horton, 2000).

But it is barely a traditional belief that the teacher in a classroom "has" the information that he "transmits" to the students. In fact, from a constructivist point of view, the teacher will never be able to transmit information as in the transference of a file (Wilson, 1996). Interpersonal communication is much more complex as it is made according to the understandings of each person, which depend, among other factors, on the resources and individual interests. Therefore, students also have information and predispositions that they use to confer meaning to the communication, which is never a passive process (Kruse and Keil, 2000).

Furthermore, already since Rousseau, there is this idea of the teacher as a facilitator of the learning process, whose aim is to stimulate and to make the students autonomous in the search of truth, in a critical process that, by the way, is not limited to the reproduction of existing knowledge, but aims occasionally at the creation of new truths, and more important, foster student insight (Benigno and Trentin, 2000); (Heath, 1997); and (Kemp and Morrison, 1998).

4. Final remarks

In the context of e-learning, the role of the tutor as a facilitator of the learning process is accentuated, by means of the elaboration of resources that appeal to independent study, containing clear objectives, exercises, activities, complementary sources of information and even self-evaluation. In this context, the teacher assumes the role essentially of driving the learner to the acquisition of knowledge (Gagne and Briggs, 1992); and (Moore and Thompson, 1997). For that purpose, tutors try to create favourable conditions for their students to follow that road safely, seeking to liberate them from obstacles. In this modality, tutors are even more deeply involved in motivating their learners to become the subject of their own learning process, as well as to apply what they are learning and even to evaluate themselves (Moore and Kearsley, 1996). For that purpose, teachers must create an adequate pedagogical and cognitive support, namely through integration of bi-directional communication mechanisms (Reigeluth, 1999).

This setting implies more horizontality in the roles of student and teacher, underlining news values and relationships (Reigeluth, 1999). Upon implying the existence of several sources of information and also that the student has to administrate his time, activities and search of information, e-learning may be an opportunity to approach the point that Rousseau always aspired to.

In short, assuming that the digital revolution is of great importance for the learning process of individuals and organizations, we argue that the use of an e-learning platform for language learning enables us to become active agents, to a certain extent, of the main changes that this revolution implies in learning and training (Lynch and Horton, 1999).

The use of the SAKAI e-learning platform allows us to foster our teaching activity (both by saving administrative and communication efforts) and provide the means to improve the learning experience. It provides also, a clear path to keep innovative proposals for enhance the teaching and learning process.

In the context of a public presentation, this paper is complemented by the description of the application of ICT to language learning based in the current b-learning courses of Portuguese for Foreigners (Erasmus students, in Oporto, and Spanish students, in Las Palmas) that one of the authors (Pedro Reis), teach using Sakai, the e-learning platform adopted in our University.

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