

e-Learning as a «Magical» way to Teach and Learn in a Modern World?!

Henrique Teixeira Gil¹ and Faria de Vasconcelos²

¹Escola Superior de Educação, Castelo Branco, Portugal

²Edifício 6, Piso 1, Campo Grande, Lisboa, Portugal

[hteixeiragil@ese.ipcb.pt](mailto:h Teixeiragil@ese.ipcb.pt)

Abstract: Every technical novelty brought new hopes for education. Nowadays we are witnessing and we also feel a *huge* pressure to use e-Learning platforms. It is consensual that e-learning can introduce different ways to teach and learn because new approaches can be introduced within the educational context. But e-learning can only be just a new and different technological device... Virtual communities are important in this new educational environment because it is very easy to exchange information and data. However, its growth and maintenance will require from teachers and students new ways of working. Is it possible to argue that e-learning may promote real «*knowledge transaction*» among the members of the virtual communities? This paper aims to reflect and discuss the main advantages, difficulties and limitations of e-learning in order to promote and adequate an efficient use under a *strong* pedagogical approach.

Keywords: e-Learning (advantages, disadvantages, critical assessment).

1. Socio-educational and the virtual context

We live in an era in which the traditional gaps in society have been broken socially, culturally and economically... The school gap tends to vanish and so e-learning can be the final "solution". As referred by Caraça (2005) the new world organisation created a new dimension in which cognitive hierarchies are no longer accepted and "(...) the basic communicative process is not an exchange but a share". As society increasingly operates as a network there is greater ease in the fragmentation of accepted laws as well as of what may be called the multipolarity of the accepted powers. Conditions are created according to Caraça for (2005) "(...) an information transaction". In this transaction both intervenients must be at the same level so that the sharing can be processed. In this new social organisation e-learning seems to be adequate to this new dimension as a tool for building virtual learning communities. In these new virtual communities of learners knowledge transaction will constitute a third way in the process of teaching and learning. One can distinguish this third way from the classical ones where learners were supposed to listen, repeat and memorise knowledge. With e-learning learners build up their knowledge actively through problem solving and project work methodologies i.e. learning is more important than teaching. A different, more radical, model envisions the Internet as instrumental to a fundamental change in the process and organisational structure of post-secondary teaching and learning. According to this view, the Internet can transform higher education into student-centred learning rather than institution – and faculty – centred instruction. It can encourage new collaborative arrangements between academic institutions and for-profit entrepreneurs and permit these partnerships to extend their reach nationally and internationally. Baer (1998) argued that it can accommodate student demand for post-secondary education in new ways that are basically campus-independent. Will e-learning be able to make the difference? Let us first define e-learning, Oliveira (2004) says that e-learning gains political space from the 2000 Council of Lisbon when Ministers declared their concern that every citizens should be able to have ICT skills effectively in every sector of society: educational, social and professional. The literal translation of e-learning is electronic learning. Potus Lajus, quoted by Oliveira (2004), considers this definition to be correct in two ways: objective because it translates learning through electronic networking, emphasising learning itself and not teaching; pedagogically correct because it focuses on active participation of the learner, which demands a methodological and organisational change. Another characteristic of e-learning is distance learning. But what type of distance learning? There is a pressure nowadays to introduce ODL in the educational system, of which the implementation of e-campus in higher education with wireless technology and e-learning platforms is an example. Within this context and according to Lash (2002) the current era is one in which long established principles are being displaced: "(...) the current era is one in which long-established principles are being displaced by three new governing logics": the displacement of the national by the global, of a manufacturing logic by one of

information, and by a shift from the social to the cultural. There is a transition from a national, manufacturing society to a global information culture."

2. Educational paradigms and the new roles for the e-teachers

e-Learning imposes a new educational paradigm, a new social and cultural focus. This paradigm imposes a constructivist approach because there is a strong interaction between the learner and the world around. This interaction is only possible in an open and flexible perspective. Effective change of traditional methods of teaching is not about introducing this or that technology; it is about encouraging people to change the way they do things and the way they think about their roles in the institution. Educational institutions embarking on the introduction of educational technology with the purpose of bringing about institutional transformation should be clear about why it is being attempted. Papo (2001) also stated that the focus must be on the uses of technology, not on the attributes of technology itself. More often than not, however, decisions about the use of various media are driven to a greater extent by the desire for a technological solution to increase student numbers, rather than by any educational analysis of the teaching/learning problems or needs. In the clamour to ensure that a presence on the technological bandwagon has been achieved, it is easy to forget that media and communication systems are just a means to an end. According to Moraes (2005) this interaction must contain an interactionist dimension in order to allow a live, active, open interaction with the learning scenario. Baer (1998) refers that on American Campuses the Internet is now used primarily to supplement face-to-face lectures and other classroom activities, and to make course materials available for students' use at times of their own choosing. So knowledge emerges from the contact among the learner and the physical and social environment and with peers (Moraes, 2005). From a "banking perspective" where the teacher moved in a "classroom" to an open perspective where cooperation, collaboration, interdependence, interchanges is a necessity. The change of the teacher role is inevitable: he must become a better and greater listener, observer and be able to propose and discuss solutions, reflect about them, analyse mistakes, formulate hypothesis and test them. In distance education feedback is more important than just a mechanism of informing the student on how well he/she did on assignment (Tsai, 2000). In face-to-face situations nonverbal gestures are constantly exchanged, thus providing both the teacher and learners with feedback. (...) In the online environment, however all the contextual cues of communication are lost, and these are important in creating the feeling of social presence. Frequent feedback is very important in online courses. Students need many opportunities for feedback on their assignments, discussion, participation and overall progress. Feedback needs to be personalised and addressed to the individual student's work. General feedback addressed to the class as a group is also advisable, but it is individual feedback that touches the student (Vrasidas and Charalambos, 2000). In addition, it is important to contact the students on a weekly basis to check if they are having any problems with the course, assignments, use of technology, and to get their continuous feedback for improving the course. This new e-teacher will have as his main role the mediation among the text, the context and their producers. With e-learning the teacher should not be tempted to change a virtual room into a traditional classroom, and should instead take advantage of the new learning context. Morgado (2004) advocates that the teacher has to act in a new social learning context in a different way, not moderating the interaction one-to-one and one-to-many but many-to-many: the virtual learning communities.

3. Requirements and conditions for the functionality of virtual learning communities

All the various available e-learning platforms are similar by promoting the use of Internet resources and all of them have a location where teachers and students accede and exchange documentation, data and where they are allowed to communicate synchronously and asynchronously. They all contain ways that allow for the autonomy that may be required by teachers and students and because of this motivation they are the key i.e. the main responsible factor for the survival of the virtual community. So the interaction among participants (teachers and students) is always fundamental when the learning is meaningful for all the members of the virtual community. In this scenario creativity may occur and it is welcome because it represents a new way to «feed» in a different way the virtual community. But the most important thing is that both students and teachers

are peers and they are simultaneously the «builders» of the virtual community. This is the main and strongest point! Silva (2005) based on Seltzer and Bentley (2001) argue that the «new creative learners» must have the following skills: the ability to identify problems instead of depending on others; the ability to make knowledge transference among different contexts in order to solve new problems; the ability to focus their attention on a certain aim(s); and the belief that learning is a long-growing process that leads to success. However, several conditions must occur and must be available to the members of the virtual community: trust, freedom of action, variety of contexts, interactive exchange of ideas and knowledge, the promotion of equilibrium between those who propose challenges and those who are required to use their skills to answer positively and the impact of the results reached. This means that virtual communities must be flexible: practice, exchange and share are always present, informality may constitute the strongest characteristic because it is a non-formal environment. However, we must be aware that it may become its weaker characteristic if the participants become anarchic and put its aggregation in jeopardy. Yang (2005) refers that in time virtual communities may tend to be more formal, though it is important not to allow it loose its flexibility by promoting a continuous exchange of gratificant ideas for all the participants. In this context, Held (2001) argues that the most important part of an e-learning system is the support system, which has to guarantee a constant level of motivation and self-confidence, because lack of motivation or self-confidence are the main reasons for dropping out from a self- managed learning scenario.

4. Virtual learners communities: More problems that facilities?

The efficiency of on-line courses depends on the variable «time». This is also the opinion of Morgado (2004) stating that there is a direct correlation between the use of time during the on-line courses and their success. The problematic and the main difficulties of a synchronous communication can be observed as the following: a dispersion and pulverisation of the topics under discussion that may obstacle a deeper and a reflective discussion because it is very difficult to respect the sequence of the presentation of the proposals and viewpoints from all the participants; there may occur a problem with the different local times if the learning community is transnational/intercontinental because it will be very difficult to find an adequate and proper time for all the participants; the establishment of the well-known «cognitive overflow» because many and different activities must be done quite simultaneously (answering questions, put available additional documentation, solving conflicts, promoting new and different viewpoints and challenges...). The maintenance of internal cohesion among participants in an interactive way is a real challenge!!! According to previous statements it seemed to be most appropriate to use synchronous communication among small groups with specific and focused aims and contents in order to control the variables (Morgado, 2004). Besides these constraints it is very clear that teachers will also need much more time for their activity. Vrasidas and Mclsaac (2000, 109) also agree on this point: 'Experience tells us that online teaching requires much more work. In fact, online courses require more detail planning and structuring to successfully engage students in a valuable learning experience.' But if we expect the solution to be the use of asynchronous communication, that may not be true... Teachers must give attention to their mailboxes because quick answers are fulfilling. On the other hand the possibility of having messages of many different areas and contents may not correspond to the expectation of all participants. Another problem may be related with the so called «ripple effect» when a message becomes/transforms the original «quest» into a different one since this will bring a great difficulty in managing such a wide diversity of contents, aims and themes. The virtual community may become chaotic... There are also different problems that regard not the «active participants», but the «passive participants» who are difficult to understand and to assess. Despite their passivity they may be very active because they may be excellent observers and self-critical, which may promote their learning. Here the problem of assessment arises because there is no visual contact and no direct contact. Porto (2005) argues that technology allows the possibility to check who is or not on-line, when and how many times a person is connected, but there is no way to be sure about their own and real activity because someone else can help and work for them. If one of the most important advantages of e-learning was reported as being its possibility to engage many students we can imagine all the constraints and disadvantages that may happen when this last issue is taken into consideration. A study referred by Masiello et al (2005) reported the initial enthusiasm and excitement within the virtual community at the beginning of the course but during the course those enthusiasm and excitement decreased a lot mainly due to the

scepticism about the efficacy and meaningful learning within the virtual community. The same opinion is presented by Baer (1998) stating that it takes more motivation to pursue classes on one's own than in a group setting. In consequence of those findings Masiello et al (2005) and Yang (2005), based in more and different researches, presented four main reasons for the lack of success: the absence of facial and body language among students and teachers (most of the pedagogical materials gain importance just when they combine the text and/or the graphics with the facial and body expression of the teacher, his/her tone of the voice, the gestures, the expressive looking are determinant most of the cases); absence of a coherence among pedagogical materials (e.g. texts and graphics) and the way the approach is made by the teacher, the way he/she looks at the students, the gestures... the empathy; a lack of temporal coordination between the presentation of the materials, their discussion and explanation (because of the possibility that e-learning platforms offer it is often possible that the time for learning activities are very different among the students, but another possibility may occur i.e. students may use different materials without a coherent and correct approach that may promote new topics of discussion that may introduce different goals and the internal strength may be in danger); the inexistence or a difficulty in order to promote a simultaneous discussion and analysis among the different materials (documents, texts, data), the feedback and the on-line interactions may occur (a great advantage of face-to-face teaching is the possibility to promote a real context within the different variables that is very difficult to promote and feel in a virtual context; and, lastly, the various rules and patterns of each e-learning platform disable some users whose technological literacy is low and in consequence they may also put in danger the pedagogical approach. That it is why Guihot (2001) argues that without being incorporated into the educational system, the use of the network is seen as something supplementary imposed on institutions which see themselves, here as elsewhere, to be overwhelmed by the failure of society, and completely unable of serving the changes that are taking place in our interrelationship with knowledge.

5. Suggestions, proposals and recommendations

Despite all the limitations and constraints e-learning puts forward, it is possible to solve those fragilities if some aspects are considered. For example Hinojosa and Mellar (2001) think that the teacher intervention very important when designing educational software because of the pedagogical issues involved. As argued by Vrasidas and Mclsaac (2000) one technique that can be used is the structuring of collaborative learning activities, collaborative group work, group discussions and brainstorming. Group activities need to be planned in advance. Organising more group activities can increase learner-learner interaction and take advantage of the medium that can support collaborative work. In addition to assigning pairs for moderating online discussions, some other kinds of activities that can be incorporated to increase learner-learner interaction include group assignments, group projects, and online group debates. The same happens with e-learning platforms. But as Hedge and Hayward (2004) state e-learning should only be used to promote a pedagogical didactic framework and not as a way to deliver information. And as it is consensually assumed technology and Internet and its services in particular are not neutral, and require the development of attitudes to face these technologies as challenges that may promote creativity and social and educational changes (Feenberg, 2000). Nowadays global is dethroning the local and regional, and the economy which in the past was based on manual work developed to a world where factors like society and culture are important and the culture of information reigns. Within this new reality many doubts and uncertainties arise... everything is questioned. But it is also an era of opportunities as meant by Caraça (2005) "(...): it provides us with an opportunity to carve out spaces of innovation, freedom, and creativity if we act assertively to shape them rather than passively responding to them." An online course will never be better or worse than a classroom based course: they are different. That is why and according to Hedge and Hayward (2004) it is important to rethink educational objectives and methods so that these new digital issues become a success. We agree with Hinojosa and Mellar (2001) and Moraes (2005) when they say we must profit from the best of both platforms and the curriculum must be considered as a whole. It is important to combine virtual and face-to-face spaces. The utopia of this way of teaching rests on the fact that teacher and students are peers that everyone has something to learn and to teach... that education is knowledge transfer... collaborative and cooperatively knowledge occurs. This may be true, but more time is needed to assimilate this paradigm; and it may be true in higher levels of education: post graduation, master and PhD courses, self management, self and hetero-criticism

will be achieved with mature users. It is a great challenge, an opportunity to autonomy and creativity, but more time, experience and research are needed. Papo (2001) also argues that it should be borne in mind that the current global educational system is oriented towards the production of 'knowers' instead of 'learners', and consequently threatens the formation of individuals capable of responding effectively to rapidly changing environments. Rapidly changing environments are the hallmark of contemporary societal dynamics and require an appropriate repertory of learning responses.

References

- Baer, Walter S. (1998) The emerging Internet – Will the Internet transform higher education? *Colóquio/ Educação e Sociedade – Reinventar a Universidade* (124-144). Lisboa: Fundação Calouste Gulbenkian.
- Bernarth, U. and Rubin, E. (2001) Professional development in distance education – A successful experiment and future directions. In: Lockwood, F. and Gooley, A. (Eds). *Innovation in Open & Distance Learning*. 795-825.
- Burbules, N. and Callister, T. (2000) *Universities in Transition: the promise and the challenge of new technologies*. Teachers College Records.
- Caraça, João. Prefácio. (2005) In: Cardoso, Gustavo e outros. *A Sociedade em Rede em Portugal*. Porto: Campo das Letras Editores.
- Feenberg, A. (2000) From Essentialism to Constructivism: philosophy of technology at the crossroads.
- Guihot, Patrick (2001). A Difficult Challenge, the Integration of the Internet Into the Educational System. *Educational Media International*, Volume 39, Number 2/3, June/September, 133-140.
- Hedge, Nicki and Hayward, Louise (2004) "Redefining Roles: university e-learning contributing to lifelong learning in a networked world", *E-Learning*, Vol 1, No. 1, 27-40.
- Held, Paul (2001). ELAN: Training Teachers Over the Network. *Actas da II Conferência Internacional de Tecnologias de Informação e Comunicação na Educação – Desafios/Challenges 2001*, 357-367.
- Hinostrza, J. and Mellar, H. (2001) "Pedagogy embedded in educational software design: Report of a case study", *Computers & Education*, Vol. 37, No. 1, pp 27-40.
- Lash, S. (2002), *Critique of Information*. London, Sage.
- Masiello, I. et al. (2005) "Attitudes to the application of a Web-based learning system in a microbiology course", *Computers & Education*, No. 45, 171-185.
- Moraes, Maria. (2005), Paradigma Educacional Emergente, In: Silva, Ricardo and Silva, Anabela (Orgs.). *Educação, Aprendizagem e Tecnologia – Um Paradigma para Professores do Século XXI*. Lisboa, Edições Sílabo Lda, 15-40.
- Morgado, Lino. (2004) *Ensino on-line. Contextos e interações*. Dissertação de Doutoramento, Lisboa, Universidade Aberta.
- Morgado, Lino (2005) Novos papéis para o professor-tutor na pedagogia on-line. In Silva, Ricardo and Silva, Anabela (Orgs.). *Educação, Aprendizagem e Tecnologia – Um Paradigma para Professores do Século XXI*. Lisboa, Edições Sílabo Lda., 95-120.
- Oliveira, Lia (2004), *A comunicação educativa em ambientes virtuais – Um modelo de design de dispositivos para o ensino-aprendizagem na universidade*. Braga: Centro de Investigação em Educação da Universidade do Minho.
- Papo, William (2001) Integration of Educational Media in Higher Education. *Educational Media International*, Volume 38, Number 2/3, 95-99.
- Porto, Stella (2005), A Avaliação da Aprendizagem no Ambiente On-line, In: Silva, Ricardo e Silva, Anabela (Orgs.). *Educação, Aprendizagem e Tecnologia – Um Paradigma para Professores do Século XXI*, Lisboa, Edições Sílabo, 139-161.
- Silva, Ricardo (2005), Gestão da Aprendizagem e do Conhecimento. In: Silva, Ricardo and Silva, Anabela (Orgs.). *Educação, Aprendizagem e Tecnologia – Um Paradigma para Professores do Século XXI*, Lisboa, Edições Sílabo, 41-66.
- Tsai, Chin-Chung (2000). A Typology of the Use of Educational Media with Implications for Internet-Based Instruction. *Educational Media International*. Volume 36, Number 3, 157-160.

The 2nd International Conference on e-Learning

Vrasidas, Charalambos and Mclsaac, Marina (2000). Principles of Pedagogy and Evaluation for Web-Based Learning. *Educational Media International*, Volume 37, Number 3, 105-111.
Yang, Zongkai (2005), Research and development of web-based virtual online classroom. *Computers & Education*, 1-14.