

# The difficulties e-learners face when learning virtually

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**Abstract.** This paper tries to give the theoretical framework of e-learning with its advantages and disadvantages. It presents the results of several on-line Portuguese courses. The comparison of those different courses will give insights of the problems e-learners face as well as the benefits found. To contextualise these issues a Virtual Learning Centre (to support teachers) will be presented in order to put in evidence its potentialities and its value as a «training tool».

**Keywords:** virtual learning, e-learning, Virtual Learning Centre.

Learning activities and the problems they involve have been stated as one of the most dignifying challenges of mankind. In spite of all the knowledge we have on methodological approaches none seems to fulfil our constant dissatisfaction on the learning act. Figueiredo (2000) says, supporting this idea, that the way one has to learn and how to learn was not written anywhere yet: we have to discover it as long as we move through life.

Commitment to lifelong learning is increasingly recognised as key for improved performance for employers and career progression for individuals. Everyone knows that besides the classical way of education, the distance one is becoming an important and decisive factor of success in the present society. With the fast introduction of ICT learning and teaching is affected by the innovations the 'civil' society faces. However the Portuguese educational system has not coped with the technology that already governs the Portuguese society yet. To overcome this situation the 'Green Book' for the Society of Information (1997) in measure 6.4. suggests the development and implementation of Distance Teaching through the use of ICT (internet or telematics). Education based on *e-learning* materials is becoming very important and essential to cope with the needs of society.

Much has been said of learning being a solitary act. Indeed, many adults learn best when they work on their own, without other learners to slow them down and without assistance or mentoring from an instructor. However, most of us relish hands-on attention from an expert instructor. We enjoy working with others and having a sense of community as we make our way through difficult and important material. That's why it's best to have a well-trained expert available. When experts and learners work together, they construct knowledge. Each brings material to the table, challenges it and comes away with a better understanding.

## What is e-learning?

*e-Learning* is not new and has been around in some form or other for the past ten years. It has its roots in the world of computer based training, which appeared in the 80s. However it is more than just 'training on a computer' as it encompasses dissemination of information, performance support, and knowledge management. It involves not only access to training materials but also offers the management of learning - providing both content and administration.

*e-Learning* fits in two categories: synchronous and asynchronous. Synchronous *e-learning* imitates a classroom in a real-time environment, asynchronous *e-learning* lets the learners access pre-packed material on their own time, pace and communicate via e-mail.

The efficiency of learning regimes depends, to a great extent, on the profile of the learners the institution aims to serve (age, availability and self-learning capability) and on their final objectives (to obtain a

certificate or diploma, to up-grade, up-date or reconvert qualifications or just to learn interesting new subjects), (Trindade, 1993, Tsai, 2000).

Educational research institutions are nowadays investing in activities based on Internet. Baer (1998, p. 137) says that institutions 'believe it is necessary for them to be competitive to attract the best learners and faculty.' It seems that there is an urgent need for the institutions to cope with society through Internet. *e-learning* can be considered the most appropriate way to get a teaching/learning environment at an individual level as well as group level located in different places using the means that allow participants to communicate synchronously and/or asynchronously (text, audio, virtual reality...). E-learners need reassurance that *e-learning* can provide a comprehensive and satisfying learning experience with real benefits over traditional forms of learning.

## **Advantages of e-learning**

Benefits claimed for *e-learning* include that it can be:

- **just in time, just enough and just for you** - *e-learning* materials can be accessed at the most convenient time, in short segments in order to suit learner needs, i.e. flexible to the learner.
- **cost effective** - with significant reductions in delivery costs
- **up-to-date** - content can be easily updated
- **quick** - the time needed to learn a particular topic or skill is reduced or 'compressed' as learning is tailored to that individual.
- **retainable** - the smaller and more relevant the learning the easier it is to capture
- **risk-free** - people can learn in a relatively anonymous environment without the embarrassment of failure and/or any socio-cultural bias from personal contact
- **consistent** - everyone gets the same standardised message
- **interactive and collaborative**
- **empowering** - as it increases learners' ICT skills.

In general three major factor influence the e-learners success:

- self directive competences (management of the learning environment)
- metacognitive competences (interaction with the learning content)
- collaboration competencies (interaction with instructors and classmates)

## **Potential drawbacks**

Potential drawbacks are that *e-learning* can be:

- technology dependent – learners who get frustrated with technology may lose faith and learners need access to appropriate hardware and software to fully benefit. Bandwidth is a common particular problem.
- sometimes incompatible with other systems and materials, although the development of standards may minimise the confusion
- unsuitable for some types of training
- unsuitable for some types of learners - *e-learning* requires high levels of self-discipline and self-motivation. Learners with aptitude for verbal expression may feel uneasy, on the other hand those shy may feel at ease in these environments
- *e-learning* tends to isolate learners physically what can have a negative effect on sociability and team building. The provision of support to learners is a key element of a comprehensive *e-learning* strategy and can take a number of forms: a) **automated support** - advanced help facilities; b) **expert support** -

synchronous (real time) or asynchronous (mail) contact between learners and tutors. The latter is felt to be better for learners with good self-discipline and an erratic schedule, while the former is suited to learners or learning situations needing immediate feedback; c) **peer-to-peer support** - contact between learners, as a form of learning community.

- **mentoring** - one-to-one interactions between individuals

e-Learners are often working in isolation with limited or sometimes no tutor support.

- less interactive because of the absence of feedback, and other learner support

- expensive to set up the infrastructure

- still dependent on human support - both to help people use the software and also to support their learning. Indeed, there are a number of significant disadvantages to online learning, including:

- a high learner drop-out rate.

- higher development and maintenance costs;

- inability for learners to network;

- Internet access limitations;

- lack of interaction among and between learners and instructors, allowing learners little chance to create knowledge or to challenge what's being taught;

- little opportunity for learners to interact with subject matter experts;

- the fact that many distance education programs are nothing more than a dissemination of outdated materials.

## The role of e-teachers

e-Learning is likely to change the role and skills of trainers, but not eliminate their role. Teaching over the Web is very different from teaching in a classroom. E-teachers must not only know their materials, they must also have excellent organizational and writing skills, be able to troubleshoot technological problems, initiate and facilitate online conversations between learners, and handle server crashes and other unexpected difficulties with grace and style.

e-Learning production is a multidisciplinary activity requiring complex skills in a wide range of areas, including project management, market research, pricing, training needs analysis, software development, learning design, assessment.

Five factors are thought to contribute towards successful implementation of *e-learning*:

- **analysis:** the identification of training needs, specification of learning objectives and decision on the methods of learning

- **design:** content, media, type of interactivity available to learners, and user interface

- **development:** production of audio/video, programming of software, authoring of materials, and testing

- **implementation:** promoting the programme, collecting management information, and appointing skilled teachers

- **evaluation:** reviewing the performance of the programme against its objectives, in terms of results, efficiency and effectiveness. Sometimes you need to know whether learners have actually learned what they are supposed to; other times, the final outcome doesn't matter as much. The goal isn't to pass or fail learners, but to help them understand what they do and don't know.

## Ways to implement e-learning

There are several approaches to implement *e-learning*. However experience has shown that two models overcome:

1. The first has as goals the improvement of conventional existing structures in order to create a cheaper, faster and with better quality learning platform. Within this model the access to Internet is promoted (learners, teachers, administrative and management). Libraries are digitised in order to allow the on-line access. Within this approach the teaching institutions can use this infrastructure to improve their initial and/or in-service teacher training or post graduation courses.
2. Another approach, more radical, consists in the use of Internet in order to change and modify the teaching/learning process. Baer (1998, p. 124) says that 'the Internet can transform higher education into learner-centred learning rather than institution – and faculty – centred instruction.'

## Results of national e-learning courses

In Portugal *e-learning* is giving the first steps. However there are already some data of early experiences: UNAVE (University of Aveiro), TRENDS, PROF2000 and PT Inovação (Portugal Telecom).

The courses promoted by UNAVE began in 1999 and lasted four months. They were organised in short modules with 20 different small sections and a final exam to certify the course. Each module had a tutor who was responsible for the organisation (materials and bibliography).

As final results 70% of the 350 learners enrolled were well succeed. 20% were advised to enrol again and 10% failed. These results were very encouraging and courses like this one are going to be re-implemented. More information can be seen in <http://www.unave.pt/fd>.

The course promoted by TRENDS integrated basic and secondary education teachers.

The Ministry of Education gave official certification for the first time in a *e-learning* course in Portugal.

The aims of this project were:

- Create a LAN integrating all the schools that participated to massify the access to Internet;
- Create and develop intranet services within the school to support self teaching/learning;
- Train and create a team of ICT leaders in each school to be responsible for both technical and pedagogical support on ICT applications;
- Compulsory integration in the national teacher training development courses.

The *e-learning* was based in two different kinds of interaction: asynchronous (internet as a searching tool supervised by tutors) and synchronous (chats).

Table 1 shows the number of phases and the number of teachers involved:

	Number of sessions	Teachers involved
Phase 1	6	96
Phase 2	8	106
Phase 3	6	139

Table 2 shows the results of the project:

	Negative	Neutral	Positive
Phase 1	10.18%	13.77%	76.04%
Phase 2	7.94%	13.42%	78.65%
Phase 3	3.74%	11.37%	84.88%

According to the results there was an increase of acceptance/success of the participants that had to learn and understand the concepts concerned with the *e-learning paradigm*.

The success of this project (TRENDS) resulted in the creation of PROF2000, sponsored by PT and Ministry of Education/DREC that involved 99 schools and 35 training centres. In 2002 there 43 on-line courses (the majority on Internet/ICT).

More information can be accessed in <http://www.prof2000.pt>.

The courses promoted by PT Innovation (Santos, 2000) were well received by the participants. The aims were:

- Appeal to the use of *e-learning*
- Certify *e-learning* training courses
- Demonstrate the *e-learning* efficiency and applicability in the training process
- Stimulate self-learning with the help of remote tutors
- Demonstrate the importance of *e-learning* for schools and enterprises
- Reduce costs

These courses lasted for four years. Three different methods were used to be compared and assessed:

- traditional
- blended
- *e-learning*

The assessment did not show meaningful differences among the three different approaches. However the *e-learning* course was preferred because it allowed the access to more participants and reduced costs.

The main advantages found in the evaluation by PT were:

- Availability
- Different learning rhythms
- Self learning
- Contact and use of ICT
- Successive repetition to study

The main limitations referred in the assessment were:

- the lack of relationship between trainee/trainer,
- the difficulty in designing and implementing multimedia materials
- the courses were more theoretical than practical
- the lack of contact among participants.
- the lack of computer literacy was also a negative factor in browsing the Internet and using e-mail.

Some participants were affected by professional problems and could not cope with the deadlines. Rumble (1989, p. 30) considers that any timetabled requirement, like having to meet deadlines for returning assignments or to submit to examinations, reduces learner's liberty and so, the openness of the system:

Open systems will allow a learner to decide when to complete assignments and be assessed. Along the same lines Holmberg (1985, p. 11) states: 'My liberalism [...] makes me reject all kinds of pacing imposed on learners, the sort of compulsion that, for instance (some institutions) submit their learners to. The learner should be in a position to begin and finish his course whenever he wants to.'

More information can be seen in <http://formare.ptinovacao.pt>

## Further involvement

The design and implementation of a Comenius 2.1 Project was our personal involvement in *e-learning*. The aims of this project was to develop a curriculum for in-service teacher training using European school research results which are relevant for practice in order to meet the changing impacts and needs of educational management. The project aims at developing a curriculum for in-service training representing a package of

- a set of in-service training modules for 1) trainers and 2) school leadership staff, in which the application of school research results for the task of leading schools is trained;
- tested recommendations and materials for the planning and running of training courses for school leadership staff;
- an internet-supported information service offering an overview and a justified selection of target-group-related relevant school research results of school leadership research and allowing networks of information on projects, institutions, publications, etc.
- a target-group-related database with relevant research results, addresses, contacts, etc.

The conceptual framework is based on the assumption that there has to be a set of interrelated structural as well as conceptual elements if activities of professional development shall have a lasting impact on individual and organisational learning.

## Future *e-learning* applications

The future of *e-learning* should be **now**. There is a will in several institutions to consider *e-learning* as a teaching model of the future (Leiria, 2000). However the inexistence of official regulations put the experiences outside the legal framework of seat time teaching (Rosa, 2000) so it promotes misfits that can be decisive by a deficient implementation of *e-learning* courses. Baer (1998) says that it is urgent that the different institutions move a step forward in order to create and offer *e-learning* degree courses besides post-graduation courses. Multimedia software must be designed having in mind three angles: hard, soft and brainware.

To train teachers using *e-learning* platforms is also essential in order to develop new skills and technological knowledge oriented to communication and the management of virtual classes (Santos, 2000).

Despite its promise *e-learning* is unlikely to replace other learning methodologies. We guess it will be used when appropriate and it will be blended with other learning approaches to facilitate the goal of performance improvement. In conclusion and quoting Freitas (1997) what is necessary is that the learner feels that the school (real or virtual) has as main objective the link to real life, preparing him/her for active life, so he/she has to find in the school what he/she finds in real life.

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