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## ***In-service training: e-learning as a new and promising approach.***

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### ***Abstract***

In-service training through e-learning should be seen as a special field of adult education. The lessons learned from adult education must be an inspiration to the design of in-service training approaches that support collaborative learning and promote the development of virtual communities. This points support our conviction that e-learning is a “promising land” to new opportunities of training and professional development activities.

After a short introduction, the article will describe three different cases of e-learning initiatives taken place at University of Minho - Portugal. The first case reports to a research project called ttVLC – **t**rainers **t**raining to **V**irtual **L**earning **C**ommunities. The second case describes a course that aims to promote in-service professional development of secondary and high-school teachers, called “EASIC – **E**nsinar e **A**prender na **S**ociedade da **I**nformação” (in English: Teaching and Learning in the Information Society). The third case describe a course titled “**F**ormação de **E**-**f**ormadores” (in English: Training of E-trainers) which aim helping university teachers to adopt e-learning methodologies.

## **Keywords**

In-service training, professional development, e-learning

### **1. Introduction**

With this paper we will try to give a concise overview of some of the in-service teacher-training activities that have been taking place at University of Minho – Portugal adopting e-learning methodologies. We will describe three particular cases which we consider representatives of the work done in recent years.

The first case describes some of the results and lessons learned with the project ttVLC – trainers training to Virtual Learning Communities. The aim of the project ttVLC (trainers training to Virtual Learning Communities—[www.ttVLC.com](http://www.ttVLC.com)) was to provide a framework of support to educators and trainers to the development of competences to use and integrate informational and communication technologies (ICT) in web based educational and continuous training, according to the collaborative and situated learning approaches. The project involved the development of a training course by e-learning which focus on ICT (Information and Communication Technology) uses with emphasis in web-based learning.

The second case that will be briefly described is the experience related to the EASIC<sup>13</sup> course. This course was an in-service teacher-training initiative using an e-learning (more properly, a *b-learning*<sup>14</sup>) methodology that aims to promote the knowledge about new approaches to learning and teaching in the information society of nowadays.

The third case that will be described reports to a course aiming to train university teachers as future “e-teachers”. This course is part of an effort to promote the adoption of e-learning methodologies, techniques and technologies by the teacher staff of University of Minho. The participation on the activities of the course occurs in parallel with all academic tasks: teaching, supervising, research and bureaucratic work.

Despite the first case that will be reported addressees teacher-trainers, the second one secondary and high-schools teachers and the third one university teachers, all the three aims to promote the professional development of trainers and teachers taking in care their professional and adult *status* and experiences.

### **2. In-service training as a special field of adult education**

The need for continuous, lifespan training is an undeniable reality in all professional fields. Promoting training initiatives that result in effective professional and personal development implies taking in count the adult condition of learners and their previous knowledge and professional experience. Continuous training should involve experienced professionals in a collaborative learning experience which mobilize the previous knowledge of the distincts members of a course group and promote an

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<sup>13</sup> EASIC is the acronym of “Ensinar e Aprender na Sociedade da Informação”, which was the designation of the training course. This name can be translated as “Teaching and Learning in the Information Society”.

<sup>14</sup> Blended learning or *b-learning* is an organizational and pedagogical approach that adopts an e-learning methodology articulated with a face-to-face component.

effective involvement in the learning experience. E-learning seems to be an adequate training environment for in-service training when we aim to promote situated and collaborative learning experiences.

### ***3. Three Portuguese cases of in-service teacher-training using e-learning techniques and technologies***

The cases we will describe in this section reports to three distinct situations that we consider representative from the activities of University of Minho in the field of e-learning, as a way to promote in-service teacher training.

#### ***3.1 The TVLC project***

The aim of the project ttVLC (trainers training to Virtual Learning Communities—[www.ttVLC.com](http://www.ttVLC.com)) was to provide a framework of support to educators and trainers to the development of competences to use and integrate informational and communication technologies in web based educational and continuous training, according to the collaborative and situated learning approaches. In order to accomplish these goals the project included the development of a course addressed to educators and trainers that in future will supervise educational and professional continuous training in web-based learning environment.

Web-based learning environments offer tremendous resources and innovative solutions to develop learning communities in continuous education and training. However the lack of competences in monitoring and tutoring learning processes in virtual learning communities, as the implementation of on-line learning strategies, i.e. collaborative learning strategies on the web, could diminish or even cancel the innovative impact of this new educational environment.

The ttVLC project course is addressed to educators and trainers that not only need to acquire and develop new skills in information and learning technologies to implement and develop distributed learning systems, as they also need to build their own knowledge. To accomplish these goals trainers were enrolled in a distance learning process via the web, through which they should develop new attitudes and competences to the IT use and integration in web-based learning. Expanded information about the ttVLC project can be found in Dias (2001).

##### ***3.1.1 The ttVLC project and the concept of virtual communities on the web***

The emergence of on-line learning communities is supported by the growing culture of participation in the learning activities through the interaction process. From this point, a learning community develops itself in a classroom or in the Web, when all the members of the group, including the teacher or the tutor, are deeply involved in the process of knowledge construction. This process also considers the mutual engagement on community creation and the development of his learning goals.

These new virtual communities which ground themselves in pedagogical models rooted in the social constructivism and on the situated learning approach intend to constitute themselves as experience centres where learning is not separated from the action, and the learning process is better aimed for the community than for the individual.

The organisational and functional model of a learning community promotes the transfer of orientation and control methods and learning strategies for its members, transforming it into a complex and suitable system. The flexible nature of web learning environments promotes a wider control of the student in the learning experiences, and also points out the importance of the critical role of the individual aims in the quality and nature definition of the accomplished learning experiences (Wilson & Lowry, 2000). This process promotes the reflection on the new knowledge under the form of the continuous negotiation of the individual representations, which moves to the sharing of the thinking patterns in the learning communities.

The sharing model that emerges from the dynamics of networked communication constitutes the central practice and the defining line of these new learning virtual communities (Berg, 1999). The challenges of this new approach reflect necessarily in the nature and development of the learning virtual communities' activities, both in the plan of its definition as a group, and in the development of the relationship with the knowledge.

### ***3.1.2 The ttVLC course educational design***

As we had afore-mentioned, the ttVLC course educational design was developed according to the collaborative and situated learning approach, having as a central principle the construction of an online learning community.

The creation of a learning community assumes the acquisition of specific competences on planning, communication, attendance and evaluation of the learning activities produced by the members of the virtual group.

Therein, the course design in ttVLC project was oriented through the following objectives: (i) develop attitudes to the use and integration of technologies; (ii) develop competences to planning and monitoring web-based distance education; (iii) develop competences of integration and use of information and communication technologies in web distance education; (iv) develop learning strategies to promote learning process in web-based educational environments.

The organisational course model develops from the presentation of the work units under case study form. The course design is supported by five case studies covering the following topics:

- i) planning, management and monitoring;
- ii) web-based communications;
- iii) online learning— individual learning and collaborative learning
- iv) online tutoring;
- v) evaluation and assessment.

The course was organized having as fundamental unit of the educational design the concept of “case” and includes, in each case study presentation, the knowledge contextualized representation. This representation is in an intimate articulation with the practice or activities area, aiming to provide the contextualization of the apprenticeships and also the support for the involvement and the jointly building of the knowledge by the members of the community during the fulfilment of the tasks. In order to promote this (situated) learning approach, activities were highly based in interaction using computer mediated communications (CMC), i.e. chat, forum and email internet

services. Through these media channels, the course participants were encouraged to engage in the process of explore content materials, share the results with the group and develop competences of IT use and management in educational web environments.

Course development is centred in the case study and the activities to be performed in order to implement it. According to this design, the trainee has access to a first level of group of information which shows different development aspects of the case study, which are *themes* and *further information*, and in a second level, information supporting the realisation of activities, in *guidelines* and *checklist*.

The development of a case study presentation is fulfilled through *themes*, which includes the knowledge representation in associated situations, and the *further information*, from which the connection and exploration of advanced materials is established for the activities and apprenticeships in use.

The flexibility of this learning model doesn't restrain the trainee to the sequential interaction and independent accomplishment with the contents, either to the exploration of the materials of the case, or in the fulfilment of the activities. On the contrary, it is expected that the trainee establishes an exploration process of the materials according to the needs and demands of the apprenticeship itself, namely in the collaborative processes that take place in the virtual communities.

### ***3.1.3 Implementation of collaborative learning strategies in the ttVLC project course***

The constitution of a learning community tend to show a pattern of interaction mutually sustained (cf. Sherry & Wilson, 1997) and the dynamic of the interaction processes suggests a great variety of forms through which the apprenticeship in a community can take place.

According to Sherry & Wilson (1997), the development of an on-line learning model is characterised by: *i) the definition of the learning needs; ii) the search for help in a forum; iii) the involvement in the process of consultation of help; iv) the evaluation of the apprenticeship; v) the sharing of the solution with the group; vi) the register of the interactions and of the solutions found aiming a future consultation; vii) the repetition of the process in its whole or in parts, whenever it is necessary to support the apprenticeship* (Sherry & Wilson; 1997:72).

The activities' development cycle in the web learning communities puts into evidence the processes of participation and involvement, sharing of the representations, and the collaborative knowledge construction, through the networked communication practices among the members of the community. This approach was used in the development model of the case Collaborative Learning in the project course ttVLC.

Collaborative learning is an instructional method whereby students are encouraged or required to work together on knowledge building. Collaborative learning is based upon a student-centred model in which the learner is an active participant in the activities of the group toward a common learning goal. According to Harasim et al., (1997: 150-151), conversations (verbalising), multiple perspectives (cognitive restructuring), and arguments (conceptual conflict resolution) that arise in collaborative learning groups may explain why this learning model promote greater cognitive development than the same individuals achieve when working alone.

The implementation of the collaborative learning case study in ttVLC project was oriented by the dimensions of mutual engagement, shared repertoire and joint enterprise

that characterises situated learning (Rogers, 2000), and online collaborative learning environments. These dimensions were considered in the process of definition of the main strategies to develop online collaborative learning, as follows.

The *active learning* is a strategy oriented to the promotion and development of the members of the community participation and involvement. The participation includes the process of involvement of the community members in a common activity, through which it is defined the objective that guides the activities and the existence of the community itself.

The *interactive learning*, the *multiple perspectives* and the *flexible learning*, are a group of strategies dedicated to the development of the sharing of the representations in the collaborative learning in the virtual communities. The sharing of the individual models describes the negotiation process and the formation of a reference among the members of the community, from which it will enable them to negotiate the interpretations and understandings, and to produce their own ideas concerning the activity project of the community.

The *collaborative knowledge building* is the oriented strategy for the expansion, for the community, of the cognitive learning individual process. The collaborative knowledge building describes the process through which the individual reactions and perspectives are the object of negotiation towards the shared information and common objectives, aiming the construction of an interpretation and representation of the group's knowledge.

On-line learning having as a central objective the creation of a learning community and through this, the facilitation of ideas' exchanging, information sharing, inter-partners help and communication among its members. So, the working on-line environment should include tasks oriented towards the search of information and questions for discussion or answering, instead of basing itself in the plain knowledge transmission.

The importance of the learning tasks' contextualization is, according to this framing, a basis for the understanding of the individual processes of learning, namely through the exploration, reflection, articulation and building of knowledge, (Hiltz & Benbunan-Fich, 1997).

It was lead, according to this perspective, the planning phase of the whole of the tasks aimed to the trainees' progressive participation in the learning activities and the formation of the community, involving the following areas: the definition of the learning objectives; the organisation of the learning activities; the discussion and exchange of ideas; the presentation of the individual perspectives; the research and exploration of information in the web; the knowledge reconstruction; the reflection on the new knowledge. The activities are listed in table 1, in articulation with the collaborative learning strategies development and the supporting media.

**Table 1** – Learning strategies, activities and media of the ttVLC project course (in Dias, 2001)

<b>Learning strategies</b>	<b>Activities</b>	<b>media</b>
Active learning	defining learning goals	Chat
Active learning	organising learning activities	Chat
Interactive learning	discussion and exchange of ideas	Chat; forum
Multiple perspectives	presenting individual perspectives	forum
Flexible learning	search and explore information in the web	web links
Knowledge building	knowledge reconstruction	forum
Knowledge building	reflection over new knowledge	forum

The suggested activities of the ttVLC project course were based in the recognition of the influence of the participation processes, namely the nature of the interaction, of the task and of the environment, having been developed, for the case which is being analysed, a model of the use of the synchronous and asynchronous communications. This model was developed according to the specificity and the needs of the students in order to perform the task, namely on the required reflection time to fulfil the activity (i.e. the preparation of a contribution in a forum, the discussion of a paper).

The model of communication adopted included, along with the development of the activities plan, a process of interaction through synchronous sessions open to all the group, namely in the definition and organisation of the activities phases, going through the synchronous sessions limited to small work groups in the community, till the asynchronous sessions supported by the discussion forum and dedicated to the presentation and construction of the new knowledge.

Synchronous communication, like chat, constituted the support for the organisational activities, whose nature, with lesser demands in the plan of the reflexive activities, implies taking immediate decisions. The use of the email was considered in a permanent way, namely in the resolution of difficulties, being, however, discouraged its use as a form of participation of presentation and discussion.

Asynchronous communication process, forum based, were used to promote the collaborative and reflexive discourse, under the form of the involvement of the members of the community in the processes of negotiation and continuous readjustment of the knowledge models, the understanding of the knowledge complexity and also the development of the critical thinking through the shared experience.

### ***3.1.4 Final remarks on the ttVLC project course***

The development of a favourable environment for collaborative learning strategies in the web implies the involvement of all the members in the activities of the community. This engagement finds in the processes of participation in the definition of common goals, activities organisation, presentation and discussion of ideas, a means of

immersion in the representations of knowledge spread by the members of the community. Under this perspective, the networked communication transforms them and is used as an extension of the cognitive capacities of the members of the learning community for the collaborative construction of the knowledge.

### ***3.2 The EASIC case***

The EASIC course was an in-service secondary and high-school teachers training initiative using an e-learning methodology. In fact the course can be classified as a b-learning course as it include an in presence learning component and one distance learning component using e-learning. The in presence component includes seven sections which totality twenty course hours and an thirty hours component by e-learning developed along ten weeks.

The in-presence component took place in the initial part of the course and it aims to train all the participants in the use of the technology and communications services important to the development of the e-learning component. It includes notions about access, search and publishing in Internet, using e-mail, chats and discussion forums.

The in-presence component also had a socialization intention as all the participants were inexperienced about e-learning methodologies and technologies.

The e-learning component of the EASIC course was supported by a website. The homepage of the EASIC website was organized in four main areas with links to: (i) general information about the course; (ii) “new information” and announcements; (iii) teaching modules and (iv) communications space.

All the participants of the EASIC course were teachers of different areas (history, mathematics, Portuguese, philosophy and so on) working at schools from secondary and high-school.

Each teaching module was designed to promote an effective involvement of all the participants in the learning activities trying to promote a collaborative learning process and the development of a virtual learning community. The pedagogical approach adopted tried to follow situated learning principals and taking in count the characteristics of the participants. As adults and experienced teachers all the participants were considerate as potential contributors to the knowledge base of the group and co-responsibles of the learning activities.

The EASIC course took place in 1998 and was probably the first systematic e-learning in-service teacher training initiative that took place at University of Minho. The University of Minho has a long tradition in initial teacher training and an increasing activity in continuous and post-graduate in-service teacher training and this course can be considered a significant innovative approach to in-service teacher training initiatives. Expanded information about the EASIC course, its methodology, subject contents and its participants can be consulted in Gomes (2003). In this text we will concentrate our attention on three specific questions: (i) who are the (what kind of) teachers involves themselves in e-learning training initiatives? (ii) how does the conditions of access to computers and internet influence the participation and involvement of the teachers in the learning activities? (iii) how does the organizational and pedagogical model adopted influence the participation and involvement of the teachers in the learning activities?

Trying to answer these questions we collect data from several sources as is the usual practice in case study research methodology (cf. Yin (1994): (i) written documents; (ii)



field notes from observations activities; (iii) automatic logs from the website of the course; (iv) electronic documents; (v) video records from the participants' dialogues and (vi) audio records from interviews to all the teachers involved.

### ***3.2.1 Some considerations about potential participants in similar courses***

In what seems to be other potential participants in similar courses some indicators result from this case study. From the data collected and analysing the involvement of the participants of EASIC course and considering the perception that they have from the potential participation and involvement of other colleagues, we identified several traces that suggest a profile of the teachers that seem to indicate a high probably of success when participating in courses on internet, adopting e-learning or b-learning methodologies: (i) teachers with some confidence in their competencies of using ICT (information and communication technologies) and high interest in the subject content of the course and training activities, (ii) teachers with high competencies in self-regulating their learning activities and with competencies to interact and collaborate with each other; (iii) previous involvement in similar learning experiences also seems to be a good indicator of success. Some data also suggest that involving in the same course more than one teacher from each school can be an additional form of helping teachers to maintain adequate degree of motivation and self-regulation and provide mutual support.

### ***3.2.2 Some points about the pedagogical approach adopted on the EASIC course***

The EASIC course was conceived having an underlying pedagogical model that aimed to promote a collective knowledge construction and the creation of a virtual learning community. The data collected from different sources indicates several aspects that point to the effective construction of a "learning community" during the weeks of the EASIC course. The collected evidences reveal: (i) a feeling of "belonging to a group" reported by many participants; (ii) a familiar and informal language between the participants (sometimes with lots of humour!); (iii) the sharing of responsibilities in doing some of the learning activities; (iv) volunteer mutual help many times on subjects or task not directly related with the EASIC course.

We had verified during the EASIC course that is very important that the trainer stimulates the active and frequent participation off all in the discussion forums and promotes the sharing of personal experiences and knowledge in order to the construction of the feeling of belonging to a community, notwithstanding, some of the participants reports to feel stressed with the feeling of some pressure on them in order to have high levels of involvement on the course. This "stress" or "discomfort feeling" seems to affect the participants who have worst access conditions to computers and internet or that have very few time to dispend on course activities.

### ***3.2.3 Some points about the structure and organizational aspects of the EASIC course***

The EASIC course was a b-learning course with a face-to-face component and a distance learning component. The face-to-face component includes six in-presence sessions, five at the beginning of the course and one at the end. The distance learning component occurs during ten weeks and was organized as a sequence of content modules that include specific indication about learning activities and a specification about deadlines to begin and to finish each module.

When asked about the structure of the course, all the participants considered that, in what subject content concern, it was possible to carry out the course without any face-to-face session but almost all considered it is important to include in any course one or two face-to-face sessions for social reasons. They consider that these sessions can help to break the initial “ice” between all the participants.

The course participants also considered that it was a good option to organize the different content modules as a sequence with defined timelines. All the participants considered that this was a good mean to maximize the collaboration between all the participants as they were all working in the same content modules at the same period of time. The participants considered that this sequential structure stimulates the interaction between all. Some of the participants also reffer to additional arguments to defend this organizational model when counterpoint with the possibility of permit each participant to decide which sequence of modules and when they want to participate in each module: (i) possibility of making worst options in what logic sequence of content concern, (ii) giving an inadequate importance to some modules and (iii) have a bigger risk of feeling “cognitive overload”.

From all the data gathered from different sources we develop the conviction that this organizational model presents some important advantages as it seems to: (i) help maintain a good motivational level between all the participants; (ii) help the less self-organized participants to keep in day with the learning activities; (iii) permit the existence of an adequate group of participants discussing the same content subject simultaneously; (iv) help the trainer to better regulate and to dynamize the individual participations in the different subject content modules.

#### ***3.2.4 Some aspects about the profile of an e-learning teacher or trainer***

With this case study we also collect some data and perceptions about the adequate profile of the trainers (or teachers) of this kind of courses and about the kind of additional or different work from the trainer-teacher this kind of course implies.

The data collected points to a greater involvement from the trainer-teacher in course activities that usually implies face-to-face courses. The teaching and supporting g activities seems to be much more time consuming when the trainer aims to promote an effective involvement and a collaborative learning spirit in all the participants in order to create a virtual learning community. The perception of a greater workload for the trainer-teacher was unanimously recognized for all the course participants. The teachers (participating as students in this course) characterized the trainer as someone much more involved in the learning activities that usual, taking more responsibilities that “teaching subject content and giving study materials”. They refer to the trainer as someone who: (i) was a moderator and dinamizing of the course forums; (ii) a partner in the collective knowledge construction and in the realization of the course learning activities and (iii) a moderator and regulator of the involvement off all the other participants in the course activities. From a interview to the trainer, it was well evidenced that himself considerate that not all the face-to-face trainers have actually competencies to teach on-line and that the course was an important learning experience for himself in what teaching using e-learning methodologies concern.

### ***3.2.5 Some general perceptions from the participants of EASIC course***

Most of the participants on the EASIC course considered that their involvement on the course was a good experience and they report advantages in this kind of training: (i) more flexibility on what time and space to access learning activities concern; (ii) financial advantages related with less need for space dislocations; (iii) more involvement of all the participants in the learning activities and (iv) acquisition and development of competencies in what ICT concerns.

Despite the fact that none of the participants consider that as an advantage inherent to the e-learning situations, they report some difficulties in participate in the activities of the course related to (i) limitations in what access to computers and internet concern; (ii) little time to participate as they wanted to and (iii) some lack of self-organizing and self-discipline to organize their time to participate in the course activities.

### ***3.3 The “Training for E-Trainers” case***

The third case we will briefly describe is the course “Training of E-Trainers”. This course was a coordinated initiative of TecMinho and of the Continuous Training Office of University of Minho. TecMinho is anon profit private institution managed by Minho University (its President is the always one of the University Vice-Rectors).

The “Training for E-Trainers” course was developed as an important element of a project of TecMinho in the area of “development and modernization of structures and support services to employment and training” and which had financial support from a national support program entitled “Operational Employment, Training and Social Development Program”. The course adopted a b-learning approach and had is first edition on 2004.

The framework for the development of this project was the idea that the web and the new on-line educational and training opportunities represent a new and additional challenge to the educational and training institutions with particular emphasis on universities and other higher education institutions. The development and implementation of the “Training of E-Trainers” course occurs as an answer to the need to train university teachers, trainers and coordinators of training projects on the area of e-learning.

The e-learning component of the “Training of E-Teacher” course was supported by a commercial learning management system (LMS) called Lotus Learning Space 5 which permits the use of several communications and interaction services. In the platform each author/teacher allocated the contents and the activities of its module, and planned the synchronous and asynchronous communication/interaction between participants (e-moderator and trainees) such as an announcement board, a forum, an e-mail tool and a virtual classroom facility (synchronous tool) were participants can chat, share documents, share a blackboard and perform a series of synchronous queries and statistics.

Trying to evaluate the first edition of this course, we focus our attention on the following general aspects: (i) structure and organization of the course; (ii) didactical materials; (iii) activities proposed to students; (iv) activities/functions of the teachers/trainers of the course and, (v) characteristics and functioning of the LMS. We used observation techniques and questionnaires in different moments of the course, in order to collect information related with each module. At the end of the course we ask

all the students to answer a questionnaire with questions about all these aspects in what the globality of the course concern. The data we present here were collected using this questionnaire.

Additional information about the “Training of E-trainers” course can be found in (Gomes; Silva & Silva; 2004) e (Dias; Dias & Gomes, 2004).

### ***3.3.1 The participants of the “Training of E-Trainers” course***

The first edition of the “Training of E-Trainers” course had 15 participants as “students”. Twelve of these students were teachers from eight different departments of University of Minho, one was a technician from TecMinho (the institution which promoted the course) and two were professionals from two different companies with responsibilities in the area of human resources and training. All the participants had at least an academic degree and some had a Master or PhD degree.

### ***3.3.2 Some points about the structure and organization of the “Training of E-Trainers” course***

The “Training of E-Trainers” course is a b-learning course organized in seven modules, each one with a different teacher or trainer. Each module begins with a face-to-face session and elapses during seven days with a workload of twelve hours. Each module includes at least one chat session. The total workload of the course was estimated on 84 hours (21 as face-to-face sessions and 63 on-line) and occurs during 50 days (without Saturdays, Sundays and holydays).

When we analyse the opinions of the students about the existence of face-to-face sessions in the beginning of a module and at the end of the course we verified that the opinions were very favourable.

In what concern the time duration of each module, in general the participants were of opinion that it was an adequate duration in what subject content concern, but they refer to the need to a better adequacy of the amount and diversity of the foreseen activities to the time estimated to each module.

### ***3.3.3 Opinions about the didactical materials***

The project that supported the development of the “Training of E-Trainers” course also implied the conception and development of didactical resources that supported the process of developing the course and the process of implementing it. These didactical resources included, namely: (i) a reference book; (ii) a trainer manual; (iii) a trainee manual; (iv) a text book (in Portuguese) entitled “E-learning for E-Trainers”; (v) support texts that were previous published documents about the subject of each course module and (vi) on-line contents for each course module.

In general, the opinions of the students/trainers about the didactical materials were quite positive with several references to their utility and relevance to the subject contents of the course although some references to the existence of some content overlapping between some of the study materials.

### ***3.3.4 Opinions about the activities proposed to students***

In what concern the learning activities proposed, the opinions were also quite positive. The opinions about the proposed evaluation activities were not so positive evaluated as some of the students were of opinion that they were too much and too independent from each other and from module to module. Some students proposed that, in future, courses should be considerate the possibility of having a kind of evaluation activity or project to be developed by the students during the course, somehow as a *longitudinal* task between the different modules of the course.

### ***3.3.5 Opinions about the activity of the teachers/trainers of the “Training of E-Trainers” course***

In general, the students of the course considered that the teachers/trainers performed an essential paper in dynamizing the electronic forum discussions and moderating the chat sessions. In the students’ opinions the e-learning teachers or trainers have not an easier work, with some of them referring that they believe that the e-learning teacher or trainers have a more and more complex work when comparing with face-to-face teaching.

### ***3.3.6 Some references to the technological aspects***

As we had afore-mentioned, the e-learning component of the “Training of E-Teacher” course was supported by a commercial learning management system (LMS) called Lotus Learning Space 5 which permits the use of several communications and interaction services. The general opinion of the students/trainers about the LMS was positive in what concern to the time of learning to use it and to the technological competences needed to use it. They also considered the asynchronous communications facilities of the LMS adequate to the course but the opinions about the synchronous communications facilities were less positive.

The students seem to recognize that some technological problems related to the version of Lotus Learning Space adopted had created some difficulties but, in general, they also seem to consider that the main difficulties in dealing with the e-learning component of the course were human (e.g. not having enough free time to participate in all the learning activities) and not technological. It’s important to have in mind that this course had a technical helpdesk in place which was very active in the beginning of the course and in the beginning of each module. Probably, without his collaboration, the impact of the technical problems in the course and in the involvement of the students/trainers would be much more.

### ***3.3.7 Some additional data***

At the present moment, TecMinho had already promote ten editions of the course “Training for E-Trainers” involving more than one hundred students/trainers from different professional areas and more than ten different teachers/trainers. This is a good indicator about the need of training in this area and the motivation to participate in e-learning activities.

#### **4. Final remarks**

With this paper we tried to give a concise overview of some of the work having place at University of Minho (Portugal) in what in-service training and continuous education using e-learning methodologies and technologies concern. The cases described are representative of the kind of work that has being taken place at University of Minho. This year and the next ones will probably permit a substantial increase of e-learning initiatives in University of Minho in what continuous, graduate and postgraduate education and training concerns. Now we have a formal and institutional internal politics that try to promote e-learning initiatives and an LMS called EASY – education is being implemented to permit large and systematic practices of e-learning involving all the interested teachers and students. The next few years seem to be very promising!

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