A Training Proposal for e-Learning Teachers

Florentino Blázquez Entonado [blazento@unex.es] and Laura Alonso Díaz [laulonso@unex.es],
Phone:+34924289690
Dpto. CC. Educacion. Avda Elvas s/n, C.P. 06071.
Universidad Extremadura, Badajoz, Spain [http://www.unex.es]

Abstracts

Spanish

Con la intención de mejorar en la formación de tutores de e-learning, hemos realizado un estudio sobre la práctica del profesorado de enseñanza virtual sobre las tareas, deberes y mecanismos que resultan eficaces en la formación on-line. Se han analizado cinco aspectos de los procesos de enseñanza/aprendizaje que giran en torno al contenido teórico, las actividades, los mecanismos de interacción, las herramientas de comunicación y el diseño de la formación. Hemos utilizado una muestra de 354 participantes de dos ediciones de una misma acción formativa, 12 de ellos fueron tutores que han ido recibiendo feed-back continuo durante y después de cada edición. Así, mediante una metodología de corte cualitativo, hemos obtenido conclusiones para una propuesta formativa dirigida a los docentes que practiquen e-learning.

English

In an attempt to improve the training of e-learning teachers, we have carried out research into tasks, exercises and mechanisms that have proved to be effective in online training. Five aspects of the teaching / learning process (theoretical content; activities; mechanisms of interaction; communication tools; and design) were analysed. A training course was assessed at two different times using two cohorts of students, which in total comprised 342 participants. The second delivery of the course was modified following feedback on the first course. In order to further increase our understanding of the effectiveness and value of the course changes, 12 teachers were also questioned throughout the development of the course. The overall aim of the study was to determine what training methods were most effective in the delivery of an online teaching training course.

Keywords

Technology uses in education; Online courses; Teacher training; Teacher education; E-learning; Online tutoring.

Introduction

After five years successful delivery of an e-learning course for teachers, the university teachers responsible for the delivery of the programme decided to review and update the course in order to identify what aspects had been most successful and to incorporate new emerging techniques for teacher training. In this paper, we review and analyse the development of our own e-teaching practice developed during the delivery of the same course in the first and second semesters during the academic year 2004 / 2005. The overall aim of this study was to discover common characteristics of successful e-training teachers, if they exist, and establish specific tasks to be developed with the aim of identifying criteria to formulate proposals for the training of e-teachers.

The first part of this paper will examine current literature related to the training of e-learning teachers. Afterwards, the methodology used will be described, illustrating the triangulation of methods (questionnaires, focus groups and interviews) used to ensure the validity and reliability of the data; the different perceptions of the course of the students and teachers will also be explored; and, finally, the three different points in time in which data were collected will be described. So, a longitudinal and iterative study was designed: longitudinal, because it analysed teaching effectiveness at three different points in time; and iterative as after studying the results, a process of continuous improvement of our own practice was implemented. These subsequent changes were then analysed to determine their impact on the programme effectiveness.

Finally, this paper will present an analysis of the results obtained, illustrating the five overarching categories identified: theoretical content; activities; mechanisms of interaction; communication tools; and design. To conclude, a proposal for the training of online teachers based on the findings is formulated.

E-Learning Teachers

The teacher in the 21st century faces a challenge of having to update their knowledge to be able to make appropriate use of Information and Communication Technologies (ICT) either as a teacher who uses ICT in the classroom, or as an e-teacher or e-moderator of open and distance learning. This is a challenge that has caused teachers to reflect on how they adapt to new educational changes without compromising the quality of education (Ham and Davey, 2005). This suggests that what is required is, rather than just a 'transmitter of knowledge', an e-teacher who plays the role of mentor, coach (Volman, 2005) and facilitator, (that is the so called 'e-moderator' (Salmon, 2004). Murphy *et al.* (2005) explain further what is required when performing these roles. *Mentoring* is a one-to-one relationship between an expert and a novice in which the expert guides the novice by behavioural and cognitive modelling, academic and career counselling, emotional and scholarly support, advice, professional networking, and assessment. *Coaching* is observing learners' performance and providing encouragement, diagnosis, directions, feedback, motivational prompts, monitoring and regulating learner performance, provoking reflection, and perturbing learners' models. *Facilitating* is providing technical, pedagogical, managerial, and social activities that maintain sustained and authentic communication between and among instructors and students.

If these roles are adopted, the e-teacher will switch from the precedence given to the transmission of knowledge to applying her or his teaching energies as a 'facilitator' so that the student is able to reach the proposed educational objectives through a learning process which allows information to be converted into knowledge (Martinez Casanova, 2003; Gray *et al.*, 2004; Eisenberg, 2005; Cabero, 2006). Murphy *et al.* (2005) believe teachers are caught in the role shift from 'content expert' to 'facilitator of learning'. According to Lentell (2003), teachers should facilitate and guide the learning of their students, in order that students develop their knowledge and understanding.

While there is extensive literature on materials and resources on open and distance leaning (Mason, Pegler & Weller, 2006), there is relatively little written about e-learning tutoring (Lentell, 2003). The design for e-training which most effectively procures the type of learning on the part of the student should be based on the *constructivist* theory. According to which knowledge is developed by means of the active involvement of the student, where collaboration and negotiation of meaning are fundamental; and where individuals create or construct knowledge by attempting to bring meaning to new information and to integrate this knowledge with their prior experience (Rovai, 2003; Blázquez y Alonso, 2005; European Commission, 2005).

The **functions** attributed to the e-teacher, considered as a mentor, coach or facilitator, are multiple as others have previously identified (Bonk and Dennen, 2003; Salmon, 2004; Stigmar, 2005; Cabero, 2006). These can be outlined as follows:

- *Management Function*: The teacher plans the teaching programme, which includes objectives, timetable, rules and procedures, content development and establishment of the practical work and interactive activities.
- *Intellectual Function*: This is the traditional teaching function. The teacher should know the syllabus and the particular subject which will inform the learning content.
- *Social Function*: This is considered as the fundamental function in e-training; the teacher should create a comfortable learning atmosphere, interact with the students and follow their activities. The teacher should animate, motivate and facilitate feed-back. In order to fulfil this dynamic role, the teacher should design activities specifically for each objective and content, as well as motivating and encouraging the students.

In order to perform these teaching functions, teacher training should focus on how to develop a series of abilities and strategies (Bonk & Denen, 2003; Hsu, 2004; Salmon, 2004; Alonso, 2005; Stigmar, 2005; Wong *et al*., 2006) that can be divided into:

- *Professional*: knowing the material, the contents, activities, didactic methods and teaching plan, etc.
- *Technical*: although it is not necessary for them to be as expert as the support personnel, they should have basic skills which allow them to carry out their function appropriately, etc.
- *Personal*: interacting, giving feedback, receptive capacity, initiative, creativity, empathy etc.

The teacher in e-learning does not act independently, but rather forms part of a system in which her or his functions and roles are situated, since every process of distance training is made up of a series of intervening elements (see Figure 1), as is recognised by, among others, Bonk and Denen (2003), Rovai (2003), Ham and Davey (2005), Cabero (2006). Thus, we distinguish between human elements (student, teacher and support personnel) and non-human (content and technology). In this context, it is argued that in every learning process there exists a negotiation of knowledge (content) between teacher and student, facilitated by the necessary support personnel within a structure of a marked technological character (not forgetting that such technological means are no more than mere instruments, given that the principal object will always be learning).

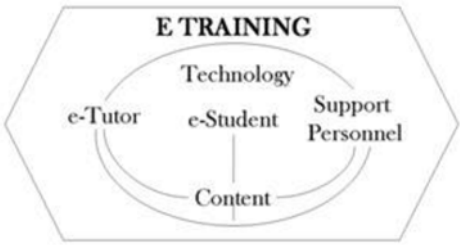

Figure 1. Elements of the learning process in e-training (Alonso Díaz, 2005)

Research Method

A qualitative approach was chosen since this methodology is better able to indicate reasons why participants of an e-learning programme are satisfied or not with the efficacy of e-teachers' tasks. The participants in this study included the teachers and two cohorts of students who participated in two different deliveries of the same e-learning programme:

a. Teachers (n=12), first and second delivery of the e-programme. (T)
b. First cohort of students (n=157), first delivery of the e-programme (S1)
c. Second cohort of students (n=157), second delivery of the e-programme (n=185)

To ensure the validity and reliability of the data, three different methods (open-questionnaires, focus groups and semi-structured interviews) were triangulated during three different points in time: during the first delivery of the e-programme, between the first and second delivery and, finally, after the second programme delivery.

The process followed was longitudinal and iterative; longitudinal because it analysed teaching tasks throughout two continuing deliveries of an e-learning programme; and circular because continuous improvements were made to the teaching training following the outcomes found through the analysis process (see Figure 2).

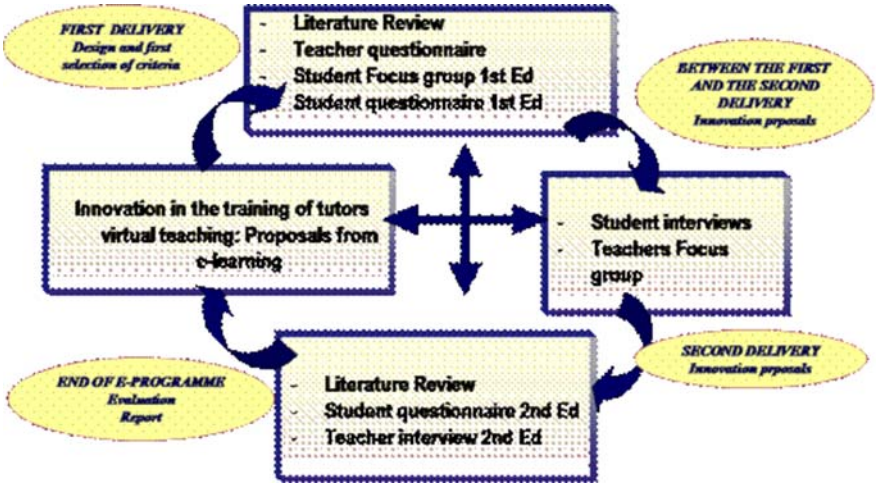

Figure 2. Process of data collection

The training tasks of e-teachers are well documented in current research and literature, see for example, Blázquez et al., 2002 and 2004; as well as those of Wilcox & Wojnar (2000); Manson (2003), Rovai (2003); Murphy et al. (2005); Lam and McNaught (2006); Wong et al. (2006); and Cabero (2006). The 5 essential categories applied in the analysis processes were informed by previous literature, these categories included:

- *The Theoretical Content:* conceptual theoretical content of the training action and its online structure;
- *The Practical Content*: Practical activities to be developed;
- *Teacher / student Interaction*: the process of the relation which has to be produced between teachers and students throughout e-training and its implications;
- *The Communication tools*: Technological means, both synchronous and asynchronous, which are going to make the communication between members of the e-training process possible;
- Management aspects and administration, which some authors call *Design*, and which refer to the distribution of content in relation to space and time, instructions, technical problems etc. This category emerges at a later stage, after the codification of the data of the previous aspects;
- And also *Evaluation*, an important aspect which we are investigating at this moment and which we have decided to defer to later studies;

Content analysis was applied to the non-structured information gathered during the interviews, focus groups and questionnaires. 'AQUAD 6' software was used to codify, reduce, categorise and establish relations. Specifically, a triple analysis was applied which enabled us to reach each of the proposed objectives: This triple analysis included analysis:

- *By technique:* data analysed according to the technique applied;
- *Descriptive*: data analysed to discover specific e-teachers features as regards training and tasks;
- *By points in time*: data analysed to find out which aspects of the teaching/learning process should be improved during the first programme delivery (1st point in time), which changes were adopted to redesign the second delivery of the e-programme (2nd point in time) and a final analysis to find whether these changes were effective or not in the redesigned e-programme (3rd point in time). Specifically, comparing the aspects students and teachers considered positive and those proposed to improve the course in the first and second point in time, with those considered positive and those proposed to improve the course at the third point in time (see Figure 2).

The categories and sub-categories established after the codification, re-codification and the analytic process and their corresponding description are presented in the table below (see Table 1).

Table 1. The categories and sub-categories

Categories	Subcategories	Description
Theoretical Content	Mastery of substantive knowledge base	Up to date knowledge of the topics to be taught
	Preparation of topics	Requirements of the design and creation of the theoretical content
	Clarity	Way in which content is expressed principally as regards vocabulary, written text and examples used
	Structure	Way of organizing theoretical content: linked script, interrelated contents, presence of schemes and conceptual maps
	Quantity	Amount of content to study in the space and time that the training action lasts
	Links	Quantity of internal and external links provided
	Connection	Inter-relation between topics
	Format	Ability to find appropriate formats for delivering content
Practical Content	Preparation of the activities	Requirements of the design and creation of the activities
	Explanation	Explanation and orientation at the moment of carrying out the activities

	Practice	Activity which proves useful for learning the topic and for the value of experience itself
	Implication	Activity which supposes the personal implication of the student in the development of their learning
	Time	Scarcity of time to implement the activities in relation to the quantity of content
	Work in collaboration	Cooperation and work between students
Interaction	Tutors	Teaching and pedagogic knowledge that the teacher should to have
	Availability	Availability of and access to the teachers
	Orientation	This is the following by the teacher of the student's learning process, materialized in initial explanations of the study process and continuing throughout the e-training: resolving doubts, providing study guides etc.
	Inter-relational skills	Establishing communication, expressing opinions, etc.
	Student's personal organization	The student's' habits of study
	Different personal aspects of the student.	Other personal aspects which influence learning
	Quantity	Number of interactions between teacher / student
	Speed	Speed of answers to e-mails
Instruments of Communication	Technological Knowledge	Technological Knowledge a teacher should have
	E-mail	E- mail as an instrument of interaction
	Chat	Chat as an instrument of interaction
	Forum	The forum as an instrument of interaction
Design	Information	General information about the course
	Dates	Establishing and providing information about dates
	Technical Aspects	Technical problems
	Distribution of space and time.	Possibility of combining study and work

Results

The following provides a brief summary of the results of these analyses, following the order of the categories studied:

1. theoretical content
2. practical content
3. interaction strategies
4. communication tools
5. design of the e-training.

Theoretical Content

Included questions referring to:

- *Theoretical aspects of the programme, mastery of knowledge.* The students, in the focus group, valued "knowledge well acquired and up-to-date", while the teachers remarked, in the interviews, the need to "consider teachers not only as knowledge facilitators, as the content are easily found on the Net".
- *Psycho-pedagogical aspect (I): planning the set of topics, clarifying main ideas.* Through the questionnaires, the students asked teachers to concentrate on the *clarity* of topics, introducing them with "a plan" to "transmit the main ideas". The teachers in the interviews ratified students' reflections. When *planning topics in e-learning*, teachers stated through the interviews and the focus group that they have "to make a greater effort with the written discourse in transmitting knowledge because they have to face students' isolation" however "in e-learning, the task of teachers is not to focus on written discourse, because the Net is going to provide as much information as they might need".
- *Psycho-pedagogical aspect (II): structure aspects, quantity, external links, internal connections and format of the content.* As regards the *structure*, students demanded, in the questionnaires, that topics should be clarified in the content writing, "highlighting the most important aspect of each topic". In the group discussion, they also stated that the *quantity* of contents should be "concise and precise". In the questionnaires, students stated to have "too many *links*" and "confusion of entries" suggesting the need for an index or navigation map, an idea that teachers agreed with in the focus group. Students advised teachers, through questionnaires and focus group, to create "internal *connections"* between different subjects. Finally, in questionnaires students asked for "different formats" of delivering the theory.

Practical Content

Included questions referring to:

- *Planning of activities: initial explanations, objectives (practical aspects):* The students in the focus group and questionnaires highlighted that activities should include exhaustive initial *explanations*, as "the activities might be useful but complicated to develop without help or specific examples". In questionnaire responses, students stated that precious activities should be really *practical* and "useful for learning the set of topics"; while the teachers emphasised in the interviews that the main objective of activities is to "learn strategies and solve problems".
- *Design of the activities: personal implications, time dedicated to their realization*. During focus group and through the questionnaires, the students claimed that the activities should include *personal implications* such as "leaving their personal impressions on the results". Finally, in the focus group with the students, they also stressed that activities should be accurate regarding the *time* required to be develop "if there are too many activities they take time away from the preparation of the topics".

Interaction

Included questions referring to:

- *Teacher's role: psycho-pedagogic" knowledge, orientation and Interaction skills in e-training.* In the questionnaires, the students highlighted the significance of teachers having "psycho-pedagogic" knowledge to "be able to teach from the basics". They also valued those teachers who managed "motivating strategies", as well as those who encouraged them to develop intellectual activity. Students as well as teachers stressed, in the questionnaires and interviews, a number of valuable *skills* during the interaction that teachers should have, "mainly, empathy, so the teacher could put him/herself in our shoes and act accordingly", a student remarked.
- *Personal aspects of the students which facilitate or hinder the relationship*. According to the teachers' reflections, during the interviews, they should have taken into account the students' personal characteristics regarding their learning *management* ("autonomous learning" versus "difficulties arising from isolation") and their *different personal aspects* (such as "insecurity", "oppression" and "loneliness" versus curiosity or experimentation).
- *Keys which foster interaction: speed of answers, number of interactions and teachers availability*. The questionnaires, interviews and the focus group showed that students required close *orientation* in their learning process, that they would have liked teachers to "always be *available* to resolve doubts", "mentoring", "facilitating", exhibiting "patience" and "going over the main topics". Finally, the students, in the questionnaires, valued an adequate *speed and quantity* of "interchanges", so as to facilitate "ample and fluid" contacts.

Communication tools

Included questions referring to:

- *Technological knowledge*. Both the students and teachers in the questionnaires, the focus-group and interviews considered the *knowledge of the technologies* teachers showed, managing the communication tools to make the learning process "more active, constructive and participative" as essential.
- *Existing communication tools: synchronous, asynchronous: mail, forum, chat.* In the questionnaires and teachers/students' focus-groups, mails were considered as a satisfactory communication tool, ideal for answering doubts but teachers had to "answer in under 24 hours", since when they did not, it provoked "insecurity and feelings of "isolation". Teachers defined the *Chat* as a tool that generates "a lot of interaction", however the students in the questionnaires felt that they would have liked "more chats and a more open schedule", "more dynamic", "more teachers with fewer students" and "teachers typing quicker". The students' declared the forum as a "good system", but that they would have liked "more communication". The teachers claimed in their interviews that they believe the forum was positive but that they have not used it perhaps for lack of "information", "strategies", "time and even initiative".

Design of e-training

Included questions referring to:

- *Time management*. It was evident that the *distribution of space/time* was the reason why students chose online learning, as a student stated in the questionnaire he chose online learning "because it allows him to share work and other activities" and that "you are not conditioned by timetable and place".
- *Information, dates, technical aspects*. The students in the discussion group asserted that it is necessary to watch aspects relating to *information*, since they asked for "ampler information", even considering the creation of "a tutorial" which could have facilitated the management of the platform. Some of the students also complained that there was a lack of detailed description of "the assessment characteristics", "*dates modification"* and "*techniques difficulties"*, for example, "accessing to the platform and videos".

Discussion

We proposed as the aim of our research, to obtain criteria to formulate a proposal about training of teachers of e-learning. The conclusions obtained in each of the categories studied, allow us to propose the following suggestions for training of teachers of e-training, which include the following six aspects:

1. Theoretical content of e-training
2. Practical content of e-training
3. Strategies of interaction in e-training
4. The communication tools in e-training
5. Design of e-training
6. Evaluation in e-training

Theoretical content of e-training

It seems to be indisputable that the e-teacher, like any other specialist teacher of a theoretical area, should be capable of functioning adequately within the area, fully understanding the topics as well as frequently updating her or his knowledge with respect to current trends, theories and research into the topic. It is also seen to be necessary that he or she develops psycho-pedagogic skills so as to be capable of transmitting this

knowledge using the resources which e-training provides. This educational expertise will be crystallised among others aspects by developing skills which allow him or her to:

- **motivate and interact strategically** with the virtual students using the set of topics itself as a resource to develop this interaction. This is a theme we develop in "Aspect III";
- **stimulate intellectual activity**, for it is important that the student be able to analyse, apply, synthesize, solve problems, investigate and research in the topic of study; and
- **prepare a set of topics** appropriate for the learning objectives;

The preparation of an appropriate set of topics has proved to be a fundamental factor in our study. At the present, there exists a wide choice, a "repository of content", and we should ask ourselves what sense there is replacing a set of topics which already exists in written form. It is not so much a question of using content which already exists, although this aspect is completely legitimate as long as it is done appropriately, but rather to know how to adapt such content to the characteristics of our own teaching / learning process. Thus, beginning with the characteristics of the students and of the particular didactic objectives, the teacher (in this case creator of the content) should be capable of preparing appropriately the set of topics, something which some of teachers consider complicated in comparison with traditional face to face education. The texts need to speak for themselves. For this reason teachers will have to dedicate more time to their design, achieving a more elaborated written discourse, with an appropriate learning chain which includes schemes, conceptual maps, etc. Alternatively, they have to assume that they need to stop "controlling" the access to knowledge, given that the Net provides multiple links, which implies more effort should go on synthesis, as it is not so much a question of re-inventing content as of guiding students in their learning. Thus they special care with the design of the written discourse needs to be taken, including:

- The *clarity* of terminology at the moment of transmitting concepts. On occasions it is necessary to assess whether there is an excess of technical jargon and complex phrases which complicate understanding; whether there are practical examples; an attempt at simplification and a general summary so that students can appreciate what aspects are more and less important.
- The *organisation*, presence of *schemes*, transmission of principal and complementary ideas which help the student to distinguish what is really fundamental. The avoidance of assigning more than three levels of depth to the set of topics. In addition, schemes and conceptual maps should be provided which help students to situate themselves mentally in the area of content.
- The *connection* with other blocks of content, not only within the conceptual area itself, but with other areas imparted by different teachers of the same course, so that the student perceives inter-relatedness and interconnection.
- Appropriate balance between *quantity / quality / time*, less quantity of higher quality adapted to the student's study time is preferable, to avoid them feeling excessively overpowered in the assimilation of concepts.
- *Integration of multimedia* to be able to effectively use the resources which the e-training provides.
- An up-to-date connection with interesting *links*.
- The type of *format* in which the content is created, given that the students, accustomed to the traditional form of study, print out lesson notes and demand that the content be easy to print. Nevertheless, faced with this question we should to ask ourselves whether using hypertext is not as much of an advantage as many authors claim when defending virtual teaching and for that reason we opt for facilitating both formats, so that it is the students who choose that which is more appropriate for their own style

Practical content of e-training

As suggested earlier, it is relatively easy to develop content of a theoretical character relating to a defined conceptual area; nevertheless, it is the practical activity which the student develops with the teacher which marks profoundly its suitability, originality and internalization. For this to happen it is fundamental that the teacher be able to:

- **Present appropriately the activities to be developed**. When the student is faced with the practice in question, it is essential that he or she does not feel disorientated, for this generates complaints and provides a motive for abandoning the activity. Thus, there should be clearly established titles for the activity, its location within the block of theoretical contents, the objectives it aims to achieve, a clear explanation of its development and, finally, the criteria for evaluation of the activity.
- **Design the activity**. Is this an activity to be evaluated or is it merely a complement to help with study? Whichever it is, in the design, its genuine practical character must be contemplated. In other words, the student feels that doing it is worthwhile for internalising certain content, to which it should to be clearly connected; and it is also necessary to adapt the level and time dedicated to the activity to the level of knowledge of the students and the time which it is foreseen they will dedicate to its execution so that it is appropriate.
- **Reflect on the skills** which the student should develop with the implementation of the activity. It is useful that we know how to take advantage of the resources which this type of training offers to encourage concrete abilities, for example, search for information, reflection about texts, studies of real cases etc., individually or in teams. In addition, it seems fundamental that the students feel involved, leading them to an understanding of the content and to situate themselves in the practical reality, avoiding those activities which are limited to mechanical processes of the "copy and paste" type, based on non-internalised information.

Strategies of interaction in e-training

The teacher of e-learning should be trained to establish an appropriate relation with the students; in fact in our study, the process of teacher / student interaction has appeared as one of the fundamental pillars of the teaching / learning process, and this can be appreciated principally in the number and quality of the commentaries and controversy which this aspect awakens. The explanation of the theoretical content is the deciding factor. This aspect differs enormously from that adopted in traditional education and our students prefer face-to-face teaching in this respect, as it is easier to study content when they have previously experienced a didactic exposition face to face. In this sense it seems that the only advantage of e-training is that it permits the achievement of really autonomous learning, for its convenience in time and space.

The teacher of e-learning in the process of interaction with the student will assume that:

- The primary **function** is that of orientator, motivator and guide of the students. From the study, it is clear that the following up and orientation which the students receive in their learning process is especially valued, so that they do not run the risk of losing themselves, disorientation and demotivation. With this intention in mind, the teacher has to be concerned with students' progress and this materialises in actions like resolving doubts, getting into contact and asking about their

doubts and problems, being flexible about their learning, repeating important concepts using the means which technology offers etc.

- The type of inter-relational **skills** which are demanded of e-teachers do not differ greatly from those necessary for face to face teaching: friendliness, understanding, flexibility, valuing the student, interest, closeness, capacity to be able to motivate, respect etc. Perhaps it should be highlighted that the "empathy" of the teacher is important, in other words to know how to put herself or himself in the place of the student with all the difficulties which arise in an e-training action. This materialises in being flexible, patient and reliable in the tasks of tutoring. They also have to catch the attention of the non-motivated students, for example, animating the forum, sending emails, following up lack of interest. A special ability to be an interpreter and shaper of ideas in written texts and graphics is also necessary, knowing how to help with non verbal means of expression on the Net, such as using emoticons etc.
- There exist a series of **keys** which can increase the interaction in addition to those seen earlier, such as:
    - The genuine *availability of the teacher*, as the students, in their sense of isolation, look for a figure as a connecting link with the content and, for that reason, they demand that the teacher fulfil the timetable of tutorial obligations, provides rapid and orientating replies so that they do not feel abandoned in their learning process.
    - An *appropriate ratio* of students per teacher, in our course this was between 30 and 50, it all depends on the type of follow up - more or less profound – for which the teacher opts so that the students feel attended to.
    - *Speed of replies* to the messages and consultations: that they do not take longer than 48 hours to answer, since if the question or problem is lost in time the sense of isolation of the student increases.
    - *Number of interactions*: that the teacher gets into contact with the students frequently even if it is only to ask "How are you?" "Do you have any problems?" etc.
    - In the students can be identified a series of *personal aspects* which can either facilitate or, on the contrary, hinder the teaching / learning process. Thus, distance education requires a great dedication and greater personal organization, since study habits, volition and effort are in particular the keys for success. In addition there will be sentiments and insecurity within the student which will cause the achievement or failure of the learning process, especially the sensation of insecurity, oppression and loneliness, which have to be complemented by other positive emotions such as curiosity and the need for experience.

The communication tools in e-training

Where technological knowledge is concerned, the teacher should to have a mastery of the medium, in other words, a correct handling of new technologies, which implies not so much a perfect knowledge of all the mediums, but rather mastery of those which are going to prove basic and strategic for the processes of e-training. This involves knowing one's way about the platform, even having tried personally the functioning of all the possibilities which it offers, handling the communication tools and the language of the platform, since they are basic tools for making the teaching / learning process more active, constructive and participative and also to set out, in an appropriate way, the material on the Net.

On the other hand, we have to recognise that a great number of our students prefer face-to-face teaching because it is more direct and in it doubts can be more easily clarified, since they can count on the personal help of the teacher. Individualisation is important too and can be much more easily carried out where it is feasible to follow-up the learning when students contribute commentaries, diaries and frequent interventions. It is for this reason that the teacher needs to develop knowledge about the existing communication tools, be they synchronous or asynchronous, and more concretely the type of communication which each one favours, using those which adapt better to the objectives of teaching/learning, their functions, potentialities, limitations and good use.

Thus, as we can observe, the characteristics of the communication tools vary according to type. We will concentrate on some of the aspects studied about e-mail, chats and the forum:

E-mail: The asynchronous character of e-mail seems to be a fundamental element which has to be used with criteria that views it as a tool at the service of training, because a message by e-mail can produce the same type of reply as a face-to-face message or it can motivate students not to desist in their training. Thus, it is fundamental to inform the students, answering their questions in time and appropriately. It is especially valued when the message is short, direct and that it is correctly written. E-mail is definitely useful and efficient when it has been answered immediately.

Chat: In the use of this synchronous tool it is fundamental that the teacher fix the number of participants, which should not be too great, around 5 / 15 per teacher At the same time he or she should to inform the participants of the rules of functioning of the medium, as regards behaviour, reading of the conversations before writing, texts without meaning, use of capital letters, emoticons etc. The teacher should to set the task about which they are going to work, and prepare, adjust and modify the questions which should be treated by the students, maintaining a clearly sequential and planned structure, without discarding flexibility. In order to do that he or she should to begin with possible questions or statements, which provoke thinking and encourages the students to learn during the development of the discussion. Some of the problems which we can encounter in the use of Chat are problems of speed of key board use, waiting time to be able to participate and reply, differences of opinion, excessive number of students, the different types of technologies which can be used, lack of technical knowledge on the part of the students, lack of personal interaction etc..

Forum: The forum is an asynchronous tool which provides the possibility to work in collaboration, to communicate, to interact and to interchange for the development of learning, giving possibilities of communication which facilitates group work and mutual learning between users. The teacher has to learn to manage it and, in order to do so, prepare the topic for discussion so that the proposed objectives are reached. The teacher will define the task to develop as well as the character which he or she wants to give to the line of discussion, designate, or cooperate in the designation of, roles between the different participants, role of moderator, spokesperson, animator etc. The teacher will inform students about the rules to be followed in the debate, provide complementary material, establish dates etc. In addition he or she should to be able to synthesise what the students have been saying with the object of drawing conclusions about what the combined meanings of negotiations have been.

Design of e-training

In the *design* of the course, the aspects relating to the information which the students possess about its management are fundamental. On some occasions, questions related to content are obviated because the students are more worried about learning aspects of management, which have not been made clear, be it in

reference to marks, dates etc. For that reason, it is considered fundamental to offer detailed information which makes it easier for the student to concentrate on her or his own training content. Another factor we have noted is the need for taking particular account about dates

Evaluation in e-training

This aspect, as commented earlier, we are studying in depth at this moment.

Conclusion

To conclude, the main findings of this study included six different aspects of the teaching / learning process.

These were: theoretical content, activities, and mechanisms of interaction, communication tools and design.

Considering the responses of teachers and students through interviews, questionnaires and focus groups, the main components of every aspect were established,. Based on those aspects and their main components, a training proposal for e-learning teachers was designed.

The research suggested that e-teachers should manage the theoretical content, the online activities, the strategies of interaction, the communication tools and the design of an e-programme. E-teachers should prepare *the theoretical content* by organising a set of clear topics, adequate schemes, comprehensible conceptual maps, and appropriate internal and external up-to-day links. *The online activities* should be useful to develop students' skills, be properly planned, plus be well explained, presented and designed. *The strategies of interaction* during the course should have a primary function as orientate, motivate and guide the students, showing adequate inter-relational skills and accessibility of teachers; teachers also should learn how to interact strategically and motivate their students by stimulating students' intellectual activity. *The communication tools* to be used on the online course depend on the objectives of the e-programme; chats and forums will be planned by informing the participants of their objectives, rules and functioning; e-mails should be answered before 48 hours to avoid "isolation" feelings. At last, *the design* of the e-training is considered to offer detailed information, which makes it easier for the student to concentrate on her or his own training content.

Finally, we need to add that to test the effectiveness of this training proposal in e-teaching, our research group, which is in a permanent process of reflective learning in the aspects described, has designed an *e-course of specialization where we apply the conclusions described throughout this section*. In this way, we intend to continue advancing in our research into the training of the e-teacher, and we will do so as we have suggested in the proposal of this research, in a longitudinal and iterative way.

References

[1] Alonso Díaz, L. (2005). *Innovación en la formación de tutores: Planteamientos desde el e-learning*. Dissertation from obtained from the Department of Education of the University of Extremadura, Badajoz, Spain.

[2] Blázquez, F. (2004, November). *Organización de Espacios Virtuales de enseñanza*. Paper presented at the VIII Congreso Interuniversitario de Organización de Instituciones Educativas, Sevilla, Spain.

[3] Blázquez, F. (principal researcher) (2002). *FOPEVAL: Proyecto de Investigación sobre la Formación de Profesores para la Enseñanza Virtual*. Unpublished Project of the Department of Education of the University of Extremadura, Badajoz, Spain.

[4] Blázquez, F. y Alonso, L. (2005). Apuntes para la formación del docente de e-learning. *Enseñanza: Anuario interuniversitario de didác*tica, 23, 65-86

[5] Bonk, C. & Dennen, V.(2003). Frameworks for reserach, design, benchmarks, training, and pedagogy in web-based distance education. En M. Moorey W. Anderson (Eds.) *Handbook of distance education* (pp. 245-260). New Jersey: L. Erlbaum Associates.

[6] Cabero, J. (2006). Bases pedagógicas del e-learning. *Revista de Universidad y Sociedad del Conocimiento*, 3 (1).

[7] Directorate-General for Education and Culture of the European Commission (2005). *Report on the consultation workshops "Access Rights for e-Learning Content" &"Creating, sharing and reusing e-Learning Content"*. Bruselas. Retrieved March 17, 2005 from http://www.europa.eu.int /comm/education/programmes/elearning/doc/workshops/elearning content/workshop_report_en.pdf

[8] Eisenberg, E. (2005, March 3). The Online Teacher. *Elearningeuropa.info*. Retrieved March 30, 2005 from http://www.elearningeuropa.info/index.php?page=doc&doc_id=6066&doclng=6&menuzone=1.

[9] Gray, D., Ryan, M. & Coulon, A. (2004). The Training of Teachers and Trainers: Innovative Practices, Skills and Competencies in the use of eLearning. *European Journal of Open, Distance and e-learning*. 2004 / II

[10] Ham, V. & Davey, R. (2005). Our First Time: Two Higher Education Tutors Reflect on Becoming a "Virtual Teacher". Innovations in *Education and Teaching International*, 42 (3), 257-264.

[11] Hannafin, M., Oliver, K., Hill, J. & Glazer, E. (2003). Cognitive and learning factors in Web-Based Distance Learning environments. En M. Moorey W. Anderson (Eds.) *Handbook of distance education* (pp. 245-260). New Jersey: L. Erlbaum Associates.

[12] Hsu, S. (2004). Using case discussion on the web to develop student teacher problem solving skills. *Teaching and Teacher Education*, 20, 7 (pp. 681-692)

[13] Lam, P. and McNaught, C. (2006). Design and evaluation of online courses containing media-enhanced learning materials. *Educational Media International*, 43 (3), 199–218.

[14] Lentell, H. (2003). The importance of the tutor in open and distance learning. En A.Tait & R. Mills (Eds.) *Re-thinking Learner Support in Distance Education: Change and Continuity in an International Context* (pp. 64-76). London: Routledge Falmer.

[15] Martínez Casanova, M. (2004, November). *El tutor una de las claves de la formación online*. Paper

presented at the II Congreso del Observatorio para la Cibersociedad. Retrieved March 20, 2005 from http://www.cibersociedad.net/congres2004/index_es.html

[16] Mason, R. (2003). Online learning and supporting students. New possibilities. In A. Tait & R. Mills (Eds.) *Re-thinking Learner Support in Distance Education: Change and Continuity in an International Context* (pp. 91-99). London: Routledge Falmer.

[17] Murphy, K.; Mahoney, S.; Chen, C. Y.; Mendoza-Diaz, N.; Yang, X. (2005). Constructivist Model of Mentoring, Coaching, and Facilitating Online Discussions. *Distance Education*, 26 (3), 341–366.

[18] Rovai, A. (2003). A constructivist approach to online college learning. *Internet and Higher education*, 7 (pp. 79-93)

[19] Salmon, Gilly (2004). *E-moderating: The Key to Teaching and Learning Online* (2nd edition). London: Routledge Falmer

[20] Stigmar, M. (2005). Interplay between pedagogy and media technology when planning e-learning illustrated in the Virtual Glass Academy. *European Journal of Open, Distance and E-learning*, 2005, II.

[21] Volman, M. (2005). A variety of roles for a new type of teacher Educational technology and the teaching profession. *Teaching and Teacher Education*, 21, 1 (pp. 15-31)

[22] Wilcox, B.L., & Wojnar, L.C. (2000, August). Best practice goes online. *Reading Online*, 4 (2). Retrieved January 20, 2004 from http://www.readingonline.org/articles/art_index.asp?HREF=wilcox/index.html

[23] Wong, A., Quek, C.L., Divaharan,S., Liu, W.C., Peer, J. and Williams, M. (2006). Singapore Students' and Teachers' Perceptions of Computer-Supported Project Work Classroom Learning Environments. *Journal of Research on Technology in Education*, 38 (4), 449-479.