



HANDBOOK

MENTOR-BASED SUPPORT TO E-LEARNING



English version

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INTRODUCTION

1.1. What is it all about?

“Vocational Training” – “Lifelong Learning” - “Social inclusion through learning” – “closing the educational gap between urban and rural areas” – “gender issues in the access to training” - ... these and many other terms are linked to the claimed advantages of ICT-based learning. Be it in the traditional version of “Distance Learning” with ICT support, or more advanced as an action that completely takes place in a virtual E-learning environment: the positive aspects of reducing distance, costs, and a more flexible timing compared with the “old” training process in presential sessions are evident. As a result, ICT-based training appears to be the magic solution to almost any problem, and is increasingly popular not only for students, but also for training institutions.

However, reality is somewhat more complex. Some of the constraints that most frequently appear refer to difficulties in the motivation process of students, no personal social interaction, lack of operational knowledge of managing the ICT tools, bad or insufficient connectivity especially in rural areas, or “boring” / unattractive teaching material and staff. Some of them can be solved by technical means, but many others result strictly from the nature of human beings and their cultural habits.

This is where the Mentor-concept enters on the scene, as an alternative to address many of such “soft” factors and constraints to ICT-based distance and E-learning (DEL). The word has its origin in Homer’s “Odyssey”, and the concept can be traced since the antique up to modern business and training. As a concept, very popular in the anglo-saxon world, it refers to a “personal developmental relationship in which a more experienced or knowledgeable person helps to guide a less experienced or knowledgeable one”¹.

1.2. The Mentor Concept in distance and E-learning

Applied to the context of ICT-based Distance and E-Learning (DEL), this concept acquires a more practical content that is related with supporting the teaching and learning process. It is a figure and role that is situated “between” the student, training institution, and the teacher-

¹ For a more detailed reference on Mentoring, see <http://en.wikipedia.org/wiki/Mentorship>

monitor. The stress is on solving individual and personalized obstacles to the learning process, but without interfering in the content of the course or action.

Mentors can act as individual, specialized professionals either for a VET entity, or as freelance. They can be part of a teaching team, be employed ad-hoc for a specific training action, or belong to organizational structures like Tele-Centers. It is desirable, but not necessary that mentor and teacher-monitor are different persons – specially for short training actions, and in smaller VET entities, a “plug-in” mentor qualification can be sufficient or at least, helpful.

WHO IS INVOLVED IN MENTORING

Mentoring involves several elements and stakeholders of the teaching / learning process, all of which interact. The mentor is “in between” all of them.

1.3.2.1. The learner

In a distance and E-learning situation, the learners are physically isolated from each other. If the training action is organised as a closed list of participants, they only have virtual contact with other members of the group. In other training situations, it is even possible that the learner is completely studying on his own.

Wherever possible, especially in rural areas, learning **groups** should be encouraged. They prove helpful to maintain participation, support motivation, and depending on the topic of the training action, even can be critical for acquisition of certain abilities and capacities.

1.4.2.2. The tutor / teacher

This is the person responsible for transmitting the knowledge that is object of any training action. He interacts with the learners, but his qualification is more focussed on content than on the learning process.

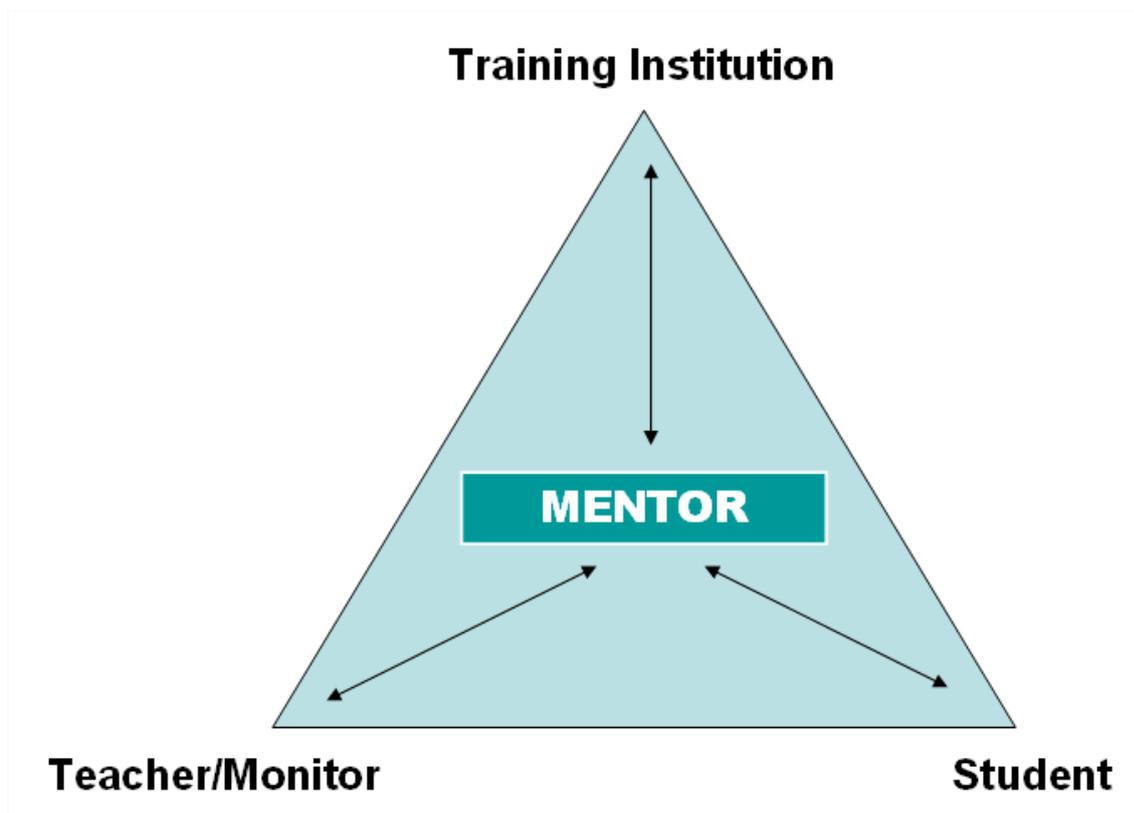
1.5.2.3. The Training Institution

This is the entity that organises the training process. This can be by public or private initiative: VET schools, universities, adult academies, specialized training centres, and any other institution dedicated to training. Their interests are: quality of training, maximum number of students that finish a training action with success, and efficient use of their resources.

2.4. The mentor

The mentor is the professional who is working to support learning groups or learner. At the same time, he

- establishes, maintains, and uses personal communication with the learners
- teams up with the tutors
- responds to the Training Institution and usually is employed to optimize their interest



THE MENTOR – IN MORE DETAIL

1.6.3.1 What is a mentor?

The dictionary definition of mentor is “trusted counsellor or guide”. As commented, the concept takes its name from the man to whom Odysseus entrusted the education of his son Telemachus.

1.7. Understanding the mentoring.

Mentoring is related to tutoring and teaching, in that the mentor imparts knowledge and supports the learner in the learning process. But there are crucial differences in that the mentor is not appointed to the learner, it is not a position that someone can apply for, people become mentors to others who trust their guidance and wisdom. The mentor is available to share his or her knowledge and help the learner find the routes in learning. The mentor may or may not teach her specific things, but the most important role the mentor has is an overview of the landscape of learning, her position in it and the commitment to guide her.

1.8.3.3. Who can be mentor and why?

People become mentors through their relations with learners, and the most important element in this relation is trust. The mentor has to have leadership qualities, being able to see various alternatives in a situation, be resourceful both in terms of providing access to knowledge and good at networking. The mentor is supportive yet demanding of the learner, learning is a personal process which ultimately the learner is responsible for.

1.9.3.4 What can be expected of the mentor?

The mentor is the person holding the network together, the person who maintains contacts and takes initiatives in seeking the training that the group needs. The mentor has the role of host in the meetings, calls the meetings and conducts them in such a way to involve all the learners in the project. The mentor also accepts the role of trusted counsellor to those learners who seek such guidance from him or her. It is possible that in a learning group more than one person develops as a mentor and then it is important to see this as a natural process in the life of the group, not as competition for influence but as a sign of the diversity of abilities and interests within the group.

THE LEARNING ENVIRONMENT

1.10. Flexible learning environment

By definition, DEL is flexible compared with traditional presential training: it does not require a specific physical space, time schedules are open (except maybe some specific parts), and the learning progress can be freely defined within the set time frame of any training action.

However, learning is as much an individual as a social process. It is important, for instance, to be able to share ideas, listen to others and generally discuss the learning with others. The learning atmosphere, therefore, must be conducive to sharing and learning. In a traditional learning environment, this happens face-to-face; in DEL such contact – if at all – is virtual via ICT. This creates not only new challenges of contact and control of participation; it is also critical for motivation and participation.

Or on the other extreme, it leads to isolation and abandonment of the training. This proves especially true in cases where the learner does not have experience with the ICT environment, DEL as such, or where from the socio-cultural background the personal interaction is necessary for either motivation or learning as such. A typical case are rural societies, where personal interaction remains at the heart of any social process and development.

1.11. 4.2 Virtual versus face-to-face?

In its purest form, in a DEL action there is not a single moment where tutors and learners meet in person: the whole process, from first contact to delivery of the diploma, happens via ICT or equivalent. As seen before, in many cases this poses serious problems for the simple reason that at the learner does not “function” that way.

The Mentor concept enters here in two dimensions:

- it provides the “human interface” – even if only at virtual level - that initially is / was lost in pure DEL
- the proximity of the mentor to learners (or his capacity to move in the territory) makes it possible to arrange personal meetings of learners. A minimum number of such meetings should to be agreed, depending on the duration of the training action.

4.3 The technical aspects of mentoring in DEL

Existing DEL systems and platforms are based on a bi-dimensional training where only two parts are involved - the learner, and the tutor. By adding a mentor to this structure, requires a series of adaptations in

- teaching and training materials – without being a specialist in the theme of any training action, the mentor needs to have “contact and entrance points” in the context and structure of the training program
- facilities of electronic platform that is used. Many VET institutions are still using platforms with very little (or uncomfortable to use) interactive elements: they are at the heart of mentoring, and if not existent, have to be added. Some frequently used systems such as Moodle integrate them by default.
- specifically defined access rights for the mentor
- revision of the structure and modulation of training programs (see above – provide for opportunities of personal meetings)

Another challenge that appeared during the testing, is the integration with external tools of online communication such as Social Media (Facebook). They are not only more intuitive and amicable for learners than the tools included in the platforms at use; above all, learners already use them at daily base.

*A specific document “**Guidelines for the Adaption of E-learning teaching materials for Mentor support**” is available as a separate result of this project.*

THE LEARNER

1.12. 5.1 “Pick people up where they are”

This is a frequently forgotten, but basic, rule for any pedagogical action: individual persons have a certain level of attitudes, aptitudes, expectations, social behaviour, etc . that must be taken as “given point zero” at the start of a training action. If this aspect is not taken into account, communication is not established and as a consequence, learners loose interest, are

frustrated, and abandon the training. This is already difficult in traditional presential learning groups – it is even more complicated when the contact is only virtual.

Learners that participate in a DEL action should be screened at some basic level before they are admitted. In case of deficits, previously to them starting the action, “bridge courses” on specific deficit must be offered. Mentors can be involved in this process, either by detecting such deficits, or by offering solutions /specific support to these individuals.

It is useful for learner to have some object in mind when starting the training - for instance, a skill that learner is interested in or a piece of information that you need to find out about. The mentor will help learners to define this person-specific aspect that gives strongest motivation along the training.

It is also crucial that learners build up own confidence – a frequent problem that leads to passive attitude such as fear of asking questions when some training content is not fully understood, or in case of simple problems managing the DEL environment

1.13. 5.2 The learner

The learner is someone with a commitment to learning and growing. It is as simple as that. She/he may or may not be involved in a formal education program.

There are three key issues to success in learning; attitude, time and circumstances. The learner must have a positive attitude toward the task, find it important and be willing to engage in it. Learner must make time for learning, which means they have to take a look at and even reorganize the way they are now using the hours and days. The circumstances, physical and social can facilitate or hinder their learning process.

Learners

- will have to make time for learning – this might mean giving up something they have been doing (setting of new priorities)
- will be thinking about things and issues they didn't think about before – their interests might change. This can generate conflicts - are they ready for that ?
- will be racking their brains, they may have to think hard and answers may not come easily – that means they are challenging themselves.
- Learner will have fun – if there is a dull moment in their learning process, something is wrong

1.14. 5.3 What can the mentor achieve?

Within the above conditions, the mentor must help to achieve a successful learning outcome for each of his learners. People learn in different ways. Some learners are used to being told what to do. If this was how it was at school, at the beginning it is difficult to ‘forget’ such behaviours: in such a case, the mentor must encourage to engage with own initiative. Others may be hyper-active and tending to be intolerant opinion leaders. Or any other specific personal situation a learner may have that can affect negatively the progress of the training action and/or of those participating in it.

In any case: **miracles are impossible**. The mentor can assist learners, for this he must use techniques and abilities related with empathy, dinamization, or even marketing. But there will always be a moment where all these fail, and a learner will be “lost” for the training process.

1.15. E- MENTORING

The mentor must be able to “settle” in the specific situation of each DEL action and the participants he will deal with. The following aspects of e-mentoring should be defined before any action is initiated:

- Knowledge of the electronic platform that will be used: many questions and problems are generated around this
- Define the frequency of communication with participants
- Coordination and interaction with the tutors
- Organisation: specific times of communication, minimum response delay, access to ICT tools
- Planification of face-to-face meetings of students (if any)
- Restrictions on electronic or telephone contact on either side

5.5 The mentoring life cycle

Mentoring has a life cycle, with its sequence of phases as above. For DEL situations, this is largely theoretical because most of these elements are defined externally by the VET institution that organises the action. However, it is important to keep this sequence in mind, especially in longer training actions where strong personal relationships may develop: all involved must be aware that they finish with the end of the training.



5.6 Benefits for the mentors

Mentoring is a two-way process: it is not only the learner, but also the mentors who benefit from it. It adds new possibilities for personal growth and development:

- Developing of your communication skills
- Time management
- Positive feelings like joy and gladness

SKILLS FOR MENTORING

1.16. Management and use of the virtual learning platform

By definition, DEL uses a virtual (electronic) learning platform where all the activities related with the training process take place; amongst others:

- Login and presentation of users
- Presentation of content
- Interaction between learners, tutors, VET institution, and mentor
- Tests and tasks to be fulfilled / solved during the training
- Interactive elements such as chats, forums, or tweets

Depending on the previous experience of learners with such a virtual environment, resolving questions and problems related with how to use and operate its functions will be amongst the most frequent task of a mentor, at least at the beginning of a training action. The mentor must therefore have a good knowledge of the virtual platform that is in use, at least at the level of dominating the full content of the “User Manuals” that normally exist.

1.17. Communication in e-environment

Internet changes our world, every day in stronger, new and surprising ways. Digital environments such as Social Media have become the most important place for communication. Hiding or manipulation of information flows is increasingly difficult or impossible. Your supporters and enemies can express their attitudes in social networks, blogs, etc. You can get close to your target audience, and you get immediate reaction – opinions, reproach, appreciation. Digital environment allows sharing information in no time. Important news, illustrated with pictures and videos reach recipients in geometrical progression. Internet allows persons sharing the same views to form pressure groups and take pro or contra actions.

The mentor must be able to understand these possibilities, and apply them in support of the training action he is involved in. This includes abilities in the following:

- Writing skills (expressing facts and instructions in clear, easy to understand language)
- Composing emails
- Communication tool such as forum, chat, messaging (Skype, MSN), roundmails, blogs, tweets, etc
- Social Media (Facebook, LinkedIn, or similar)
- Specific techniques for virtual environments - especially those that substitute body and face language (= virtual ways of expressing and receiving feelings and emotions).

1.18. Understand the Social and Cultural Environment of the DEL action

Mentoring of a training course for learners with academic background in urban areas is totally different to mentoring a group of small farmers in a rural territory. Tools and techniques may be similar, but their application can vary from one extreme to the other. For example, both will use the same e-learning platform but while in the first case, learners are likely to be already experienced with such an environment, in the latter for some participants it is the first time ever that they get in touch with it.

Other aspects that should be considered and taking into account are:

- Installations and available equipment, either at individual homes or at a telecenter
- Compatibility of time schedules with working hours
- Connectivity
- Social, cultural, and communication habits of the learners / learning group
- Motives, needs, expectations, or personal goals of learners participating in the action

1.19. Learning styles

Each person is different and is used to a different style of how to acquire knowledge. At each DEL action, the mentor will be faced with several of them. In order to understand the problems that may appear and be able to solve them, it is important to have conceptual understanding of Learning Styles.

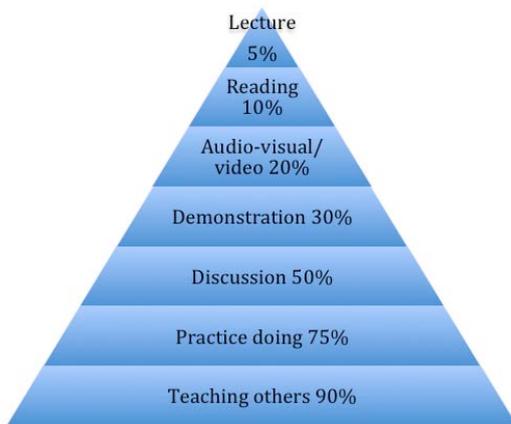
There are many different models of learning styles – some focus on the personal traits and attitudes of learners, others are more based on a multi-dimensional approach of the learning

process, etc. None of them fits all possible DEL situations, usually it is convenient to consider several models at the same time depending on the specific case. A good mentor should have at least a basic knowledge of some of them.

1.20. Teaching methods, styles, and tools

DEL is very much standardized, compared with “classroom teaching” where the adaptation of methodology and content to the group is a lot easier if the teacher is experienced. Any DEL action must already define and delimit the elements that will be used for teaching ahead of opening the course. Modern platforms and DEL environments such as Moodle offer a wide choice of tools and methods that adapt to any possible need.

The integration of Mentors in the team requires that roles of tutors, VET institution, and mentors in the teaching and monitoring process are clearly defined and delimited from the



beginning. If a specific teaching methodology is applied in the course, mentors must match and support this in their activity – otherwise learners may be more confused instead.

Eventually, “learning” and “teaching” are two sides of the same process that must lead to the result of improved knowledge, capacity, ability, habits, or whatever may be the objective of the training.

The scheme beside gives a rough orientation about how effective are different forms of learning or teaching. Mentors will be more involved with supporting the lower levels, which at the same time are the more important ones for the final learning result.

The scheme beside gives a rough orientation about how effective are different forms of

1.21. Motivation

Motivation refers to a process that elicits, controls, and sustains certain behaviours. It may be rooted in a basic need such as eating and resting, or a desired object, goal, state of being, ideal; or it may be attributed to less-apparent reasons such as altruism, selfishness, morality, or avoiding mortality. Conceptually, motivation should not be confused with either volition or optimism. Motivation is also related to, but distinct from, emotion.

A wide choice of theories and conceptual definitions of “motivation” exist, most frequently quoted in business and management environments are the motivational pyramid of Maslow, and the “motivator – hygiene factor” model of Herzberg. In the pedagogical context, cognitive and expectancy-based concepts are more frequent.

Motivation is a critical component of **learning**. Learning motivation "refers to a student's willingness, need, desire and compulsion to participate in, and be successful in, the learning process". It is what gets students to engage in academic activities, keeps them trying when things get difficult, and determines how much they learn. Students who are motivated to learn something use higher cognitive processes in learning about it. Motivation to do something can come about in many ways. It can be a personality characteristic or a stable long-lasting interest in something.

In a traditional face-to-face training process, motivation can be observed and influenced directly by action of the trainer or through personal group dynamics that generate an “**Emotional binding**” within the learning group. This is almost impossible in a DEL action, where personal interaction is limited to writing or, in the best case, e-transmitted speaking and image; group dynamics are difficult to achieve and depend, in any case, on the voluntary participation and commitment of the other students. Emotional binding in a DEL environment is as much important, as few operative tools or methods are available so far: a future field of research. From the few Best Practice cases that could be found, it seems however that fostering and promoting a tangible interest and perspective for practical implementation of the DEL action are most likely to generate this effect.

Therefore, DEL courses need not only to be effective, but also to be fun and at the same time, considered “useful” in order to engage the learners. For the work of Mentors, motivation techniques are of critical importance for success: lack of motivation or interest is the most frequently found problem, and directly or indirectly is the reason for almost 90% of cases of abandonment.

Mentors need to have a basic understanding of

- the theories and approaches to student motivation
- principles of motivation
- motivation for learning
- goal setting
- timing of motivation factors and strategies during the learning process
- how to enhance learning motivation
- specific tricks, tips, and techniques for motivating online / DEL learners

FEEDBACK GIVING

Feedback is an essential part of education and training programs. It helps learners to maximise their potential at different stages of training, raise their awareness of strengths and areas for improvement, and identify actions to be taken to improve performance.

Feedback can be informal (for example in day-to-day encounters between teachers and students or trainees, between peers or between colleagues) or formal (for example as part of written assessment). It is part of the overall dialogue or interaction between teacher and learner, not a one-way communication.

In DEL actions, feedback is channelled and mediated through the virtual environment. While direct real-time interaction and response is limited to specific moments (hours or tuition, group sessions, chat), the universal accessibility of feedback at any time of the day allows for a more efficient use of time both for tutor and learner. Feedback in a DEL environment will be mostly in written form – this can pose a big problem when dealing with learners that are not used or accustomed to communicate in this way.

For the Mentor, feedback giving is part of his overall communication and motivation skills. It needs to be addressed in any training, taking into consideration the specific conditions, requirements, and limitations of a virtual learning environment.

THE E-LEARNING SYSTEM

A basic understanding of the terms “Distance Learning” and “E-Learning” is assumed.

1.22. Introduction

E-learning² constitutes its own methodology. As such, it parts from a series of premises in both the pedagogical and technological area. Specifically, we can say that these considerations affect all three axes on which an e-learning solution rests, and they need to be analyzed and adapted before the implementation of a training action that implements the Mentor role:

- Technology Platform

² Includes here also ICT-based “distance learning” if a virtual platform is used for organising and implementing the full training process

- Contents
- Services

One of the defining characteristics of e-learning is that it applies a 100% interactive teaching methodology, thanks to the infinite possibilities of the Internet and computing in general. As a result, the degree of learning and assimilation of content is extremely high, as long as there is a positive attitude towards this methodology from both the learner and the tutor, both now supported by the Mentor.

1.23. Technology platform

The first link in the chain is, without doubt, the technological environment in which the training activity takes place. This environment is also called e-learning platform, which is the tool used to combine hardware and software, and to offer all the features needed for web-based training. Today we can find a huge variety of platforms, however most of them have very similar elements such as multimedia content, tools, synchronous or asynchronous communication (chat, email, forums, etc.) and management tools. In the latter case, the utility that has such a tool depends on the objective pursued, ie management of students, content management, evaluation and monitoring, etc.. In recent years, other tools or web services (normally of 2.0) are beginning to be used in a complementary manner, and in many cases integrated with the LMS (eg Youtube, Slideshare, Diigo, Twitter and Facebook groups, etc.) .

One of the main advantages of e-learning is considered to be that it leads to a democratization of education: training is likely to reach a larger volume of students, eliminating geographic barriers. There are no limits for communication, exchange of ideas and experiences and above all to access a large volume of information. So, people who had difficulty accessing training processes, either by physical disability, by difficulty traveling to the center where the courses or due to lack of time, etc., now have at their disposal a wide variety of possibilities to learn.

Another aspect involved in the technology of e-learning is the design of the platform interface. One of the characteristic features of e-learning is the implementation of technology in an intuitive way that eliminates obstacles for users. Therefore, the goal of designing an e-learning platform is that anyone can use its functionalities without specific knowledge.

For the use of **mentors**, existing e-learning platform will usually require a review in several aspects, which are shortly mentioned as follows³:

³ A specific document, also elaborated by Routes4, deals in more detail with the adaptation needs of e-learning platforms and teaching materials for mentor use

- Evaluation.
- Follow-up / monitoring.
- Planning
- Additional documents.
- Communication Tools for different internal and external uses
- Multimedia content

1.24. Design of contents

The development of content represents a necessary but not sufficient condition for the success of the training program. In fact, today we can find a wide range of courses and Internet platforms, which differ only by the quality of the content they provide. For this reason it is convenient that the development of the content meets the identified training needs, also taking into account the student profile.

The tendency is to develop small, reusable modules or units of learning that can be combined in different training plans and on different platforms. Thus, each "object" training could be combined in various e-learning activities, expanding significantly the range of training opportunities and amortizing the e-learning companies in their production costs.

Based on the above, we can cite a number of aspects to consider during the design of the contents that require also specific consideration of the role of mentors into the teaching/learning process:

- Content must match the identified training needs of the learners
- Quality and quantity of information used
- Reputation and credibility of the experts who provide the content.
- Structure and organization of content.

However, in addition to adequate e-learning content, another critical feature must be considered: the **interactivity**.

As mentioned above, thanks to this interactivity, we will achieve training in a dynamic process where on one hand, is easier to involve participants through motivators and, secondly, the assimilation of content is easier. This can be done by adding conceptual maps, attractive designs, multimedia resources, etc. in order to capture the attention of students with different learning styles.

1.25. Structuring of contents

Regardless of the possibility offered by some e-learning courses so that students can advance the agenda through their own choice of content, it is important they provide a logical structure based on a pedagogical model defined. The elements to consider, review, and adapt for mentor use are as follows:

- Didactic guide
- Introduction and orientation to the study
- Index
- Teaching materials as such, incl. summaries, tests, and tasks to be fulfilled
- Glossary
- Supporting Documentation

1.26. Services / Facilities

The third axis of an e-learning solution is the area of services or facilities. This term refers to the infrastructure created to manage the monitoring and support of students. Like with the technical aspects of the platform and with content, this aspect is also a factor in the success or failure of the training. Even more – the range of services, facilities, and how they are organised and applied, is nowadays what most differentiates the technical solutions available on the market. None of them, so far, provides specific support to Mentoring. However this can usually be achieved through configuration of the different services.

Within this category, we would accommodate a number of elements that must necessarily be defined and configured before starting a training process, such as

- Teletutorials service (ratio of tutor/student and mentor/student, ways of interacting with students, methodology used during the training, evaluation)
- Student management service
- Management Services with specific access rights for mentors

Depending on the development of the contents of the training, certain additional services will be highly valued by students. For example, if our courses are aimed at young people who still have no job, it will be of great utility to include a job matching service, etc.

THE CONTEXT OF MENTORING IN E-LEARNING

On the previous pages, we explained the aspects that need to be considered when a VET institution considers introducing the figure of “Mentors” for their ongoing or new DEL actions. On these final pages, we reflect about the context that a mentor will be involved in during an ongoing training action.

1.27. Introduction

E-learning solutions takes place on distance and in a technological environment, but still involves human beings: we must not forget aspects such as interactivity, communication systems, learning environment, etc. The real "distance" appears and has negative effects when the student faces the learning process all by himself. In most cases, this circumstance does not depend on the type of teaching, but the pedagogical structure that relies on the training program.

The e-learning method involves unique characteristics that differ considerably from the presential learning and the traditional distance learning. Where applied in a medium-high level, urban context probably there is no (or reduced) need for human support and contact; however this is not usually the case, as initial level of learners is low or their social cultural habits and patterns are not based on anonymous but on personal face-to-face interaction. On the other hand, tutors are specialists in their professional field, but not necessarily good at inter-human and communication skills.

This is where the Mentor enters in the game.

1.28. Educational factors

When we consider training through e-learning, we must consider a number of variables that will affect the degree of assimilation of the contents and the subsequent success of the training. These variables can be specified as follows:

- Our target: it is necessary to adapt technological and human resources to the student's profile
- Ability of the tutor-teacher: not only about the subject to be taught, but also about new ways of processing information, pedagogical principles, and the technological environment where training will be developed.
- Methodological aspects

- Technological environment
- Effectiveness of teaching-learning process.
- Assimilation of knowledge by ensuring that the display of the content, presenting similar structures, is quick and logical.
- Increase the level of student motivation.
- Support the training process in visual learning, since this way the student manages to save his cognitive resources and focuses on content assimilation.

1.29. Learning theories

Learning theories attempt to describe how learning occurs. In the field of e-learning, the most accepted theories are called "Behaviorism and programmed instruction" and "Constructivism." However, experts do not dare to opt for one of the two theories, but they rather suggest using a combination of both, leading to a mixed model.

a) Constructivist theory. This theory is based on two premises:

- learning is meaningful when students get together ideas and schemes of knowledge, which they already have, with new ones.
- the tutor plays a critical role in student learning, adapting the content to individual needs.

The theory thus focuses on how to present and organize content, suggesting a structure that is related to the contents in a growing complexity and facilitates meaningful learning.

b) Behavioral theory. This theory suggests the following guidelines:

- Learning objectives development.
- Proper structuring content that the teacher wants to convey.
- Organization of information in small blocks of content.
- Continuous evaluation of student responses to ensure that the student masters the required skills before moving on to the next stage.
- Continuous feedback and reinforcement of desired responses.
- Track students to systematically check their pace of learning.

Both models provide interesting aspects - the best option is to take the positive points of each other. For example, the behavioral perspective is very useful in organizational matters, i.e., regarding the structure of the training, guidelines for evaluation, etc.. On the other hand, the constructivist theory points out to some highly recommended guidelines in the treatment of academics aspects such as the definition of group activities, forms of interaction between actors involved in the process, etc.

In the field of e-learning, and compared with traditional face-to-face training, a series of changes must be considered regarding the concept of teaching and the roles of both students and trainers:

- Individualized training that responds to individual needs.
- From lecture based on the action of a trainer, we turn to a constructivist approach focused on student learning.
- The students have more responsibility and involvement in their learning process.
- Evaluation takes into consideration the entire learning process, with particular emphasis on student's progress and effort.
- Customized training programs tailored to students' interests and needs.
- Integration of visual and verbal thinking - the content comes in different forms, thus facilitating the understanding and assimilation of developed concepts.
- Cooperative structure where learning occurs fostering teamwork.
- Possibility of taking into account the individual pace of learning, different ways of accessing content, etc.

1.30. Adult motivations to learning processes

The formation of the adult involves group and individual motivations at the same time. The first refers need or demand for training due to changes in patterns of production, social values, roles we play, and so on. This has generated a need for lifelong learning, since the performance of professional duties require a higher skill level. On the other hand, in terms of individual motivations, people expect to respond to different social and professional needs.

In general we can say that adults search in e-learning a way to deal with labour and social changes, bearing in mind the need to save time and effort. On this basis, all our efforts should be directed to the training developed in our actions really responds to issues that students wish to resolve.

1.31. Premises of mentor-based e-learning methodology

The methodology takes as reference the following premises:

- Learning is constructed through the learning experience.
- Interpretation is personal, so there isn't a shared or objective reality.
- Learning is an active process. The attitudinal aspect is a key factor towards achieving the training objectives.
- Learning is collaborative, which means that it is improved by multiple perspectives.
- Knowledge is situated in real life and that is where learning should occur.
- The brain is a parallel processor capable of dealing with multiple stimuli at the same time
- Learning takes place in both a conscious and unconscious way.

On the basis of the above, training products that are developed through this method, are characterized by the following:

- **Utilization of multimedia.** Content can be translated by a variety of multimedia elements such as text, graphics, audio, video, etc.. bringing into play different stimuli
- **Open system.** Students are free to move within the educational environment, progress at their own pace and make their own choices.
- **Use of Hypertext.** It enables the design of materials tailored to different levels, attitudes and abilities of students, with the option to construct their own meanings.
- **Interactivity.** The training materials used in e-learning have an interactive character, allowing the user to take an active role in relation to the pace and level of work.
- **Tools for synchronous and asynchronous communication.** Students can participate in real-time tasks or activities wherever they are, or do these activities individually during a certain period of time.
- **Accessibility.** There are no geographical limitations, neither time constraints, considering that it is the student who decides when connected. However, we need to be aware that this is not realistic yet in many parts of the world, nor in many of the rural areas of Europe where connectivity is still bad.
- **Ubiquity of trainers.** They are not necessarily in the same geographical area where the course is taught.
- **Monitoring.** Face-to-face observation of the evolution of students in their learning process is substituted by tools of the virtual learning environment that can store different data involved in the use of the course (connection times, parts of content that have been displayed, exercises and activities that have been made, etc).

In short, e-learning makes available the information strictly necessary (and links to other sources of information), with a very practical approach, where the student learns interactively using computer recreations that are sit in a pedagogical model previously defined.

Experts say that learning and training of the future will be 100% interactive, reaching the desired effectiveness through a completely, real-time adapted and personalized learning program. In addition, the presence of external tutors will help to emphasize the potential difficulties that may arise during learning.

1.32. Features of e-learning solutions

The different training offers that are presented in the field of e-learning must contain the following features:

- Students work on real problems and seek solutions together.
- Dialogue is encouraged between participants and instructor.
- Issues that involve higher order cognitive skills (evaluation, analysis, synthesis rather than memorization) are arisen.
- Discussion topics are varied and can be raised by the students.

- There is a variety of links to other sources of relevant information.
- Feedback is provided to participants.
- Boundaries of the content are broken, incorporating certain dose of freshness, creativity and humor.
- It provides mechanisms to meet the social and emotional needs of students.

Definitely, the concept that underlies e-learning is **LEARNING BY DOING** rather than **TEACHING BY TELLING**.

The student as individual person is at the centre of any activity, turning the learning process into an emotional experience. In this sense, some experts point out that the model should be 40/30/30, ie

- spend 40% of the time working individually in a practical environment (learn by doing), where the student can assimilate most of the content, giving freedom to their imagination and learning from their mistakes.
- Another 30% of the time should be spent doing activities and exchange of ideas with the tutor and a small group of peers in a work environment.
- Finally, the remaining 30% should be used to socialize this knowledge with all fellow students.