



## **E-Learning for Teacher Training: from Design to Implementation Handbook for Practitioners**

**EDUCATION AND TRAINING FOR EMPLOYMENT (ETE)** IS AN EU FUNDED INITIATIVE IMPLEMENTED BY THE EUROPEAN TRAINING FOUNDATION (ETF). ITS OBJECTIVE IS TO SUPPORT THE MEDITERRANEAN PARTNERS IN THE DESIGN AND IMPLEMENTATION OF RELEVANT TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (TVET) POLICIES THAT CAN CONTRIBUTE TO THE PROMOTION OF EMPLOYMENT THROUGH A REGIONAL APPROACH.

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# ***E-Learning for Teacher Training: from Design to Implementation***

## ***Handbook for Practitioners***

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Giunti Labs, on behalf of the European Training Foundation  
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# 1. INTRODUCTION

This publication describes the methodological approach and achievements of the Euro-Mediterranean Partnership's Education and Training for Employment (MEDA-ETE) project<sup>1</sup> on e-Learning for teachers and trainers in the MEDA region. The document provides guidance for the reader in terms of the design of e-Learning and its implementation in the teaching process. It focuses on lessons learned and challenges faced in the different phases of the training course in terms of both participation and the quality of learning. Although it reflects experience gained at the regional level, the conclusions and suggestions can also be applied at institutional and national levels.

The aim of the MEDA-ETE course was to develop European Union (EU) partner country capacities in building e-Learning courses based on an outcome-centred approach. In the wider context of education and training reforms, the project considers teachers and trainers as drivers of deep change. Although the idea in itself is not new, the strong point of the project is that, with the support of high-level experts, it has developed a distinctive course that focuses on enhancing methodological and pedagogical capacities in trainers and teachers so as to enable them not only to use the new technologies in their everyday working environment but also to develop practical experience in making teaching and learning more flexible and more responsive to the trainee's needs.

The MEDA-ETE course can be considered to be one of the few examples of a tailored-made initiative that aims to meet the needs of a specific group (teachers and trainers) and, at the same time, reach the maximum level of sustainability and ensure the continuity of the capacities and skills acquired.

The course, which was developed in English and French, was designed on the basis of a preparatory phase involving teacher/trainer training institutions (TTI) (these, the project's main beneficiaries, lead project implementation at the local level) in each country, with the aim being to develop and strengthen their capacities and skills in this field. These institutions cooperated, in particular, in completing the training needs analysis that was the necessary basis for course design and curriculum development, given that it affects the entire learning process in a comprehensive way. Teacher training institutions also contributed to the design of the e-Learning curriculum.

The curriculum outline was approved by country representatives from teacher training institutions. To ensure the relevance of training to participant needs and to promote national and regional exchanges, each module was fine-tuned before being delivered to the participants.

Each stakeholder has a different perception of the effectiveness of the learning process, depending on specific interest and needs. Thus, three target groups with different aims were identified:

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<sup>1</sup> The MEDA-ETE project is a unique regional initiative that works to set up a regional agenda on technical and vocational education and training (TVET) and its links with labour markets in the Mediterranean region. As an expression of the shared interest of MEDA partners, this regional project encompasses four components:

- Component 1: Euromed Annual Forum on TVET for Employment;
- Component 2: Euromed Network on TVET for Employment;
- Component 3: Support for Young Unemployed People in the Areas of Self-Employment and the Creation of Microenterprises;
- Component 4: Development of e-Learning for Training in Information and Communication Technologies and TVET. For further information see: [www.meda-ete.net/](http://www.meda-ete.net/).

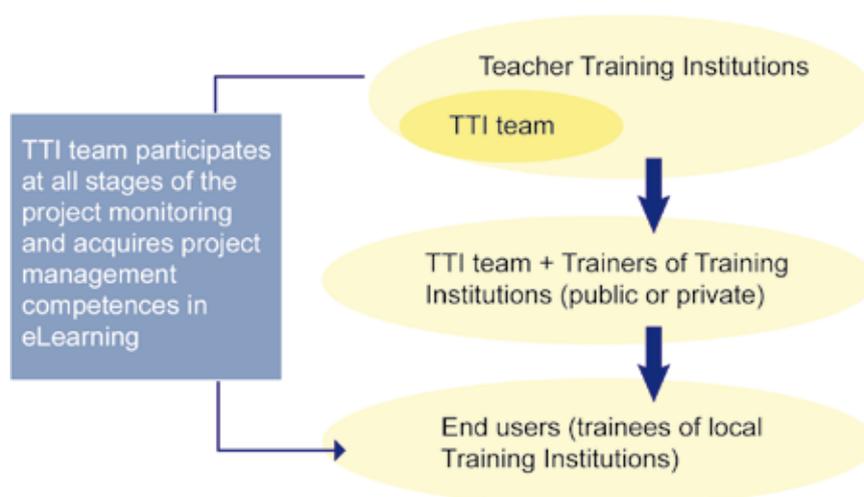
Teacher training institutions, whose aim was to acquire knowledge, skills and competences in managing e-Learning programmes.

Training institution trainers, whose aim was to acquire knowledge, skills and competences in designing, developing and deploying e-Learning programmes.

Technical and vocational education and training (TVET) students, whose aim was to acquire skills and competences in learning using technological tools in virtual environments.

- **Teacher training institutions.** Involved at each stage of the project, teacher training institutions provided inputs and feedback to the development team in order for them to acquire the knowledge, skills and competences necessary to design, manage and implement e-Learning programmes. Their involvement varied depending on the different stages of the project. At the methodology development stage, which focused on identifying best practices and policies and developing communities of practice, they provided information, also on the materials available in their institute. At the needs analysis stage, they participated actively in filling in questionnaires and in responding to requests for information from the e-Learning development team. At the course design stage, which involved development, localisation and testing of the course, they provided feedback and commented on the programme developed by the e-Learning team. A group of people in each institution was identified as a community of practice (CoP)<sup>2</sup> that would be deeply and proactively involved in the project and would encourage the sharing of knowledge, problems, decisions and solutions as a team working on e-Learning issues. During the train-the-trainers programme deployment, CoP members were involved as trainees; their activity within the community of practice has continued (on a voluntary basis) in terms of discussing e-Learning issues arising from course deployment.
- **Training institution trainers.** This group of trainers was composed of members of the community of practice and trainers selected from the employees of local teacher training institutions.
- **TVET programme participants.** TVET course attendees formed the end-user group on which the pilot project was tested.

Figure 1 illustrates the target groups and their involvement in the project.



**Figure 1. MEDA-ETE target groups**

2 "A community of practice is a phrase coined by researchers who have studied the ways in which people naturally work and play together. In essence, communities of practice are groups of people who share similar goals and interests, in pursuit of which they employ common practices, work with the same tools and express themselves in a common language. Through common activities they come to hold similar beliefs and value systems. A community of practice, which is a group that learns, has special characteristics. Communities of practice emerge of their own accord: three, four, 20, maybe 30 people find themselves drawn to one another by a force that is both social and professional. They collaborate directly, use one another as sounding boards and teach each other. A community of practice is "a diverse group of people engaged in real work over a significant period of time during which they build things, solve problems, learn and invent...in short, they evolve a practice that is highly skilled and highly creative." (Pór, 2001).

The course adopted a blended approach<sup>3</sup>, combining learning on an online platform with both country-based and regional face-to-face meetings. A socio-constructivist<sup>4</sup> approach, with a strong emphasis on collaborative learning,<sup>5</sup> was adopted for the course, which takes participants through the different stages of how to design, develop and deliver an online course. By the end of the course, individual participants had produced their own project, drawn from their personal experiences and adaptable to their specific working context. They also had practical experience of the difficulties and challenges implied in putting together an e-Learning course from different perspectives (pedagogical, structural and technological).

The curriculum learning path encompasses all features linked to the creation and implementation of an e-Learning course, from introductory modules on e-Learning to core modules on tutoring, pedagogy and technology—all complemented with a full range of correlated aspects such as management, finance and logistics. Certain key modules are the object of particular focus in terms of the effort required and the topic and so are linked to methodological and pedagogical aspects as well as to the tutoring function. They represent fundamental elements in shaping the role of the trainer and teacher in an e-Learning context. From a pedagogical point of view, the socio-constructivist approach, adopted in the different phases of the process (requirements analysis, design, development, implementation and evaluation), enables quality learning and efficient tutoring support for learners when interlinked with the use of new technologies. Learning becomes a comprehensive process that includes knowledge acquisition, knowledge sharing and the capacity to reapply and replicate knowledge.

In concrete terms and in order to guide learners towards the achievement of their learning objectives, each module provides theory along with a variety of practical examples in which the theory is applied. The learner's achievements are finally assessed both on the factual knowledge acquired (through multiple-choice tests) and on learning outcomes through the combination of an evaluation of their contributions to collaborative work and the production of a summary outcome (sample of training needs analysis, course storyboard, etc). Learners receive regular feedback on their results to allow for re-engineering and fine-tuning. The learning process is supported by tutoring actions that support learners while creating trust and confidence in the new learning methods. In addition to providing direct support through the platform, teacher training institutions in the country are committed to providing support to and motivating trainees during course implementation.

The structure of the toolkit is based on one of the methodologies that are more frequently used in instructional design—a cascade method in which each phase feeds the next phase.

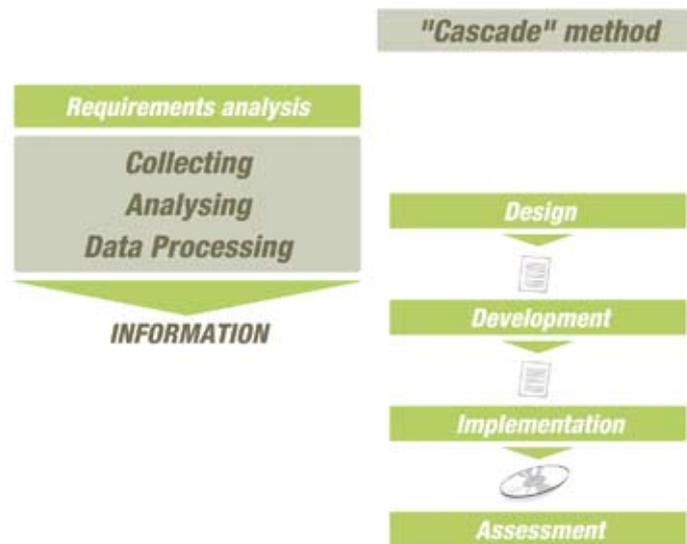
The e-Learning content production process is similar to a building, where every floor is founded on the lower one and acts as a basis for the next. In the ADDIE (analysis, design, development, implementation and evaluation) method (Figure 2), needs analysis is the first step in the process (Section 1). The information collected, examined and processed during this analytical phase covers all aspects that have to be examined in depth in order to produce the course or training, namely, targets, learning context, requirements and training objectives and performance.

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3 A mixed learning system that combines a diverse range of learning modes, alternating between distance and face-to-face sessions. For more information see [http://en.wikipedia.org/wiki/Blended\\_learning](http://en.wikipedia.org/wiki/Blended_learning).

4 The paradigm theory which focuses the attention on subjective differences, on social and environmental contexts and on the active role of individuals in the learning process. This implies that learning can only be partly planned within the limits of specific, individual requirements and of environmental constraints. A fundamental role is played by learning styles, preliminary knowledge, cultural factors and inter-subjective dynamics (Gaimster and Gray, 2002).

5 Active process by which a learner works to build up his knowledge base. The trainer facilitates the learning process while the group provides information, stimulates enthusiasm, develops a mutual support and cooperation network and acts as an interactive vehicle dedicated to building pooled knowledge bases. [...] The collaborative process means individuals and groups each participate in furthering the other's learning path. For more information see [http://en.wikipedia.org/wiki/Collaborative\\_learning](http://en.wikipedia.org/wiki/Collaborative_learning).



**Figure 2. ADDIE method (analysis, design, development, implementation and evaluation)**

The requirements document represents the analytical output and the input to the design phase (Section 2). During the design phase, many elements have to be taken into account:

- Course delivery modes, from fully online courses to blended forms
- Didactic methods, from self-learning to web-based collaborative learning
- Course structure in terms of content design and creation related to course objectives
- Content concept map (syllabus) that summarises, explains and connects all the choices made, providing an outline of contents and learning paths.

The syllabus enables progression to the next phase of the e-Learning course production process and representing the core of the production process. This is course development (Section 3), which consists of developing e-content that includes learning objects (LOs) and interactive activities and collaborative tasks.

Once content has been developed, the next step is to choose the platform and the method of delivery that best suit the needs of the participants and to set up a tutoring plan to support e-learners operating in a virtual environment (Section 4).

Evaluation and assessment is the last step, but since it concerns the overall training process it needs to be taken into consideration at all the different steps previously described (Section 5).

This document describes all the aspects that should be taken into consideration in the implementation of an e-Learning project and describes actions that support the sustainability of the project at the institutional, regional and national levels and its gradual integration into the teacher training system.

During the MEDA-ETE course, besides self-assessment tests and outcome-based assessments, learners were required, for the final evaluation, to draft an e-Learning course project for the information and communications technologies (ICTs) or tourism, adapting it to the peculiar needs of their own environment and training institution. This toolkit also includes an inventory of the e-Learning pilot projects developed by the participants, along with a description of the five best case studies.

## 2. COLLECTION AND ANALYSIS OF USER REQUIREMENTS

This section introduces the reader to user requirement data collection and analysis for a train-the-trainer programme in public and private teacher training institutions. It looks into the overall process and presents a widely used methodology for identifying trainees' needs<sup>6</sup> and for collecting, analysing and reporting the references necessary to complement daily vocational education and training (VET) training activities. The text includes descriptions of experiences and lessons learnt from the regional MEDA-ETE e-Learning programme<sup>7</sup> to illustrate theory in practice.

In order to lay the foundations for a successful course and to meet the demands and requirements of the participants and the institution at large, a full-fledged requirements analysis process is necessary.

An analysis of the requirements of the participants and an assessment of the institutional backgrounds and the educational contexts of the stakeholders are of utmost importance. This kind of mapping enables a training programme to be designed that is adapted to the needs and specific situations of the participants, matching as closely as possible their learning profile and microcontext scenario with the offered course. This requirements' collection and analysis process is crucial in promoting a good return on investment outcomes, as it defines the conditions necessary for the training programme to be tailored to individual needs and facilitates the integration of content into the professional practices of the participants as teachers, trainers, developers and managers, making them competent actors in their field of work.

### ***Why is it important to collect and analyse user needs?***

- *To create a course that meets the identified needs of the participants*
- *To support teacher training institutions in the provision of tailor-made training programmes*

### ***What is the main output of the needs analysis?***

- *A map of participant training needs on which course structure and content development will be based*
- *A regional report*

This process—the first important cornerstone of the project—demands considerable efforts in order to lay the foundations for ultimate project success. The requirements analysis forms an integral part of the project plan. The requirements analysis is not only important for the course itself but also for the development of the institutional capacities of teacher training institutions.

For this reason it is crucial that the teachers training institutions take part in the entire process from the outset.

Their cooperation in completing the training needs analysis (validating tools, collecting data, etc) represents an important basis for the course design and for the development of the course curriculum.

<sup>6</sup> The concept of “triangulation” (c.f. Treumann, 1998).

<sup>7</sup> The regional MEDA-ETE e-Learning project supports the integration of ICT in teaching and learning in the MEDA region through a train-the-trainer programme for VET teachers and a trainer programme which is deployed through e-Learning.

## 2.1. The overall process

Requirements are analysed in a phased approach, comprising two stages:

- A first phase aiming at validating the toolset and harvesting qualitative and initial quantitative data through experts and managers from the teacher training institutions participating in the course.
- A second data collection phase, implemented with the support of the teacher training institutions and based mainly on questionnaires issued to the target group of trainers and technicians.

The first phase starts with the preparation of a toolset (questionnaires, interviews and focus groups) and is complemented by a study of reports and an assessment of the literature. It also involves meetings with teacher training institutions in which the overall course concept is reiterated, the toolset is discussed and validated and first data are collected. The representatives of the teacher training institutions (mainly experts and managers) provide feedback on the institutional setting and trainees' needs. The meeting also represents a unique occasion to address and assess face-to-face relevant aspects of the training design. It contributes to sound understanding of the training process, objectives and results and fosters ownership of the project from the outset. It is also an opportunity to clarify roles and determine subsequent actions required from the teacher training institutions.

It is in this context that focus groups are organised, individual interviews are carried out and questionnaires are distributed to be followed up by group discussion. The focus groups and questionnaire distribution are organised according to regional and linguistic groups<sup>8</sup> and are facilitated by a moderator. Support and guidance in the setting up of organisational issues (building a project team for each institution) are provided. The organisation of the second requirements analysis is also discussed by the working groups and institutional action plans are designed to facilitate the process.

The requirements analysis (Figure 3) uses a variety of tools and instruments in order to be able to reflect the very heterogeneous group of participants and institutions in an appropriate way. It should be noted that the first phase is a descriptive and exploratory approach to collecting data on needs and requirements from the participants and at the same time serves as a tool validation phase.



**Figure 3. Requirements analysis process**

<sup>8</sup> Participants from 9 countries were involved in the MEDA-ETE project (Algeria, Egypt, Israel, Jordan, Morocco, occupied Palestinian territory, Syria, Tunisia and Turkey). Three regional groups (Group 1: Algeria - Morocco – Tunisia; Group 2: Egypt – Israel – Turkey; Group 3: Jordan – occupied Palestinian territory – Syria) were established in order to promote better interactivity and dialogue and to ensure linguistic coherence.

Building on the outcomes of the first phase (exploration of qualitative and initial quantitative data and validation of toolset), the second phase consists of gathering data and analysing the results (through the main requirements analysis tool, the questionnaire) about the final target group of the train-the-trainer course.

The second phase of the requirements analysis is conducted by means of a quantitative survey based on the validated questionnaires, which are sent by email to all potential participants in the course. The contribution of the teacher training institutions in this phase of the process is extremely important in terms of deploying the questionnaires and gathering the data for processing and analysis.

Following digital data recording and data cleaning to erase outliers and errors, the questionnaires are analysed and the results are fed into the course design. The analysis is structured by focusing on audience, technology, job, task and content in terms of classification and weighting factors.

The purpose of this exercise is to determine the skills, knowledge and attitudes that will have to be covered in the courseware for the target audience and identify the gaps that have to be addressed.

The analysis is a supportive decision tool that is also used in the design and development phases in order to retain a focus on collaborative learning on the basis of a fixed content set (comprising references, support materials and examples).

Starting from the data collected, a first step is to gain an overview of the regional picture and then derive the national picture on the basis of a further analysis. The overall process is structured as follows:

- Step 1.** Raw data are organised and classified.
- Step 2.** Data sources are examined and used to add relevance to classified data, which are partitioned in terms of geographical origin.
- Step 3.** Classified and weighted data are compared with reference values for the system model that describe the expected status of the environment, thereby enabling gaps at the regional level to be identified.
- Step 4.** The same process of comparison with reference values for the system model is performed to gain insights into country-specific gaps.

By the end of this multi-step process it will be possible to map both common and specific requirements and gaps, allowing to define, in the course design phase, the lowest possible starting point and the paths available for accessing the various subsequent steps defined by each gap—while remaining within the boundaries of the course methodology.

## 2.2. Toolset structure

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The choice of tools to support the requirements analysis process depends on the time and the organisational conditions of the project. It should take into consideration two dimensions: the perspective of teacher training institution managers and experts and the perspective of the target train-the-trainer course group. Some examples of tools which can be suggested are as follows:

A standardised questionnaire addressed to the target group and aimed at obtaining insights into their needs and requirements

A focus group discussion guide forming the basis for an exploratory initial group discussion aiming at identifying the necessary change processes, barriers and challenges facing the introduction of e-Learning in a specific region

A semi-structured interview guideline for interviews

Working groups to foster and promote dialogue and cooperation between the countries

involved in setting up the training course and concept.

The information collected through the standardized questionnaire can be used to collect baseline information which can then be complemented through information from the more qualitative data sources such as focus groups discussions and face-to-face non-standardised interviews. The requirements analysis can use qualitative as well as quantitative data. The methodological mix of research methods, which is referred to in the social science literature as triangulation (Treumann, 1998), is commonly used to gain deeper insights into the analysed phenomenon. However, it should be underlined that the different tools applied are not necessarily sequential but can be used in parallel, with adaptations made throughout the course to respond to trainees' needs.

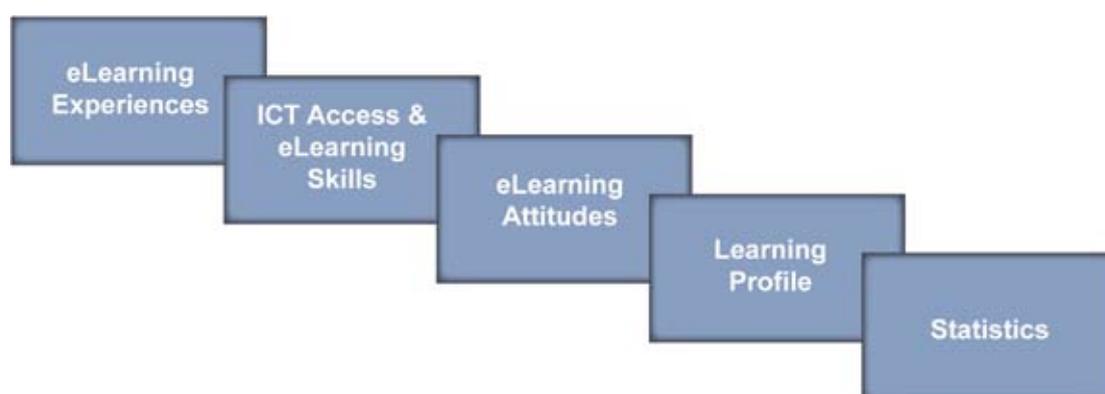
The toolset can be used in person, in remotely synchronous environments via chats (interview at a distance) or in remotely asynchronous environments, whether online (form completion and submission), through a forum (form download, completion and submission) or by email (form download, completion and submission).

### **Questionnaire**

The use of a standardised questionnaire with closed questions collects data that can later be aggregated so as to interpret clear messages. This tool is used to collect baseline information which can then be complemented with data collected from the more qualitative methods (focus groups discussion and face-to-face non-standardised interviews). Thus the requirements analysis relies on both qualitative and quantitative data.

The results of the standardised survey are not intended to be representative of the whole population of the project target—for obvious reasons; the diversity of systems and contexts is too large to be modelled by a standardised questionnaire and there is no secure knowledge about the statistical background of the target population. Therefore the survey should take an exploratory focus to assess conditions in each participating institution and country.

The questionnaire is composed of five sections (Figure 4) dealing with the relevant information areas needed to assess requirements (see Annex 1. Questionnaire to Participants in Training Modules).



**Figure 4. Questionnaire components**

- Section 1 aims at gathering information about participant general experiences with e-Learning, used here in a broad sense to mean all forms of technology-supported learning. The questionnaire classified e-Learning experiences along relevant dimensions, namely, the extent of the experience (long or short term), the kind of technology used and the learning method.
- Section 2 is devoted to exploring aspects related to the access to the ICTs, both from an

individual and organisational perspective. This involves looking at the way the participants access the Internet at home and/or within their work context and also assesses the degree of basic ICT and e-Learning skills. The involvement of the participant's institution in e-Learning is assessed in terms of whether it is already advanced or is still at an embryonic stage in terms of ICT access for staff and trainees and whether e-Learning content is already available. The ICT and e-Learning experiences and skills of the participants are covered by three questions.

- Section 3 focuses on collecting information on individual attitudes of the participants in terms of general (positive or negative) attitudes towards e-Learning, perceptions of it as necessary and how participant rate e-Learning in terms of success factors and obstacles.
- Section 4 aims at determining the learning profile of the participants by exploring their former learning experiences and preferences, assessing readiness to take up e-Learning and evaluating how they can most benefit from training in general.
- Section 5 covers information about the institution/organisation (size, type) as well as some demographic data about the participants (role in institution, country, age, education level) as a basis for contextualising and complementing results interpretation.

Once the questionnaire has been developed, it is useful to obtain feedback from representatives of the participants. For example, in the MEDA-ETE project the questionnaire was distributed and filled in by the participants in a workshop held in Sestri Levante (Italy). Working groups were subsequently organised during the same workshop to provide the opportunity to participants to immediately react to the tool, give their feedback and suggest improvements. The comments collected formed the basis for updating and refining the questionnaire (some questions were modified, some items deleted or reformulated, etc). The updated version of the questionnaire was distributed to teacher training institutions which disseminated them to future participants of the train-the-trainer course, collected the data and sent them to the project team who performed the analysis.

The questionnaire process should be made transparent to the respondent in order to clarify the purpose of the analysis and direct their attention to the points of interest. Anonymity is often perceived as an advantage of standardised questionnaires and is especially important when collecting person-sensitive type of information. In the specific case of the MEDA-ETE requirements analysis, the option of remaining anonymous was offered. However, in many cases it proves useful to be able to deepen the standardised analysis with additional information obtained in face-to-face interviews. Thus, respondents can be offered the option of including their email address when completing the questionnaire if they are willing to be contacted by a member of the research team for further inquiries or unclear answers.

### ***Focus groups***

The specific aim of using the focus group methodology as part of the needs and requirements analysis is to explore the dimensions of the necessary change processes which have to be initiated and guided in order to benefit from introducing e-Learning in the VET system of a specific region. In addition, it identifies the challenges and barriers as perceived by the participants.

Focus groups are an efficient method for collecting more detailed information on needs and preferences as compared to what can be obtained with a questionnaire. Moreover, the information given by participants is refined and dimensioned through the relevancy systems of other group members and is useful to gain precise insights beyond the purely subjective perceptions of one person. It is particularly useful for exploring controversial issues which can be debated within a group.

Although the discussion topics could follow previously defined focus group guidelines (see Annex 2: Focus Group Guidelines, as adopted in the MEDA-ETE project), it is recommended to keep an open mind in order to take into account relevant topics brought up by the participants.

In the case of the MEDA-ETE project, the focus groups operating in the start-up meeting had a timeframe for discussion of about 60 minutes. One MEDA-ETE team member took extensive notes while another member moderated the discussion. Content analysis was then performed in terms of necessary change processes when introducing e-Learning and obstacles and barriers to its introduction on a national, organisational and individual level.

### ***Interviews***

The main aim of the interview, as a complement to the other data collection tools, is to gain insight into the VET systems in the participating countries, current pedagogical practices and the pedagogical models commonly used in everyday teaching. The idea is to gain insights into each country's situation and to deepen understanding of the developments and changes which have to be envisaged in order to implement e-Learning and benefit from educational innovation.

In the specific case of the MEDA-ETE project, participants representing institutions from six different countries were interviewed. The interviews, which were open, participative and based on a semi-structured concept (see Annex 3), were focused on obtaining information on VET systems, their implementation in specific institutions and e-Learning projects currently under way or previously organised.

### ***Working groups***

Additional working groups can be organised to foster and promote constructive dialogue in the field of e-Learning and to ensure good coordination of efforts between the country level of operationalisation and the project coordination level as far as setting up the training course and concept are concerned. In the MEDA-ETE project, for example, the themes raised in the working groups were:

1. Implementation of the requirements analysis. Participants were asked to reflect on the overall aspect of project management and coordination (team members and roles, risks and constraints, steps, needs) as well as on specific tasks (identification of target group, organisation of the distribution and collection of questionnaires, preliminary analysis).
2. Course methodology. Participants were asked to reflect on aspects such as the clarity of the proposed methodology, prior experience with blended learning, methodology used in other e-Learning projects, etc.

For each theme the participants were clustered in three regional groups so as to promote better interactivity and dialogue (while ensuring linguistic coherence). In each regional cluster, the participants created a team with their colleagues of the same country (one team per country).

## **2.3. Mapping a state-of-the-art e-Learning knowledge domain**

Complementary to the requirements analysis it is important to carry out an inventory of the resources available in the light of policies and methodologies and successes and failures, and for the corresponding information to be provided along with methodological training. It is also important to explain the benefits and drawbacks of including e-Learning in daily VET training activities.

This activity complements the requirements analysis and feeds into course design. It also provides good understanding and references for participants and, furthermore—as a model for conducting similar activities—it complements other content provided for the training.

It is worthwhile recalling that, in order to perform good data collection, it is necessary to define both the scope and method of the search. The scope and usage of each of the data collections—on best cases, policies and methodologies—are different as they support different processes. Best cases are used to understand the process and implication of adoption and

reinforcement of e-Learning within training activities. Policies are used as references to better understand the overall stance and direction of governments and institutions in respect to the adoption of e-Learning as a support tool and method for teaching and training. Methodologies are used as a reference so as to exploit the methodology or combination of methodologies that better suit a specific set of needs and constraints.

Furthermore, given the variety of audiences in the training initiative, different individuals will look at the same data from a different perspective and with different aims, as follows:

- Managers and administrators need to understand the bigger picture, which means assessing the costs, benefits, needs, time-frames, effectiveness and efficiency of the various possible solutions so as to ensure a sound choice.
- Content designers and developers are interested in standards, technology enhancement and methodological implications in content/course development, including portability, interoperability, technical evolution, tools and new ways to meet trainers' and trainees' needs.
- Trainers focus on methods and tools, pedagogical benefits and issues, the effectiveness and efficiency of solutions in respect to their everyday activities and new ways and tools to keep themselves up-to-date in their own skills and competences.

In the MEDA-ETE course, the focus was on collecting examples and documents from the region to better tailor the course to the needs of each country. The comparative analysis of teacher training for VET in the MEDA region was included in the inventory referred to above.

### ***The process***

Given the devised strategy and adopted method, the process should be structured in steps grouped in major phases: data search (desk research, web surveys and overall data collection); data analysis (analysis and classification of collected data so as to retain only relevant material and pre-process it for inclusion in the inventory); and finally, reviewing and reporting (involving a review of the initially devised report structure and the data available and drawing up the final report).

#### **a) Data search**

Documents, reports and other sources are identified via the Internet or on the basis of expert suggestions (articles, papers, conference proceedings, websites etc). Teacher training institutions can also be involved in the data search and collection phase. In the MEDA-ETE course, the training institutions and the participants themselves were asked to provide information about institutional, regional and national projects, best cases and policies.

The collection process should be structured in the following phases:

1. Source identification and validation. Identified sources are validated on the basis of a combination of factors such as source reputation, relationship with official standardisation bodies or sources, citations in the literature, etc.
2. Source listing. Validated sources are listed and stored for future reference.
3. Source browsing and data collecting. Validated sources are scanned for relevant content
4. Preliminary content selection. Contents of potential value coming from validated sources are collected and temporarily stored for subsequent validation prior to formal classification and storage.
5. Relevant content selection. Preliminary content is checked, analysed and validated and content of relevance is marked for classification and storage.
6. Content classification and storage. Collected material marked as valuable for classification and storage is classified according to purpose (best case, policy, reference, source, etc) and stored.
7. Content analysis. Collected, classified and stored material is analysed in the light of training objectives in order to be used appropriately as either a source or a support tool/content for training. Finally, some basic conclusions should be drawn for each collected and stored item.

## **b) Data analysis**

Identified and collected data are classified in terms of case impact, location, results, relevance, visibility and involved entities. This ensures a good level of usability of collected content as reference and support material. Content matching selection criteria are then properly indexed and stored. The outcome of the process is a dossier holding all the relevant data included in the report.

## **c) Reviewing and reporting**

Classified data are inserted in the report in a format relevant for the specific kind of data. To reflect and facilitate this approach to data collection, storage and management, data are organised in terms of tables. Each table holds only the data strictly needed to achieve a specific result, namely:

1. An introduction to the item, allowing its identification and description
2. A presentation of outcomes and conclusions of the performed analyses
3. A presentation of items according to relevance in providing useful reference and training support.

The collected items are thus presented in a tabular format that covers best cases and policies and also provides a quick reference to methodologies (see Annex 4: Definitions and Data Presentation Formats, as adopted in the MEDA-ETE course, with references provided).

## **2.4. Lessons learned, challenges met and corrective measures adopted**

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- **Involvement of the training institutions from the outset.** The MEDA-ETE course, which was the result of a preparatory phase involving teacher training institutions in each country, had the aim of developing and strengthening capacities and skills in this field. In particular, the institutions cooperated in completing the training needs analysis, which served as a basis for course design and curriculum development and which covered the entire learning process. The questionnaire was distributed at the Regional Workshop on e-Learning in Teacher Training that was held on 18 and 19 September 2006 in Sestri Levante (Italy) to all project stakeholders. Working groups were subsequently organised during the same workshop to provide the opportunity to participants to immediately react to the tool, give their feedback and suggest improvements. The comments were collected and formed the basis for the update of the questionnaire. Thus, some questions were modified, some items deleted and other items were reformulated following the feedback given by the participants. Although the main goal of this phase was to validate and improve the survey tool (questionnaire), it was an opportunity to extract some important data about the national and institutional context of the participating partners in each country. The updated version of the questionnaire was distributed to the teacher training institutions in the countries which were responsible for disseminating them to future participants on the train-the-trainer course, collecting the data and sending these to the project team who performed the analysis.
- **Use of different languages.** Participants from different countries (Algeria, Egypt, Israel, Jordan, Morocco, Occupied Palestinian Territory, Syria, Tunisia and Turkey) with different national languages were involved in the MEDA-ETE project. In this project with a regional dimension, language represents a major issue. Two official languages were chosen, given the need to find a language that was common to the majority of the project members and countries involved: these were French mainly for the Maghreb region, and English for all the other participating countries. Even though knowledge of these official languages chosen for the courseware was a major prerequisite to participation, the limited knowledge of foreign languages represented one of the main problems faced during course delivery, appearing for the first time during the training needs analysis.

- **Learning resources.** Even if the Internet and especially the online repositories provide a virtually unlimited offer of learning material, it was difficult to find resources or best practices relevant to TVET. For the Maghreb region the availability of relevant learning resources and references in French represented a problem. This is probably because e-Learning has its roots in the Anglo-Saxon world, making it often difficult to find appropriate resources and terminology in French. Effort has been put into addressing this challenge throughout the process by taking advantage of French-speaking experts working in the project and by using trainees as researchers of good practices and examples within their own institutions and countries and asking them to define and categorise the examples found. The information collected can be used in the future to create a shared database of information about TVET e-Learning experiences in the MEDA region.
  
- **Start-up meeting.** The Regional Workshop on e-Learning in Teacher Training held at the beginning of the project and intended for experts, managers and decision makers represented an important step towards obtaining crucial qualitative data and validating the toolset. It also represented an opportunity to foster and promote a constructive dialogue in the field of e-Learning and ensure good coordination of efforts between the country operationalisation level and the MEDA-ETE project coordination level in regard to setting up the training course and concept.



## 3. COURSE DESIGN

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This section describes the design phase of an e-Learning course. It begins with an overview of relevant issues and then provides an insight into the context in which design occurs, along with general scope and specific aims. The outcome of this phase—the course syllabus—is then analysed from both a methodological perspective (target group, learning objectives, methodology, duration and assessment strategies) and architecture perspective (structure in terms of modules, units and activities).

An e-Learning course should be designed on the basis of the current state-of-the-art in e-Learning, taking into account both originally planned items and outcomes from the needs and requirements analysis. The fact that different learning cultures and approaches to learning may prevail in different institutions should be recognised and accounted for in the support for and implementation of the train-the-trainer programme.

Furthermore, it is advisable to build a common language across all the institutions in order to avoid misunderstandings that might undermine the learning process and prevent building a community at the regional level. What is outlined here will be progressively clarified through an explanation of the underlying rationale and the adopted method.

In order to be effective, the course should provide a valuable and robust methodological approach to the adoption and use of e-Learning in VET by directly addressing the needs and requirements of the target communities while adhering to the present state-of-the-art, thereby providing two main benefits for the audience: building on their present status and empowering their knowledge and skills with the most up-to-date information. This would also accommodate future needs, as participants would profit from this approach in terms of understanding and taking advantage of new and emerging technologies.

What needs to be taken into account is that each member of the audience may be interested in acquiring different sets of competences and that each member should not be obliged to follow the same path as other members.

The courseware should thus be organised so as to allow for a certain degree of freedom. The user should follow a basic path dealing with the essentials of the specific topic addressed but he/she should also be provided with the option to study in depth or obtain additional information to gain new profile-related knowledge for that specific topic.

The tutoring plan (which is described in detail in Section 4) should be based on the same assumptions—with help provided on more general (theoretical and methodological) issues as well as on profile-specific issues. The tutoring staff should thus include: a) tutors with strong pedagogical and technical (e-Learning-specific) backgrounds so that support, in broad terms, can be provided in regard to the learning paths chosen by trainees, and b) subject matter experts who will help trainees to contextualise concepts in their own work field.

A further aspect to be taken into consideration is the course language. Designing a course targeted to different countries may require the use of a *koiné* or *lingua franca* if the countries involved do not share the same mother tongue. In the specific case of the MEDA-ETE course it was impossible to use only one common language and so participants were allocated to one of two

linguistic groups: an anglophone group (Egypt, Israel, Jordan, occupied Palestinian territory, Syria and Turkey) and a francophone group (Algeria, Morocco and Tunisia). The solution was to create two mirror courses, one in French and one in English. While the basic pathway was identical for both courses, due to the unavailability of resources for in-depth study, the advanced path for each course proposed different studies in line with the topics addressed and the needs of the course participants.

### 3.1. Context and goals

The general scope of the design phase is to design a basic pathway for acquiring the knowledge and skills needed for the introduction of e-Learning tools and techniques in a traditional curriculum. All explanatory examples and case studies should be centred on the TVET sector and especially on ICTs and tourism.

The pathway should accommodate links and references to complementary information that can be used to deepen the methodological training with specific information related to trainees' profiles or aims. Naturally, this will be achieved in line with the specified overall training aim.

The learning path aims at a fully naïve trainee ideally achieving mastery of the overall process underpinning the adoption of e-Learning in TVET. Therefore, the designed path should progressively cover the entire process and allow trainees to identify their initial state as follows:

- **Embryonic.** A great deal of effort will be required in order to achieve successful transition to state-of-the-art familiarity. In this scenario trainers will be skilled especially in terms of class training, management and psychology. However, specific needs will have to be addressed and careful explanation will need to be given on the benefits and risks of adopting new media and technology-supported teaching. Specific information on tools usage will have to be provided.
- **Initial.** Teachers may already be familiar with basic computer-based training, have gained some experience in computer-supported technologies and will have a basic set of competences in the management of supportive technologies. Passage to state-of-the-art familiarity may still meet with resistance, yet it is very likely that enthusiastic practitioners may become the core of the evolution process.

#### **What is the design phase output?**

- *The creation of the course syllabus as a document listing fundamental information about the course and providing students with clear, precise indications on the course objectives, the topics that will be discussed and the teaching methods.*

#### **What are the design phase goals?**

- *To create a training programme tailored to the needs of specific target communities.*
- *To provide a rich learning experience by setting up a modular learning path composed of essential knowledge and additional resources for further elaboration.*

- **Mature.** People may already be exploiting a learning content management system (LCMS) and other supportive technologies including computer-based training. In this situation, the technology transfer process will be easier as there is a common background. What will be needed, basically, is an upgrading process in terms of knowledge, skills and competences.

- **Pioneering.** Actors are already exploiting an LCMS with extensions to cooperative solutions (forums, chats and live tutoring/mentoring sessions) and also encompassing certified assessment of acquired knowledge.

The designed path should not insist on a trainee reaching the pioneering stage, but should make sure that he/she acquires the knowledge that is needed to face and master such a stage at a later date (a lower stage is likely to be more viable, depending on context and constraints).

## 3.2. Course syllabus

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The course syllabus is the document presenting essential information on the course. The purpose of the course syllabus is to provide clear and precise indications on what has to be learnt and when and how, that is, on course objectives, topics addressed and (optionally) teaching methods. Moreover, the course syllabus describes what the student (as defined in the target profile in the requirements analysis) needs to know before commencing the course (prerequisites) and highlights the acquisition of theoretical knowledge and skills and the learning of new attitudes, abilities and behaviour. The course syllabus can also highlight non-disciplinary competences such as attitudes, empathy, moral values and ethics.

### ***Main target group***

The methodological approach primarily targets pedagogical vocational teacher training agents, such as teachers and trainers in the first place, but also content developers and designers (as the requirements analysis often reveals that these roles are often taken on by teachers and trainers). In addition, the course could also be of great benefit to managers and administrators, as it would enable them to get an in-depth understanding of e-Learning, implementation procedures and specific managerial dimensions.

### ***Prerequisites***

Learners should have access to an ICT infrastructure and basic skills in using computers, including standard office software (Word, PowerPoint), Internet and email. Listed below are skill areas in terms of mandatory, recommended and optional skills:

#### ***Mandatory***

- Basic computer (saving files, creating folders, etc)
- Basic Internet (search engines, entering passwords, etc)
- E-mail
- Educational CD-ROMs and DVD-ROMs.

#### ***Recommended***

- Forums (asynchronous)
- Live chats (synchronous)
- Instant messaging
- Shared whiteboards
- Shared calendars/virtual agendas
- Authoring software to create materials and documents

#### ***Optional***

- Web conferencing
- Video conferencing
- Learning environments and learning platforms (learning management system (LMS), LCMS)
- Website resources (website content, interactive exercises)

In terms of trainees' background, the following generic and specific requirements are necessary:

#### ***Generic***

- University degree in relevant fields or equivalent experience gained in the field
- Good English / French
- Strong interpersonal skills
- Good ICT skills
- Competence in intercultural contexts

### **Specific**

- At least 1-2 years knowledge and competences, listed in Table 1 for different agents.

<b>Managers</b>	<b>Trainers / Authors</b>	<b>Technical Staff / Authors</b>
<ul style="list-style-type: none"><li>- Managing projects</li><li>- Managing training</li><li>- Managing learning material repositories</li><li>- E-Learning policies</li><li>- ICT for training policies</li><li>- Teacher training initiatives / policies / programmes</li><li>- Teacher training</li></ul>	<ul style="list-style-type: none"><li>- Learning material design (possibly for e-Learning)</li><li>- E-Learning programme design</li><li>- Virtual communities design</li><li>- Multimedia authoring and tools</li><li>- Training</li><li>- Teacher training</li></ul>	<ul style="list-style-type: none"><li>- Learning material design and development</li><li>- Learning object (LO) design and development (possibly for e-Learning)</li><li>- Principles/operation of LCMS</li><li>- Multimedia authoring and tools</li></ul>

*Table 1. Knowledge and competences for different agents*

### **Objectives**

The overall objective is to enable learners to acquire the competences to deploy e-Learning in a TVET institution and understand the different phases of an e-Learning course, its design, management, delivery and evaluation processes. In particular, participants should learn or understand the following:

- E-Learning deployment in a VET context
- Online course syllabus creation (understanding differences with traditional teaching)
- Online teaching and learning material design (presenting knowledge online and creating specific activities and tasks)
- The content production process
- E-Learning course tutoring
- The main managerial aspects of e-Learning
- Organisation of evaluation processes.

At the end of the course, learners should be able to implement an e-Learning course customised to the needs of their country, training institution and student profiles.

In the specific case of the MEDA-ETE course, each module was connected to specific learning outcomes representing essential theoretical and practical skills needed to manage the different aspects of an e-Learning project. These modules are listed in Table 2.

Module 1	<ul style="list-style-type: none"> <li>• know how to effectively use Moodle communication tools</li> <li>• know what a blog, a wiki and a virtual whiteboard are and how to use them in an educational environment</li> </ul>
Module 2	<ul style="list-style-type: none"> <li>• know e-Learning basics such as definition, history, learning models and trends</li> <li>• know what added value e-Learning can bring in a VET context</li> </ul>
Module 3	<ul style="list-style-type: none"> <li>• know what a requirements analysis is and why it is important in the e-Learning content production process</li> <li>• know how to define a target group profile and the corresponding knowledge, skills and personal characteristics</li> <li>• know how to process collected data to plan an e-Learning action</li> </ul>
Module 4	<ul style="list-style-type: none"> <li>• know what blended learning is</li> <li>• know the most common didactic theories of e-Learning</li> <li>• know the methods for designing and structuring a course</li> <li>• know how to create the structure of a course (course syllabus) on the basis of well-defined learning objectives</li> </ul>
Module 5	<ul style="list-style-type: none"> <li>• know what the ADDIE model is and how to apply it to a specific context</li> <li>• know what a learning object is and what it is useful for</li> <li>• know what instructional design is and what an instructional designer does</li> <li>• know how to read a storyboard template and how to write a storyboard based on a template</li> </ul>
Module 6	<ul style="list-style-type: none"> <li>• know how to adapt existing teaching materials to an online course</li> <li>• know how to find e-Learning resources using web repositories</li> <li>• know how to integrate e-Learning components in one's own course</li> <li>• know how to create interactive activities for self-learning</li> <li>• know how to create collaborative activities for web-based learning</li> </ul>
Module 7	<ul style="list-style-type: none"> <li>• know the difference among the several e-Learning platforms, including LMS, LCMS and the content management system (CMS)</li> <li>• know how to compare existing e-Learning platforms using a benchmarking process</li> <li>• know how to use a set of conceptual criteria and operational tools to make the right choices in delivering an e-Learning course</li> </ul>
Module 8	<ul style="list-style-type: none"> <li>• know what an e-tutor is and the main e-tutoring theoretical models (%-stage model)</li> <li>• know how to facilitate an online discussion and how to write a summary or a weaving message to wrap up an online discussion</li> <li>• know how to create e-activities for an online course</li> </ul>
Module 9	<ul style="list-style-type: none"> <li>• know how to design an evaluation grid based on appropriate methodology guidelines for evaluation and assessment</li> </ul>
Module 10	<ul style="list-style-type: none"> <li>• know the importance of strategic planning as a key success factor for implementing e-Learning in an organisation</li> <li>• know the basic project management tools (Gantt charts, WBS, PERT) and when to use them</li> <li>• understand the costs and benefits of e-Learning courses/ programmes</li> <li>• know how to assess the sustainability of an e-Learning project</li> </ul>

**Table 2. MEDA-E TE modules**

It is recommended to include in the course an introductory section that covers the basic principles of e-Learning and the relationship between ICTs and e-Learning. This introduction should provide a common grounding for all the learners, regardless of their background, thus making sure that they have the necessary knowledge and skills to follow the course. Learners can then be guided through the five essential phases of an e-Learning course project (analysis, design, development, implementation and evaluation) and introduced to aspects as crucial as delivery, tutoring concept development and financial management. As the main target group is VET trainers, the course should focus on supporting their learning process and guiding them along a path relevant to the training context.

### ***Duration and learning volume***

The first step towards determining the duration of an e-Learning course is to define a unit of measurement for the volume of learning—for example, the daily/weekly number of hours that each trainee can spend online to follow the course. The measurement unit should be defined with the help of data collected during the requirements analysis and, once defined, the time needed to perform the different tasks and activities should be expressed accordingly. In the specific case of the MEDA-ETE course, the learning rhythm was four hours/week. Thus, for example, if a learning unit contains two activities requiring two hours to be completed, the duration of that unit will be a week.

### ***Methodology***

During the design phase the choice of course delivery mode to be used for training (from a fully online course to one of the various blended forms) and the choice of methodologies and didactic strategies (from self-learning training to web-based collaborative learning) are activities that demand special attention from the instructional designer. Correct selection of tools, time and manner of their introduction in the training path are key elements for a successful experience. The choice between the fully online mode and the blended mode, separately or combined, must, in turn, be made carefully. The task of the instructional designer is to define the optimum solution depending on the existing constraints and the available resources.

Once the course delivery mode and the related methodologies have been selected, the course content structure can be designed and built. A very effective method that can be used to structure course contents is by objectives, as this allows to produce content that is relevant for the achievement of the course objectives.

In the MEDA-ETE course it was decided to adopt a blended learning approach for course delivery, combining multiple approaches to learning with particular reference to technology-based materials and face-to-face sessions. A web-based learning method was adopted by motivating trainees to exploit as much as possible the potential for using the platform as a collaborative tool.

Communities of practice established in different countries can be tasked with achieving certain outcomes or may be engaged in process-oriented tasks, the objective of which is to work effectively in a group or team inside national communities and/or in the regional community.

The online course should cover all the aspects necessary for laying a sound methodological basis for the implementation of an e-Learning course. As it addresses a target group originating from ten different Mediterranean countries, the course should be oriented to the core common methodology rather than to localised aspects. Nevertheless, in order to ensure efficiency, the course should be developed so as to constantly give learners opportunities to reflect on the adaptation of the methodology to their own context and to produce deliverables that could be directly used in their own institution.

In order to ensure good assimilation and learning integration, it is advisable that the course unfolds along the different stages corresponding to the building up of e-learner competence in an

e-Learning course, as described in the Salmon five-stage model (Salmon, 2000):

Stage 1. Gaining access and handling technology

Stage 2. Becoming familiar with online learning and its specific socialisation mode

Stage 3. Exchanging information

Stage 4. Knowledge construction and collaborative learning

Stage 5. Individual development and competence building.

This methodology, which was used in the MEDA-ETE course, enables learners to acquire knowledge and know-how in a progressive way that is adapted to the reality of distant online learning and, at the same time, to experience and reflect on the different stages, so as to be able to integrate them into their own teaching at a later stage.

#### ***MEDA-ETE course vital statistics***

- *Learning volume: 4 hours a week*
- *Estimated duration: 68 weeks*
- *Start date: May 2007*
- *End date: Sept 2008*
- *Total learning: 272 hours per participant*

In the specific case of the MEDA-ETE project, the Salmon five-stage model (Salmon, 2000) was used as a methodological basis to design the course structure, courseware and tutoring activities. While there may not be a one-to-one ratio between the stages and course modules, the learning path as a whole follows the Salmon model, starting with welcome and easier modules intended to create a common ground for all the participants and then gradually increasing the difficulty level and the direct involvement of the trainees—with tutors turning from instigators to facilitators—once they have acquired the necessary self-confidence.

### ***Assessment and evaluation***

Student assessment covers broad aspects of the training experience, including the cognitive and behavioural changes that have occurred in people by the completion of training. Individual changes occurring during and after the training process can be found in:

- Knowledge (acquired information and notions)
- Competence and skills (professional skills, effectiveness of work activities and use of acquired knowledge)
- Personal aspects (assertiveness, autonomy, flexibility towards change and a sense of responsibility).

Besides the test (verifying factual knowledge acquired during training) and an assessment of learning outcomes (verifying procedural knowledge or competences with practical activities), there is still an important aspect left to consider when defining an assessment system: in a training pathway and especially in e-Learning, assessment should take account of all aspects related to the training environment and include information on student experiences. Personal aspects such as feelings, commitment and sense of belonging play an important role in collaborative knowledge- and competence-building processes (especially in a socio-constructivist environment).

The grading scheme to be developed should take into consideration all these aspects, assigning different weights to the assessment tools according to the underlying methodological approach chosen. Since the socio-constructivist approach places a greater emphasis on the knowledge-building process rather than on knowledge itself, module outcomes and participation should have a higher impact on the final grade than the tests.

In an outcome-focused course, assessment measures the outcomes students have achieved. Although this concept may seem simple, it is a relatively new way of thinking about assessment. In the past, many teachers turned automatically to tests and quizzes as the best way to measure student learning. But once instructors start thinking about assessment as a way to measure attainment of learning outcomes, they often adopt new methods of assessment. For example, learning outcomes such as knowing how to operate machinery, run a laboratory

experiment or use manufacturing tools are not well suited to paper-and-pencil tests (WGBH Educational Foundation, 2006).

When planning an outcome-based assessment system, it is important to make sure that the assigned task is clearly linked to learning objectives. Sharing with students the criteria to be used by teachers to assess their work (for example, the evaluation grid used for the MEDA-ETE course) is an excellent way to avoid misunderstandings and frustration.

In the MEDA-ETE course the score of a module was calculated according to the following parameters:

- Test result (40% of total score)
- Practical activity and participation (10% of total score)
- Outcome production (50% of total score).

Participants received a certificate if they met the following two completion criteria:

- They had completed at least 70% of all tests
- They had successfully passed 70% of all wrap-up activities (module outcomes).

Delivering a final certificate to participants is advisable, since it is a good way to motivate the participants and increase their commitment and because a certificate provides tangible evidence of the effort and time spent on the course. Certificates also tend to improve employment opportunities. Participants who do not complete the course in time or who do not reach the pass mark could also be provided with a certificate to simply attest their participation to the course. The certificate delivered to the trainees who completed the course should also contain details of the deliverables produced or the topics addressed (for future reference) and (optionally) the grades received.

### 3.3. Courseware elements

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The curriculum is divided into sections composed of modules structured, in turn, according to learning units, as described in a standardised format as follows:

#### **Section**

The section title refers to the overarching theme comprised of several modules and units.

The MEDA-ETE course was divided into three sections, as follows:

1. Introduction to e-Learning basics (Modules 1 and 2)
2. E-Learning course design and development (Modules 3 to 6)
3. E-Learning delivery and management (Modules 7 to 10)

#### **Module**

The module corresponds to a main topic comprising several learning units and is described in terms of the following items:

**General objectives:** Main goals for the entire module.

**Description:** Detailed description and rationale of the module.

#### **Learning unit**

A learning unit corresponds to one lesson (a time period of 1 week) and is described in terms of the following items:

**Operational objectives:** Specific objectives of the unit, described in behavioural terms as performance criteria and conditions of performance.

**Activities and tasks:** The sequence of learning events which compose the learning unit.

**Organisation of the work:** The way the learners are to work (individually or collaboratively) and what is expected from the tutor in terms of roles and tasks.

**References:** List of resources (online material or books) corresponding to the content of the unit that learners can refer to for further clarification and study.

## **Module summary and wrap-up activity**

At the end of each module, a short summary of the main learning points and outcomes of the activities of the different units is provided together with a wrap-up activity (module outcome - OC). Each summary also contains a list of detailed learning outcomes for the module. Module outcomes, depending on the module content, may address general methodological issues or more specific topics related to the expertise field of the learner (tourism or ICT), thus helping the learner contextualise the knowledge and locate it in a professional field. Trade-specific outcomes use the knowledge and know-how on trades acquired by the learners during the learning process to help them focus on e-Learning issues in their expertise field and find real solutions to real problems, thus creating the skeleton of their first e-Learning course.

### **3.4. Lessons learned, challenges met and corrective measures adopted**

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- **The action learning approach.** When working on a course project, designers should focus on didactics. An action approach is extremely important, since it allows participants to follow a clearly structured path. From the socio-constructivist point of view also, this didactic approach should allow participants to follow a well-defined structure and the links among the various working sections. This approach should allow trainees to follow a task-oriented path, namely a process of building step-by-step the final outcome of the course. This should give them the possibility to actively participate in the training experience.
- **The outcome-based approach.** When working on a train-the-trainer course project, course designers should pay special attention to the concreteness of expected results. In other words, they should prefer project- or outcome-oriented activities rather than simple factual knowledge assessment. In a VET environment, practical activities have a crucial importance. An outcome-based approach helps deal with this aspect, offering the students a sandbox where they can experiment with the use of newly acquired knowledge in the context of their own professional field.
- **A clear course structure from the outset and timely information to participants.** Transparency of information about the course structure is another important aspect to be considered during course design. A clear learning programme structure is what allows participants to have a precise overview of the course and of the training path they are asked to follow. In every course the syllabus should be at the participants' disposal from the outset in order to give access to information about course modules, content of learning units, scheduled activities and final wrap-up activity. The course syllabus should be updated during the course in order to account for modifications that could happen during the training path.
- **Links among all the course modules.** A course should be conceived following an approach that progressively yields results. The results of each module should be assumed as a fundamental element to build on the next module. The didactic approach to be used should base each outcome on the previous one, so the final result should be the sum of the partial results of each module. In the end, guided and progressive building of course output will allow students to receive the final certificate for the course. This certificate is a document that should be released after having verified a positive result for all the modules; it should be calculated on the basis of precise results tracked by the platform.
- **Institutional acknowledgment of the certification.** The kind of certificate to be delivered to the students upon successful course completion should be defined during the design phase. An official (national, institutional or even international) acknowledgment of the certificate may play an important role not only in motivating learners during the course but also in fostering the sustainability of participant efforts. It may be necessary to consider the advisability of issuing a certificate that could be used within the academic/institutional environment of the student. International certificates also tend to increase employment opportunities.



## 4. COURSE DEVELOPMENT

This section deals with the content development and implementation process. A definition of course development is followed by a description of the different kinds of resources (learning resources and assessment tools) that can be used to build the courseware and an explanation of the role played by learning platforms in courseware development.

The shift from the requirements analysis to the real course happens during the course development phase, when the macro- and micro-objectives listed in the syllabus are converted into real courseware. The instructional designer, who supervises production, should ensure that each component of the multimedia product complies with the learning objectives. In order to create a successful course, some general principles should be taken into consideration, as follows:

- 1. Tailored approach.** Instructional designers should develop course content keeping in mind student specificities and peculiarities, as this will ensure that the content is as close as possible to the learning environment and to the real skills of the trainees in the different countries involved. On the other hand, the structure of learning units and type of learning activities should be consistent with the topics addressed. In a TVET context, this is particularly crucial, as the instructional designer needs to keep in mind the essential role played by practical skills and active participation.
- 2. Open courseware.** Courseware should be as open as possible, in order to be able to change its structure or fine-tune in itinere resources, language level and the number of activities in accordance with learner needs and based on their feedback and suggestions.
- 3. Participant involvement.** The instructional designer should try to take into consideration the suggestions and feedback of course participants. The courseware should be kept as open as possible in order to be able to make changes to the structure or fine-tune content and the number of activities, language level and even type of learning activities according to learner needs and requests.
- 4. Multilingual context.** The instructional designer should implement the courseware using a language that will be easily understood by students and at the same time shared by a larger number of people. In some cases, this language will be an exchange language that is not the mother tongue of the participants. This will require an accurate choice of the language register to be used, avoiding both technical jargon and overly simplistic expressions.
- 5. E-readiness.** Another very important aspect to be considered by the instructional designer in developing the multimedia course content is the need to implement the course taking into account the available tools and the personal attitudes of each individual. This should guide the instructional designer in the choice of level of multimedia content of the course.

Every learning unit should be a unique mix of learning activities. A fine-tuning process should take advantage of learner experiences to adapt the courseware and create a learning pathway as close as possible to the target profile while taking into account values and expectations. The variety of tasks and activities and the combination of self-paced and collaborative activities should always be consistent with the underlying methodological approach chosen and with the tools and features offered by the LMS used to deliver the course.

## 4.1. Online materials for self-paced learning and assessment

If the target group is composed of absolute beginners in the e-Learning field, the course designer should choose carefully the type of the learning materials to be used in the course. To avoid confusion and frustration in learners, new kinds of learning should be introduced gradually over the course (possibly not at the very beginning of the course) and should be accompanied by more traditional activities (web pages, web quests, etc). After the learner has become confident with new kinds of learning activities, the number per learning unit can grow and the LO-to-other resources ratio may sensibly change. There is no best recipe for an e-Learning course, but it is recommended to ensure a variety of tasks and learning materials, choosing the best way to address the topics proposed by the syllabus and avoiding discomfort in the learners (and thus dropouts).

### *Interactive learning objects*

The breakthrough represented by the LMS as an effective way for managing and delivering e-Learning content is that it sets in motion a standardised nature and format for learning content. The need to be able to use the same learning content in different LMSs led to the definition of a specific learning content type: the learning object, defined as “any digital resource that can be used and reused to support learning” (Wiley, 2002). Learning objects are multimedia content learning units whose methodological and technological features ensure a large degree of interoperability in the different LMSs available on the market. While almost every learning object is a piece of multimedia content, the reverse is not always true. An item of e-Learning multimedia content falls into the category of learning object when it is a discreet, inseparable, self-consistent, self-sufficient unit—in other words, when it complies with four main principles, as follows (Wiley, 2002):

- **Granularity** refers to the semantic consistency of the learning object rather than to a standard structure or dimension. The semantic consistency and the dimension of a learning object are determined by the learning context, in other words by the learning needs it intends to meet. A learning object can be an image with a strong semantic meaning, a sequence of texts and images or even an animation. It is thus impossible to define a priori the right size or format for a learning object.
- **Interoperability** states that learning objects should not be restricted by any educational or technological structure but should be conceived and organised irrespective of the platform, the media, the communication codes and delivery so that they can be easily retrieved, assembled and reused through defined description and cataloguing standards.
- **Generativity** refers to the object’s ability to present itself dynamically at the time of use, creating high learning value when multiple learning objects are combined together. Moreover, reusability rests on generativity in that the flexible, adaptable application of learning objects enables variations in learner readability levels, language levels and learning styles to be accommodated. An object that has high generativity is likely to be more adaptable because alternate objects needed by learners in varied contexts can be changed more easily.
- **Adaptability** refers to the ability of a learning object to adapt to learning and technological contexts each time it is introduced. Learning objects allow structured learning, by permitting different alternative learning pathways rather than using preset pathways. They guarantee, therefore, customised learning.

Over the years, the use of learning objects has proven to have both didactic and financial benefits. From a didactic point of view, the advantage is being able to effectively summarise and show complex concepts in a

### ***What are the course development goals?***

- *To best fit student needs*
- *To build a tailor-made course*
- *To involve participants in knowledge building.*

### ***What are the development phase outputs?***

- *A customised training pathway*
- *Tasks and activities localised in the professional field*
- *Courseware consistent with the e-readiness of the target group.*

simple and immediate way. Indeed, the use of multimedia cognitive aids (such as animations, tables, graphs, flowcharts, etc), to explain the relationship between key concepts in the topic addressed, facilitates the process of learning new terms and concepts. For this reason, learning objects are particularly useful in an international environment where the mother language of the participants is different from the one used for developing course content. The visual approach of learning objects is another plus factor, and especially in a TVET environment where practical skills are an important element of the training. In this case, the use of videos and interactive simulations should be considered as viable alternatives or complements to practical exercise in laboratories or training facilities. Financial advantages are achieved in terms of savings in time and in production costs, the coverage of market segments (enterprises providing or requiring technology, content and training) and success in the global learning resource market. The increasing use of learning objects has facilitated a shift from curricular learning pathways (created ad hoc and aimed at a specific target) to modular pathways (divided into self-sufficient learning units with content that satisfies specific, autonomous learning objects applicable in different learning contexts). The possibility to create modular pathways is an advantage both in relation to the updatability of the knowledge required by the dynamics of professional competence and in relation to the financial character of the production and exploitation processes.

## ***Resources***

In addition or as an alternative to learning objects, the instructional designer may use other learning resources to develop the courseware, such as text documents, web pages, PowerPoint presentations, etc.

Training institutions often have a large stock of traditional resources developed over time (for example, documents, slides, good practice reports, etc). These documents can be turned into digital material and used by the instructional designer. The choice of learning material to be used should match learner competence levels with the available technology (Internet connectivity, bandwidth, etc) in training centres, at the workplace (for adults) or at home (for students). Although some trainers may be very interested in learning new software programs and technologies, many students do not have the time, energy or technology and this fact can be a serious impediment for learning. Instructional designers can strike the best balance by focusing on technologies appropriate for their target and their real environment. Resources can thus be categorized as simple (texts, images, PowerPoint presentations, Word documents) or complex (images, web pages with scripts and interactive controls, flash animations, streaming media, Java applets) according to the technology and the skills required.

From a didactic perspective, learning resources can be used with two main goals: to ensure variety in the learning path (thus avoiding the monotony of a structure always repeating itself) and to provide more in-depth elaboration of the topics addressed.

If used in combination with learning objects, learning resources can be useful as further reference material for the subject in hand and to contextualise the topics addressed by the learning objects in a broader TVET sense, update content and complete courseware with institution-specific documents or bibliographies/Internet references.

## ***Assessment tools***

Assessment is strictly related and linked to course design and covers learning outcomes, tests and collaborative activities. The instructional designer needs to make sure that assessment tools are linked to the learning objectives against which student results are measured and needs to understand that technology can strongly influence the way students learn. These two factors should be considered when developing activities for assessment: it is crucial that appropriate and effective methods of assessment are used so as to ensure effective learning. Different types of individual and collective knowledge activation should be introduced in courseware to provide the

learners with the chance of going beyond passive knowledge and starting a reflection process. The instructional designer should develop assessment activities covering at least two knowledge areas: factual knowledge (learning and understanding facts and concepts) and procedural knowledge (translating the facts and concepts learned into action).

For each area, specific assessment tools should be set up to evaluate learner progress in terms of factual knowledge (Figure 5) and procedural knowledge (Figure 6), as follows:

- **Factual knowledge.** Checkpoint-like quizzes (multiple choice) can be set up to verify the degree of understanding of the topics addressed. The activity should be individual and self-correcting, as in this way the learner is given immediate feedback and can refer back to the learning resources if the quiz shows some gaps.

<p><b>3</b> (482)</p> <p>Marks: 1</p>	<p>Learning Content Management System (LCMS) groups together the features of CMS and LMS because:</p> <p>Answer: <input type="radio"/> a. it can manage teachers from different countries  <input type="radio"/> b. it manages content authoring and design, course delivery and management process  <input type="radio"/> c. it manages different kinds of network connections  <input type="radio"/> d. it manages time and costs of an e-learning course</p>
<p><b>4</b> (483)</p> <p>Marks: 1</p>	<p>The following are synchronous communication tools:</p> <p>Answer: <input type="radio"/> a. chat, videoconferences, virtual classrooms  <input type="radio"/> b. e-mail and Learning Objects  <input type="radio"/> c. chat, forums, e-mail  <input type="radio"/> d. virtual classrooms, mailing lists</p>
<p><b>5</b> (484)</p> <p>Marks: 1</p>	<p>An LMS platform has always the following major components:</p> <p>Answer: <input type="radio"/> a. Administrative Application and classes of students  <input type="radio"/> b. Dynamic Delivery Interface and Administrative Application  <input type="radio"/> c. Dynamic Delivery Interface and e-mail  <input type="radio"/> d. Repository and chat</p>

Figure 5. An example of a factual knowledge activity test)

- **Procedural knowledge.** For each major learning unit (such as the modules in the MEDA-ETE project), an outcome-based assessment can be included to complete the data collected with the tests, with the participants needing to activate newly acquired knowledge in order to perform the tasks requested by the outcome assessment.

**Module 7 - Delivery**

Wrap-up activity: Module Outcomes

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**Work Typology**  
Individual Work/Group Work

**Description**  
The outcome of this module consists in the creation of a set of investigation tools for choosing the platform which strikes the most acceptable balance between the needs of your course and the features of the real e-learning platforms available on the market.  
The production of this outcome is split in two parts:

1. you should elaborate a set of criteria (at least 3) for evaluating the quality of the platforms, a that you believe being fundamental for the choice of the LMS (es. Availability of technological working tools, costs, usability ...).
2. moving from the previous set of criteria, you should create an evaluation questionnaire that you can use to verify if an e-learning platform matches your needs. For every criterion should be developed at least 5 questions.

The result of this assignment is a Word document with both parts.

**Important notice**  
The outcome is not the choice of a platform. You are not requested, at this time, to decide which platform you will use to deliver your course. The outcome of the module is not making a choice, but developing the tools to support the process of making that choice. What is expected is a set of requirements and operational criteria to be used as an investigative tool to select the platform that best the needs of your course in a specific learning situation.

As example, you can take read the case of the European Project SIGOSSEE. Please remember that this is a very specific scenario, therefore you should not follow exactly the steps taken in their process of evaluating LMS platforms because their assumptions and choices may not apply in your situation.

**Evaluation grid**

- Evaluation grid for ICT/Tourism

Discuss the outcomes production with the other trainees and ask the tutor:

- ICT discussion forum
- Tourism discussion forum

Figure 6. An example of procedural knowledge activity (outcome)

Other collaborative and project-based activities should be included, thereby offering learners—in an experience-based competence development approach—the opportunity to contextualise knowledge in their own professional environment while taking advantage of the experience of other learners.

It is also necessary to stress the importance of participation in collaborative tasks and activities (such as forums, chats, etc) included in the learning pathway. Taking an active part in this kind of activity means taking part in a collective process of knowledge and community building, which represents important added value in terms of both the e-Learning experience and e-Learning sustainability.

As for evaluation, attention should be paid to formative evaluation, which is evaluation of course materials or learning environments with the objective of providing information for improvement during the design and implementation phases.

## 4.2. The e-Learning platform

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In most cases the choice of the delivery system for an online course is not a free choice, as all the decisions made during the analysis and design phases place strong constraints on such process. For example, the choice of using SCORM (shareable content object reference model) learning objects as courseware elements implicitly requires the use of a specific delivery system such as a SCORM-compliant LMS. In other cases, the choice of the system for delivering an e-Learning course among students is not necessarily pre-determined. Choosing less binding solutions, such as videos, flash animations or HTML pages, enables a course to be delivered without an LMS (for example, through a website and using physical media, for example, a CD-ROM). Even if they are not essential for implementing online training activities, LMSs are commonly used because, in addition to the function of course delivery, they also provide tools for managing students and communications between students, teachers and tutors.

From a didactic perspective, the choice of the e-Learning platform should also take into consideration the methodological approach chosen during the course design phase. If some specific activities (or type of interactions) are considered essential to the course, the e-Learning platform should be able to support them and provide learners and facilitators with the convenient tools.

The MEDA-ETE project uses Moodle, an open-source LMS whose philosophy relies on the same socio-constructivist approach used in designing the course. The stated philosophy of Moodle emphasises that learners (and not just teachers) can contribute to the educational experience in many ways.

## 4.3. Lessons learned, challenges met and corrective measures adopted

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**Production model.** Tailoring the courseware to a specific target profile should minimise the dropout rate and possibility of failure in reaching the expected learning results, but greater problems may arise when, as a result of turnovers and/or replacements among the participants to the course, the real learners differ (sometimes even strongly) from the defined target. In the MEDA-ETE project, this risk was mitigated by using a recursive production model, that is, by releasing learning modules one at a time and using student feedback on the preceding module to adjust the next module. This process may be expensive in terms of time and effort, but it ensures that courseware and target are always in tune and so minimises dropout rates and other problems.

**Learning resources.** Even though the Internet (and especially online repositories) provides a virtually unlimited offer of learning material, it is difficult to find resources or best practices

relevant for TVET. This does not imply that best practices or teaching materials for e-Learning in TVET do not exist: sometimes resources do not go beyond an institution's boundaries or simply nobody thought of making them publicly available. The proposed solution for the MEDA-ETE project was to use the learners as researchers of good practices and examples inside their own institutions and countries, asking them to define and categorise the examples found. The information collected in this way can be used in the future to create a shared database of information about TVET e-Learning experiences in the MEDA region.

**Course e-Learning platform.** If participants in a train-the-trainer course are more familiar with traditional face-to-face training in their professional life, developing an e-Learning course based on a collaborative approach could cause problems. Collective knowledge activation over an LMS platform as a way to improve the quality of teaching may be puzzling in environments where the face-to-face approach is still considered as the most efficient method for information exchange. The risk of a passive approach towards the platform is that the LMS becomes a mere digital library rather than a space for active collaboration.

In the MEDA-ETE project, the socio-constructivist approach at the beginning confused the participants, as they were not ready or sufficiently aware to harness the learning potential of collaborative work. This happened especially with collaborative activities such as forums and open discussions, where the learning outcome is the process itself rather than a tangible output (a document or specific feedback). Some participants were confused by the lack of a tangible result such as a (possibly individual) grade. This issue has been partially overcome by fostering group work and proposing project-based activities as much as possible.

The platform to choose for an effective and sharable online course should provide multilingual support, to enable course designers to create working areas for each language in the case of an international environment with more than one exchange language. The platform should guarantee the sustainability of each project in each country and, whenever possible, it should be consistent with the system of each country at a programming level. It should also envisage some tools for supporting the socio-constructivist approach. In the specific case of the MEDA-ETE course, the choice of Moodle was quite natural, given that the collaborative work and the socio-constructivist approach were also founding elements of the MEDA-ETE course. An additional positive element of Moodle is that open-source solutions are particularly welcome in learning environments and institutions where license costs play a large role in the choice of technological tools. The use of Moodle as a delivery platform would also offer learners useful training for their own e-Learning programme development, thus increasing the sustainability of the project.

## 5. DELIVERY

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This section will focus mainly on introducing and explaining how to identify the ideal delivery platform and how to adapt the platform to local needs, in particular, to specific activities, using LMSs, which are specific software packages designed for delivering and managing training activities on the web.

The results of an e-Learning course are strictly connected to and influenced by the quality of the support/assistance services available during course delivery. It is important to stress that the success of the training model depends on several technical and human factors, in particular, the hardware and software infrastructure, the LMS, the tools used for communication and the staff of tutors and experts.

Even though they are not essential for implementing online training activities (it is possible to implement courses by distributing materials and learning resources using websites and other web services), LMSs are usually used because, in addition to delivering the course, they also provide tools for managing both students and interactions between students, teachers and tutors.

This section describes the procedures that facilitate, support and monitor the tasks performed by the tutoring and expertise resources during course delivery. Indications on how to develop a tutoring plan and which kind of information should be included are also provided. In particular, the tasks and actions to be performed by the content e-tutor and process e-tutor are described, and also for professionals who are more associated with the regional dimension (team leader, content expert and e-tutor coordinator).

### 5.1. The choice of the delivery system

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The delivery of e-Learning courses needs suitable hardware and software infrastructures in order to adequately meet demands. The availability of each user (teacher, tutor and student) of technological equipment should be checked and, when appropriate, the possibility of dual use should be considered, that is, from an equipped room (obviously in a local network) and from home with access to the web. Access using this latter mode will be broadened with time because students are likely to eventually obtain a computer and access to the Internet.

LMSs are software applications providing specific environments for online courses, designed for delivering and managing training activities over the web. Countless LMSs are available on the market. Many of them also offer LCMS features suitable for creating the material to be delivered.

When choosing how to deliver an e-Learning course, the first decision is whether or not to use an LMS.<sup>9</sup> Table 3 below shows some of the advantages and disadvantages of the various possible solutions.

If it is decided to use an LMS, choosing a product from the many alternatives offered on the

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<sup>9</sup> Sometimes this is not a free choice, since the decisions taken in the design and development phase may greatly influence this process. See Section 3.2 on choosing the e-Learning platform.

market requires an evaluation process in order to identify the best tool. The course manager needs to be aware that the best solution is not to be found in an abstract way by comparing tools and features on vendor lists, rather the learning objectives and the methodological approach adopted for the course should be borne in mind.

Pedagogical models are countless, but all of them can be positioned on an axis joining two radically different approaches, one based on content delivery (content-oriented systems) and the other exploiting communication among people (process-oriented systems). The content-oriented approach places the emphasis on individual learning and therefore on free access to resources for all the students, whereas the process-oriented approach focuses on the interaction between people and stresses the relationship between students and tutors. The two different approaches to e-Learning require an accurate selection of different types of working tools. Choosing tools requires, besides an analysis of the learning requirements, certain knowledge of the characteristic features of the tools available for the selected platform.

Each platform implements these tools (or their operational variations) in different ways. An adequate knowledge of the different tools offered by the selected platform and their use is an essential precondition for their subsequent integration.

***What are the delivery phase goals?***

- *To identify the most suitable solution for delivering an e-learning course according to the adopted methodological approach*
- *To define the tutoring system for supporting students from the organisational, pedagogical and methodological points of view during the entire learning process*

The first upstream choice for the evaluation is between commercial and open-source LMSs. Both make available a basic set of tools that enable management of courses, users and tests. All the functionalities for each specific LMS can be performed in a more or less accurate and complete manner, thereby providing certain required features although perhaps not all of them. Obviously the choice should be made by taking into account management capabilities and user profiles. It would be wrong to assume that a tool characterised by a wide range of complex functions is the best choice. More complete solutions are inevitably characterised by greater complexity in management and use.

***What are the delivery phase outputs?***

- *E-learning platform (LMS) for delivering and managing training activities on the web identified and adapted according to activities and local needs.*
- *Tutoring plan describing the procedures to facilitate, support and monitor tutoring staff tasks defined and implemented.*

Solution	Advantages	Disadvantages
Website	<p>Simple management, not many software programs to be installed, low costs.</p> <p>Possibility of using heterogeneous resources (for example, files of different types and web pages), including multimedia resources (e.g. flash animations, audio or video files).</p>	<p>Lack of tools for protecting the didactic materials published.</p> <p>Lack of user management tools.</p> <p>Absence of collaboration tools, such as forums and chats.</p> <p><b>Note.</b> The disadvantages described above could be avoided by developing, for the web pages, scripts capable of providing these functions, although doing this would eventually transform the web site into a homemade LMS.</p>
Other web services (Yahoo Groups, Google Groups or other collaborative environments)	<p>No purchase, no management or maintenance charge, not many configuration requirements.</p> <p>Wide availability of functions, ranging from the publication of content (of any type) to the management of shared calendars, synchronous and asynchronous text and audio/video-based collaborative tools.</p>	<p>Limitation of the functions provided when one online service is chosen (for example, Google Groups), compared to no integration (or a poor one) when solutions provided by different sites are chosen.</p> <p>Lack of tools to manage users and check their progress and to accurately manage assessments.</p> <p>Solutions are not owned by the institution organising the training event so cannot be controlled.</p>
LMSs	<p>Tools capable of providing, in an integrated manner, complex functions in terms of management of just one or several training events (for example, the management of the activities of a whole structure with its different courses, students and teachers).</p> <p>Availability of tools to perform the majority of the functions required, ranging from implementation of content and assessment to the management of calendars and notices to support collaborative activities.</p>	<p>Can be expensive (if they are commercial) and difficult to manage. They require technical staff specialised in maintenance and assistance to users.</p> <p>Not always simple to use.</p> <p>Limited tools, especially when compared to the wide range of services present on the web (for example, blog, podcast, online repositories, etc).</p>

**Table 3. Advantages and disadvantages of delivery solutions**

Table 4 shows one possible classification of tools.

<b>Technology</b>	<b>Main model</b>	<b>Specific uses</b>
Email	Process-oriented	Asynchronous dialogue between individuals. Exchange of confidential communications.
Mailing list	Process-oriented	Dissemination of information to many users through the electronic mail, with open discussion among group members using the push modality (the message is delivered to the recipient).
Forum	Process-oriented	Focused discussion on specific topics. Asynchronous discussion that has to be stored for subsequent analysis. Dissemination of information to groups using the pull modality (the message must be found by the reader inside the forum).
Wiki	Content-oriented	Construction of hypertext pages on specific topics. Sharing of information and knowledge.
Chat	Process-oriented	Real time analysis of topics.
web pages	Content-oriented	Distribution of hypertext and multimedia training material (courseware, learning objects) and also traditional material (booklets, notes, etc). Publication of information, resources and news.
Shared synchronous resources	Process-oriented	Sharing of a teacher's or student's screen (for example, the teacher demonstrates how to do something) or sharing of software programs.
		Access to file systems and databanks. Uploading and downloading of documents (organised in folders, for example) created by teachers or students.
Simulation environment	Content-oriented and process-oriented	Two- or three-dimensional virtual environments, simulation environments or role-playing environments, both on the web but also for individual use (individual interaction with the software program) and collective use.
Organisation tools	Process-oriented	Support systems for teaching organisation (shared calendars, syllabi, frequently asked questions, information). Support systems for group processes (for managing projects, monitoring, decision making, polls, etc).
Streaming video and broadcasting	Content-oriented	Distribution of lessons, seminars, conferences, etc.
Audio conferencing	Process-oriented	Realtime interaction among people so as to explore interesting topics.
Audio/video conferencing	Process-oriented	Virtual class lesson or seminar discussions. Usually these tools integrate the possibility of sharing material (for example, PowerPoint slides) and of managing the class through requests to speak (raising a hand and passing the microphone).

**Table 4. Classification of delivery tools**

In the MEDA-ETE course, an evaluation checklist was proposed to the participants in order to run the evaluation process, based on the methodology developed by the Special Interest Group on Open Source Software in Education In Europe (SIGOSSEE, 2007).<sup>10</sup> Participants were asked to create a set of research tools for choosing the platform that struck the most acceptable balance between the needs of their course and the features of the real e-Learning platforms available on the market. Following a simplified version of the methodology, participants developed an evaluation toolset based on two steps:

1) Elaboration of a set of criteria for evaluating the quality of the platform. The criteria represent the essential features of an LMS (availability of technological working tools, costs, usability, etc) in accordance with the following fields identified by SIGOSSEE as important for evaluating the quality of an LMS:

- **Functional requirements.** Functional requirements are captured by a features questionnaire which enquires about the existence or quality of a comprehensive set of features. The questionnaire covers access and security features as well as permissions implementation, didactics, tests and assessment, authoring, course monitoring, communication and administration.
- **Maintainability.** Quality is also affected by the non-functional characteristics of an LMS and the system has to meet requirements that can support future changes. Three aspects mainly determine the quality needs deriving from future changes, namely, system architecture, compliance with standards and documentation. The architecture affects the extent to which a system is scalable, extensible and adaptable. Compliance with standards, which is important to avoid a dead-end for anybody's e-Learning efforts, means that content can be transferred and re-used easily. Finally, the quality of the available documentation is also crucial.
- **Usability.** The usability of a system is important as the system should be easy to use for all the people involved, whether tutors, administrators or learners. Since they are likely to need training, the LMS should also be easy to navigate.
- **Support quality.** Support is also crucial, since an open-source product does not come with a warranty. This part assesses the quality of the support available, since the operating institution will require effective support during day-to-day operations and in dealing with problems.
- **Total cost of ownership.** The quality concept reflects quality considerations that stem from the open-source licensing of the LMS. If the developer lacks enthusiasm or funding, the development process might terminate and any organisation employing their software will then face a severe problem. If the LMS has to be changed, switching costs will occur. Another important point for consideration is support, as organisations usually want to purchase continuous support and/or development of the product. These support costs should also be considered as part of the total cost of ownership. Under this headline, the team behind the system is screened.

2) Preparation of an evaluation questionnaire (as an evolution of the above set of criteria), to be used as a tool to verify which of the LMSs in the shortlist of platforms matches course needs (see Annex 5 . LMS Evaluation Questionnaire, as developed by SIGOSSEE).

## 5.2. Tutoring system

In online training the tutor plays a central role in the learning process, unlike in traditional classroom training contexts, where the role of the tutor is secondary to the function of the teacher (in many cases his/her presence is not envisaged). In online training there is almost a complete reversal of perspective, with a clear displacement of the role of the teacher towards that of the tutor. In online teaching—consistent with the constructivist teaching models and the modes of operation of technologies—the student is more autonomous in managing his/her learning process; hence, the functions of the teacher substantially converge on those of the tutor.

<sup>10</sup> SIGOSSEE was established to investigate the advantages of open-source software and the open content concept in education. It gives many indications on how to make choices. See <http://www.ossite.org/>.

When the learning pathway for an e-Learning course is particularly rich and stimulating for participants in terms of e-content, teaching materials, reference tips and tools for sharing and cooperating—either bottom-up (from participant to tutor) or peer-to-peer (between participants)—it presents great potential for in-depth learning and specialisation. However, it also implies a group of participants having some background expertise and experience in e-Learning (enabling them to quickly choose the most functional tool or resource that best meets their needs) and a strong tutoring system, both in terms of the effort required by tutors in the platform and the quality of the methodology offered.

The plurality of sources and resources offered, linked to an experimental and dynamic framework, represents an important opportunity, but also implies the following requirements:

- Giving from the beginning specific information and indications to the participants on how to use the tools and how content is structured, thereby avoiding time-wasting by participants trying to find their way and reducing the risk of losing their attention and enthusiasm.
- Informing the participants from the beginning about the role of each specific expert involved in tutoring, his/her tasks and availability in terms of working days and times, so that participants know when they can contact the e-tutors and to which expert to address their questions.
- Foreseeing a strong allocation to tutoring to guarantee constant and frequent tutoring support in the platform throughout the entire process and monitoring of participants on both the individual and group dimensions. Because of the richness of the context, more attention can be focused on the individual dimension than on the group dimension, which should also be considered and interpreted. Note that this causes difficulties in performing process-oriented (learning-supported) tutoring, as one is involved in collecting mainly quantitative instead of qualitative data. What counts is not so much detecting, on module completion, how many entries have been made in a forum dedicated to a given topic, but rather the number of entries in the forum after one week and their relevance and scope, as this would enable adequate follow-up measures to be put in place in the event of insufficient participation.

The tutoring plan, which should be defined before delivery of the course commences, should introduce the procedures that will facilitate, support and monitor the tasks performed by the tutoring and expertise resources, in particular the following:

- Defining the professional figures needed and their roles and related activities on the basis of learning pathway architecture and of the adopted learning methodologies (self-learning and collaborative learning).
- Associating each professional figure (in terms of skills) with one or more available staff resources.
- Providing indications and tools to the tutoring staff aiming at monitoring participants and supporting them in managing and assessing the course.
- Describing the communication process from different points of view (participants, e-tutors, e-tutor coordinator and content expert).
- Defining tutor and expert efforts in terms of person days for responding to the organisation of the tutoring system.

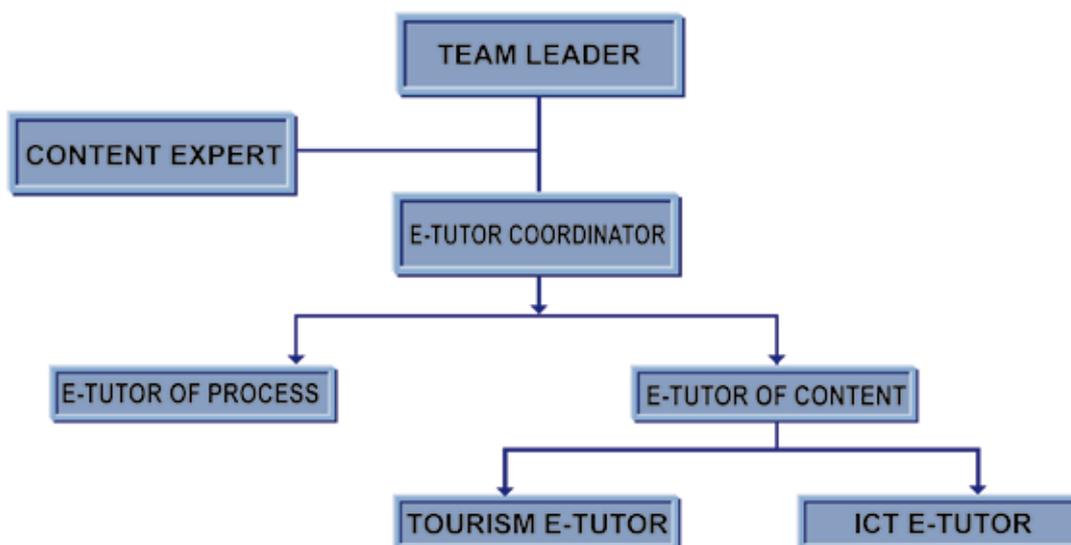
### ***Professional figures and activities***

The e-tutor, as described by Zane Berge (Berge, 2006), not only has educational functions, but also other more technical, or socio-relational functions; more specifically, as reiterated in subsequent studies, the e-tutor plays the following roles:

- **Technical**, ensuring the correct functioning of the system being used and helping participants to solve any technical problems.
- **Pedagogical**, providing intellectual stimuli, defining topics that will be the object of discussions or activities and offering support to understand contents.
- **Managerial**, intervening in procedures, organisation and work planning, for example, in calendars, deadlines, etc.

- **Social**, promoting the creation of a coherent environment, based on mutual trust within collaborative or discussion groups, observing and monitoring interpersonal dynamics and resolving conflicts and misunderstandings.

Before starting course delivery it is important to identify the e-tutoring profiles that are necessary to perform the tasks and actions corresponding to each role. In the MEDA-ETE project, to cover the functions mentioned above, the two main roles were identified as the process e-tutor and the content e-tutor, but also included a team leader, a content expert and an e-tutor coordinator (Figure 7).



*Figure 7. Professional figures involved in the MEDA-ETE tutoring process*

Starting from the areas of action it is possible to define the tasks and actions that can be assigned to each e-tutor profile. Figure 8, for illustrative purposes, lists the activities, tools and output of process and content e-tutors for the MEDA-ETE project.

	AREA OF ACTION	ACTIVITIES	TOOLS	OUTPUT
E-TUTOR OF PROCESS	<b>Pedagogical, social, organizational function</b>	<ul style="list-style-type: none"> <li>Monitoring the learning process of individual participants and the participants' group, via the monitoring of platform access and the analysis of carried-out activities, supported by the forms prepared by the e-Tutor Coordinator</li> <li>Supporting – from an organizational perspective – the learning process of individual participants' and participants' group, by checking and suggesting a time schedule or the proper method to get the results</li> <li>Supporting – from an emotional perspective – the learning process of individual participants and participants' group, by pushing less active participants and facilitating group dynamics</li> </ul>	<ul style="list-style-type: none"> <li>Moodle platform and its tools to read and support participants' performance</li> <li>Guidelines</li> <li>Forms to help the monitoring of the learning process</li> </ul>	<ul style="list-style-type: none"> <li>Participation to the virtual meetings</li> <li>Replies into forums and activities to support individual participants and groups' activities</li> <li>Filled forms</li> </ul>
E-TUTOR OF CONTENT	<b>Technical, social function</b>	<ul style="list-style-type: none"> <li>To get back to the individual student and/or to the group with quality and timely replies to their requests or questions in order to offer methodological support to the trainees</li> <li>To evaluate the outcomes of each module and to provide participants with quality and timely feedbacks</li> </ul>	<ul style="list-style-type: none"> <li>Moodle platform and its tools to support participants' performance</li> <li>Guidelines</li> <li>Forms to help the monitoring of the learning pathway</li> </ul>	<ul style="list-style-type: none"> <li>Participation to the virtual meeting</li> <li>Replies into forums and activities to support individual participants and groups' activities</li> <li>Analysis of outcomes and projects by participants</li> <li>Filled forms</li> </ul>

*Figure 8. MEDA-ETE process and content e-tutor activities, tools and output*

When the project is particularly complex and there are several dimensions involved, other professional figures might be necessary to coordinate the project and/or to give specific support from the didactic/methodological point of view to both participants and e-tutors. In the MEDA-ETE e-Learning programme, for example, three additional professional figures were introduced due to the complexity of the project and its regional dimension (Figure 7 above): a team leader, a content expert and an e-tutor coordinator.

Figure 9 describes the activities carried out by the team leader, the content expert and the e-tutor coordinator, the tools used and the output performed.

ROLE	ACTIVITIES	TOOLS	OUTPUT
<b>TEAM LEADER</b>	<ul style="list-style-type: none"> <li>Defining the schedules and deadlines</li> <li>Suggesting group work building</li> <li>Suggesting how to do the activities</li> <li>Identifying the most appropriate role of the involved experts and tutors within each working group</li> </ul>	<p>Moodle platform tools to verify how the learning pathway and the collaborative activities go on</p> <p>The forms filled in by e-tutors</p> <p>Exchange of communication among e-Tutor coordinator, e-Tutors and Content Expert</p>	<ul style="list-style-type: none"> <li>Collection and analysis of the information elaborated by the Content Expert and the e-tutors Coordinator and integration into the progress report</li> </ul>
<b>CONTENT EXPERT</b>	<ul style="list-style-type: none"> <li>Monitoring individual participants performance, checking that tests are completed in terms of quantity (results) and quality (output of the contents' learning);</li> <li>Supporting as the work progresses the learning pathways of individual participants and participants' group, with timely and specific actions agreed and developed in close cooperation with the e-Tutor coordinator</li> <li>Promoting support, in-depth and specialised activities and initiatives with respect to themes or items that participants have more difficulties in understanding;</li> <li>Promoting support, in depth or additional specialised activities following indications of the e-Tutor Coordinator</li> </ul>	<p>Moodle platform and its tools to support participants' performance and to monitor the whole process</p>	<ul style="list-style-type: none"> <li>If virtual meeting consists in an introduction to the module, few days before the event, the Senior Expert will prepare the topic which the virtual meeting will refer to, so the face-to-face appointment will be focused on the discussion of questions and suggestions about the topic. The topic - together with the management and the participation to the virtual meeting - is the outcome.</li> <li>Replies into forums and activities to support individual participants</li> <li>Suggestions of activities and resources to support participants' group</li> <li>Activity reports to give evidence of the participants' performance of each country.</li> <li>Final Report describing the learning pathway of the groups, to underline the progress and the critical points referring to each country and the participants' group</li> </ul>
<b>TUTOR COORDINATOR</b>	<ul style="list-style-type: none"> <li>Defining methodological and communication strategies for the tutors' group, with respect to the individual participant and the participants' group</li> <li>Setting up forms for pathway monitoring for each participant and for the participants' group, and analysing results in progress, in order to re-orient the pathway if needed</li> <li>Constant monitoring of platform areas to check on trainees' participation and posting. Stimulate the reaction, if needed, of content e-tutors or of experts</li> <li>Assessing the effectiveness and efficiency of the tutoring system and the learning process as the work progresses, by proposing alternatives and solutions on less functional elements</li> <li>Promoting initiatives for collaborative learning, with the support and involvement of the Content Expert</li> </ul>	<p>Moodle platform tools and e-mail:</p> <ul style="list-style-type: none"> <li>to support e-Tutors in using forms and guidelines, defining together the ways to apply them</li> <li>to monitor activities and forums</li> <li>to answer and share participants' requests with e-tutor of process/content and Content Expert</li> <li>to suggest participants' and group activities to underline contents</li> </ul> <p>The forms filled in by e-tutors</p>	<ul style="list-style-type: none"> <li>Guidelines to follow the learning pathway of individual participants and of participants' group</li> <li>Forms to help e-tutors in monitoring the learning pathway</li> <li>Final Report about the different dimensions of the group of participants to underline the progress and the critical point of FR/EN groups and of the participants in general in order to understand the improvements, the achievements and the challenges met throughout the learning process</li> </ul>

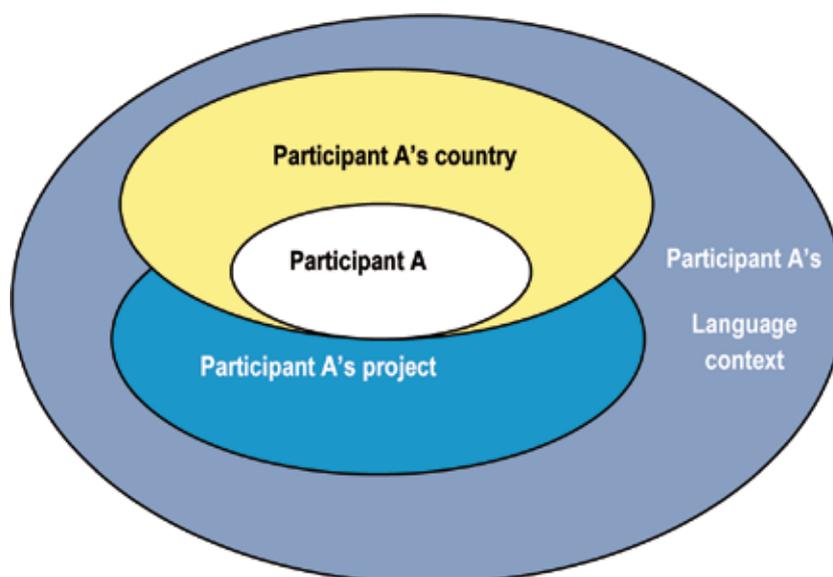
Figure 9. MEDA-ETE team leader, content expert and e-tutor coordinator activities, tools and output

## ***Tutoring support and dimensions***

In defining the tutoring plan, attention must be paid to the complexity of the project and to the different levels or dimensions involved. In the MEDA-ETE online course, for example, we could identify four different levels/dimensions (Figure 10):

- Regional (several countries participating in the same project);
- Country or national (participants from the same country participating in the same project);
- Sub-regional (related to the choice of using French and English as project languages and splitting the region into francophone and anglophone areas);
- Individual (the individual participants taking part in the project).

These dimensions are not always visible or formally recognised and their boundaries can also be blurred. However, we believe that it is important to take into consideration the connections and relationships between these different dimensions in order to understand the dynamics that develop among participants and groups of participants. In particular, for the tutoring process, it is important to understand how these dynamics may impact on the participants' learning process.



**Figure 10. The different dimensions of the MEDA-ETE e-Learning course**

The different dimensions/levels can be further described as follows:

- 1. Individual level.** The individual participant with respect to modules and platform opportunities.
- 2. Project/group level.** Participants working in groups to prepare collaborative activities (that is, the module outcomes):
  - For those forming work groups with other participants, the project-oriented collaborative dynamics should be assimilated, analysed and fostered (specific/ theme-based collaborative learning).
  - If a course is developed by only one participant, sharing and contacts with other participants should be promoted in order to facilitate cross-the-board or transversal collaborative dynamics (in line with the collaborative learning approach of the course).
- 3. Geographic/country level.** Interaction between participants from the same country of origin and also attributing a wider meaning to national communities.
- 4. Linguistic/sub-regional group level.** Interaction between the individual participants with respect to the entire group representing each of the two linguistic areas (francophone and anglophone) in order to ensure cross-interpretation in the learning pathway followed by a given participant.

**5. Regional level.** The interaction of the individual participant or group of participants within the overall regional community.

The levels have different meanings. Levels 1 and 2 refer to the individual and group dimensions and participants need to understand this as the context in which they operate and are assessed (as individuals and as groups on the basis of products developed jointly). Participants should be given indications regarding the macro-criteria used to monitor their learning progress. These two levels are directly monitored by the process and content e-tutors, while the e-tutor coordinator and the senior expert will carry out a more general analysis in order to detect specific problem areas which might have escaped scrutiny. Levels 3, 4 and 5 refer to dimensions that are mostly visible and monitored at a higher coordination level (team leader, e-tutor coordinator and content expert). The analysis of these dimensions is useful for a broader interpretation of phenomena and dynamics within pathways and for determining possible intervention lines.

Other points to pay attention to are the use of virtual meetings and chats as important in promoting exchanges, as live interaction can motivate and involve participants more than offline activities. Thus:

- **Virtual meetings** can be used for exchanges and discussion on materials that participants have already seen/studied. To conduct a virtual meeting, the following procedure is suggested: the tutor sends a message or an email at least 10 days before the proposed date of the virtual meeting with indication of the topics to be discussed and the material that should be read beforehand; a few days before the meeting the tutor reminds participants of the event and asks them to conclude the reading of the material; and finally, the content expert leads discussion at the virtual meeting by clarifying doubts and questions concerning the material proposed for reading/studying.
- **Regular theme-based chats** can be organised (for example halfway through an activity) with the participation of those who have already read/studied content. Chats could be managed using the question/answer mode or by presenting a case study to be discussed at the session, thus stimulating ideas and inputs on how students could approach that specific case.

Moving from the learning pathway as a whole to the individual modules, tutors and coordinators have specific actions to accomplish and—on the indications of the e-tutor coordinator—forms should be filled in to monitor progress (both as individual and as groups). Participants will thus be aware that there is someone supporting them in their learning pathway, playing a scaffolding role and guiding and motivating them and responding to their requests. This means that the tutor and the coordination staff need to follow each phase of the learning pathway in order to help participants and guide them in their work. In practice, for each module, e-tutors should check how individual participants start out, monitor the course platform constantly and help solve possible questions/problems about the organisation, contents and methodology.

More specifically, for each module, the e-tutors should monitor, at the individual level, the fact that participants understand the content of the units and that they carry out the activities. At the group level, e-tutors should ensure that participation in the forum and the type of contribution to collaborative activities (passive/active contribution) is meaningful.

As an example, Table 5 was drawn up for the MEDA-ETE project to provide tools and a checklist to support e-tutors in their work.

Schedule	E-tutoring staff
<b>Two days before the date of submission</b>	Send mail/message to remind of sending and invite to read the module guide
<b>Two days before the date of submission</b>	Send mail/message to see whether the reading of the module guide has been positive/interesting
<b>Every two days</b>	Enter the platform to see who has entered
<b>Every 4 days</b>	Enter the platform to see who has entered and what they have done
<b>Every week</b>	<ul style="list-style-type: none"> <li>• Send mail/message to those who have not entered for more than 8 days. It is possible to cooperate with the local coordinator/facilitator to find the best solution to contacting the participants</li> <li>• Send mail/message to those who have stayed with the same activity for long time (more than 5 hits)</li> <li>• Check progress of the assigned tasks</li> </ul>
<b>At the end of every month</b>	Fill in the forms to verify individual and group jobs shared by countries (how many participants gave their contribution in forums and how many delivered activities and outcomes)

*Table 5. Example action plan*

With reference to each learning unit/activity, it is important to remember that the kind of support provided by e-tutoring staff will be different depending on the individual or collaborative dimension agreed with the e-tutor coordinator and the content expert (Table 6).

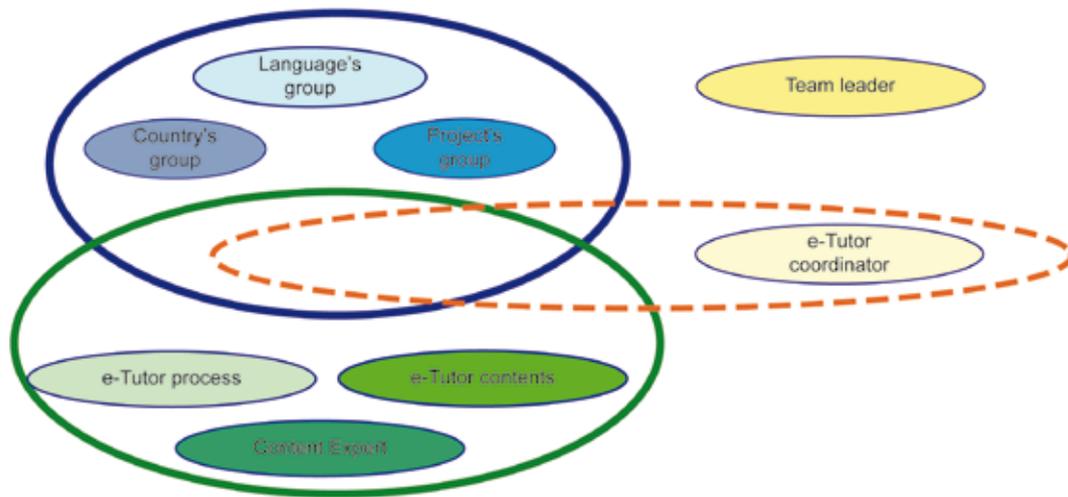
	Process e-tutors	E-tutor coordinator / content expert / content e-tutors
<b>Individual dimension</b>	Monitor learning	Answer questions about content. Suggest in-depth tutorials.
<b>Collaborative dimension</b>	Foster the collaborative approach Facilitate group dynamics	Promote and manage relevant theme-based discussions in order to foster processing and fixing of learning objects.

*Table 6. Individual and collaborative dimensions*

### ***The communication process***

The communication process can take several directions and can have different perspectives, depending on the actor at the centre of this process: the participant, the group, the tutor, the expert, etc. We should focus on the participants since the view of the communication process from the perspective of the participant is the most central one.

Figure 11 illustrates the dynamics of the communication process from the participant's perspective.



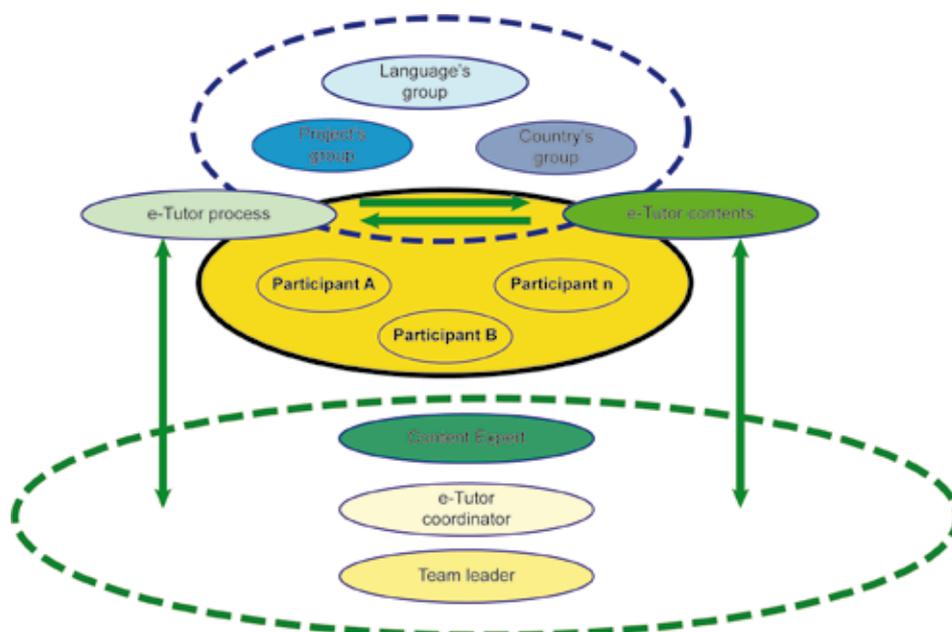
**Figure 11. The communication process from the participant's perspective**

Each participant is at the centre of a communication system where he/she has two main references: the group of colleagues (the other participants) and the group of e-tutors (process e-tutor, content e-tutor and content expert).

Participants could also communicate with the e-tutor coordinator. However, we believe that it would be much more meaningful and preferable for participants to communicate with the content/process e-tutors, leaving the e-tutor coordinator to monitor work-in-progress and the communications system. A direct line between participants and the team leader is not very common or useful, even if it is possible.

The communication tools that should be available to participants include forums to post, read and answer messages submitted by other participants or tutors and email and instant messaging.

Figure 12 represents the communication process from the process/content e-tutor point of view. Each e-tutor is at the centre of a very complex communication system where he/she has to first of all bear in mind the individual participants, then the groups of participants, while being involved in continued interchanges with the other process/content e-tutors and also the content expert, the e-tutor coordinator and the team leader.

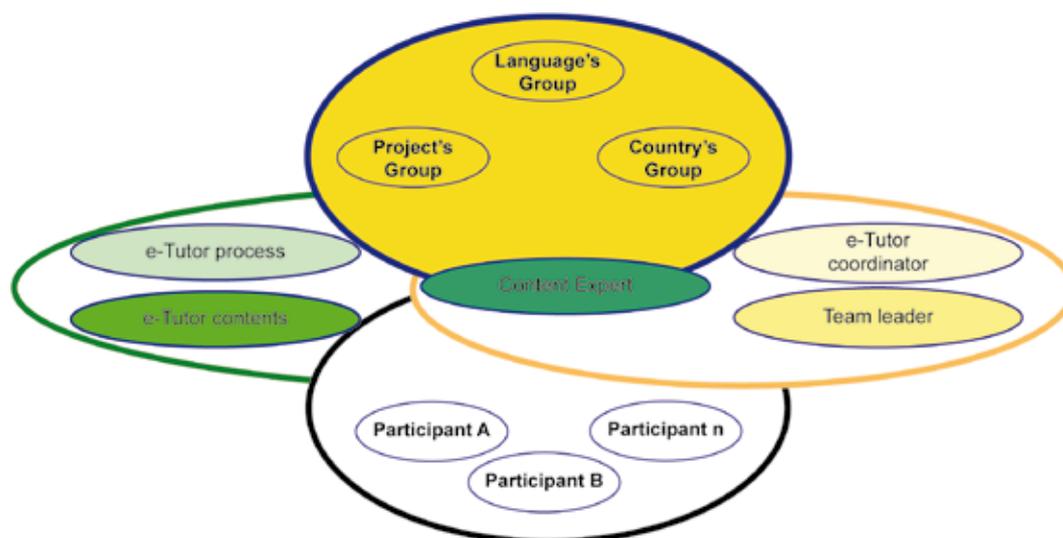


**Figure 12. The communication process from the process and content e-tutor perspective**

The e-tutor uses forums, emails and messaging to communicate with participants. Contact is also made as follows:

- With the content expert for issues concerning content or methodology and problems connected to the project.
- With the e-tutor coordinator for dispatch of forms, activity suggestions and information about group dynamics and for clarifications/support about the methodology
- With the team leader about general management.

Figure 13 shows the communication process from the content expert's perspective. The content expert is a strategic figure who undertakes intensive communication interchanges with participants, groups of participants and several components of the e-tutoring staff. The content expert has an overview of the groups of participants even if he/she directly works with individual participants. He/she is the link between the participants and the process e-tutor on one hand, and between the participants and the e-tutor coordinator and the team leader on the other.



**Figure 13. The communication process from the content expert's perspective**

In addition to forums, email and messaging, a specific teacher's forum is a suitable place to share materials and suggestions and to post plans and information on progress.

### ***The participant's point of view***

In the case of individual personal difficulties at the organisational, management or emotional level the participant communicates, via a platform message, with the process e-tutor, explaining his/her difficulty and receiving an answer in a private message through the platform within three days. If the difficulties concern the content of the course and the participant does not want to share his/her concerns with the other participants, then the participant can communicate, via a platform message, with the content e-tutor, explaining his/her difficulty and receiving an answer in a private message through the platform within three days. In the case of difficulties at the organisational, management or emotional level referring to the group, the participant posts a platform message in a general issues forum, receiving an answer from the e-tutor coordinator through the same forum within three days. If the difficulties concern the content of the course and possibly refer to the whole group, the participant posts the query in a specific forum (according to the theme) and the content e-tutor will provide an answer within three days.

### ***The process and content e-tutors' point of view***

#### ***Process e-tutor:***

- Receives, by private message, the remarks of participants concerning organisational, management, emotional matters, answers them in the same modality and informs the e-tutor coordinator on the main difficulties arising (via the specific form). He/she can also contact the

- e-tutor coordinator if the matter is more general or ask for the content expert's intervention.
- Monitors thematic forums and facilitates complex dynamics, supporting the content e-tutor in replying to queries.
- Provides the e-tutor coordinator with the information about the progress of each participant and the groups (via the specific form).

### ***Content e-tutor***

- Receives, by private message, the remarks of participants about content matters, answers them in the same modality and informs the e-tutor coordinator on the main difficulties arising (via the specific form). He/she can also contact the e-tutor coordinator if the matter is more general or ask for the content expert's intervention.
- Checks the possibility of opening a specific forum for discussion and exchange of ideas if he/she thinks that the matter may be useful for the whole group.
- Monitors the thematic forum and replies to queries.
- Contacts the content expert for unsolved issues or cross-issues.
- Provides the e-tutor coordinator with information about the progress of participants and groups (via the specific form).

### ***The content expert's point of view***

- Receives, by private message, content-related remarks sent by content e-tutors and/or by the participants.
- Receives queries for intervention or contribution by the e-tutor coordinator if certain elements have not been covered.
- Monitors thematic forums and supports the content e-tutor in answering queries.
- Participates in monitoring the progress of the course.
- Communicates with the e-tutor coordinator and the team leader in order to identify new lines of intervention.

### ***The e-tutor coordinator point of view***

- Receives remarks by course participants concerning organisational, management and emotional issues and answers in the forum either directly or involving the most suitable experts.
- Checks the monitoring of course progress through specific forms sent by process and content e-tutors and takes part directly in the forums.
- Checks the dynamics of the group in the thematic forums and makes suggestions if needed.
- Communicates with the senior expert and the team leader in order to identify new lines of intervention.

## ***Providing online support to individuals and groups***

It is important to support individuals to ensure that they do not feel abandoned or drop out of the course and so that they can concentrate on content and learning objects instead of interacting with the tutor. The following are some recommendations that should be kept in mind during course delivery:

- It is important that e-tutoring staff show their concern by contacting students who have not entered the platform for a few days, in order to give learners the feeling that someone is close to them in the process, not to check but to monitor their attendance. The ultimate aim is to guarantee attendance to the course.
- It is also important to ensure the regular presence of content e-tutors in the forum in order to reply to posts when their answer is clearly and directly required (as in posts entitled "Dear tutor ...") and also to promote discussion. Learners must have a clear idea when they will be able to contact the tutor or the time within which they can expect an answer. It could be useful, for example, to publish on the platform a chart indicating tutor roles and availability. Figure 14 shows an example from the regional MEDA-ETE e-Learning programme. The aim is to guarantee motivation, to ensure support if there are real needs and to make attendance more meaningful.

	Role	Availability
Senior Expert	The Senior Expert will support you and e-tutors of process/contents during the learning process, following the outcomes' production, giving suggestions and proposing activities.	He will check the platform for example once every two days. It will be possible to keep contact with him by email or through the platform.
e-tutors of process	The e-tutors of process will support your learning process by monitoring, explaining, suggesting strategies to solve management, technical or personal problems (for example, something which prevented you from respecting the timetable).	He will check the platform once every two days. Participants will contact him by e-mail or messages every Monday afternoon 16-17 and Friday morning 10-11.
e-tutors of contents	The e-tutors of contents will support your learning process by explaining and suggesting strategies to solve contents problems (for example, something not enough clear, something you would like to get more in deep).	They will check the platform once every two days. Participants will contact him by e-mail or messages every Monday afternoon 16-17 and Friday morning 10-11.
e-tutors' coordinator	The e-tutors' coordinator will take care of the tutoring system in general and of the proper and effective support in learning process. She will attend directly - for example - in forums, chat or virtual meeting, even if she would not be present in face to face meeting.	She will check the platform every day, except on Saturday. She will be available on platform every Thursday afternoon (Italy time) from 17.00 to 19.00, for chat or requests from participants or e-tutors.
team leader	The team leader has a coordination role in the project, so she will overview the course, without attending directly - for example - forums, chat or virtual meeting. She will also take part at the face to face meeting.	She will check the platform every three days.

**Figure 14. Example chart indicating tutor availability**

- Content e-tutors should comment not only on posts in the forum but also on assignments or activities, enabling learners to understand whether their efforts are enough and where they need to improve, with the idea being to support the learning process and ensure that goals are kept in sight.
- It is important that the process e-tutor (even though not directly involved) also provides information by suggesting resources and proposing more general activities in order to support learners in giving meaning to the process. This supports motivation, learning processes and achievement of goals.
- The assessment phase (assignments and outcomes) should underline not only the results obtained by the learners but also the strengths and weaknesses of their performance. In particular, comments for assignments are useful to support participants in delivering their outcomes, because these reveal what learners have understood and/or what has to be reviewed or adjusted. The assessment needs to be formative, because the outcome of each new module will be improved by comments on the previous modules. It is thus important that the assessment includes suggestions on what learners have done correctly, what kind of mistakes they made and how they should be corrected—again with the aim of motivation, learning processes and achievement of goals.

It is also necessary to promote the group dimension in order to avoid learners experiencing e-Learning as an individual process, thereby ignoring the advantages of exchanging and building knowledge together with other people, which is the principal dimension of the e-Learning process.

The first step is to start reading the messages posted by participants and to support them in writing more significant and interesting posts (if you know that other people read your posts, you will write something more interesting or you will write in a better way).

- First of all, it is fundamental that content e-tutors enter in the forum and reply to posts, not only when specifically addressed (“Dear tutor ...”), but also to show that they read the posts, adding a comment or expressing their opinion or, if necessary, even correcting what has

been written. This behavior of the e-tutor promotes a similar approach in the participants, enhancing reading of and responses to other posts. Even if the tutor only writes “I agree”, this encourages the participant because they feel it is nice to get feedback.

- As a second step, it is useful for content e-tutors to summarise discussions, underlining the most relevant issues pointed out by each learner. This is particularly effective if discussions are not so rich, with few and not very relevant posts. This summary is important for the learning process, for learner motivation and for ensuring more rapid and active participation in the subsequent modules.
  - **Learning process.** The e-tutor summary underlines the most important issues, giving evidence of or reinforcing secondary themes and connecting them to a context that participants might not have taken into consideration. Usually the posts are very specific or deal with a specific aspect of an issue. The risk for the learners in such cases is to lose the links among the different arguments.
  - **Motivation.** The summary will be read with great curiosity by learners who wrote something to see if their ideas have been appreciated or understood. Participants who have not contributed comments will be encouraged to think about contributions they could make (because they have to say something but cannot repeat what their colleagues say).
  - **More rapid and active participation in the future.** In new collaborative activities, the tardier participants are usually more stimulated to contribute more quickly in order not to find themselves in the same situation as before, that is, having to find something intelligent and novel to say. It is absolutely necessary that content e-tutors, especially in a long-term learning process, point to links with previous modules. Learners will thus be able to create connections and reinforce links with content analysed previously.

### ***National coordinators as mediating and support staff***

Along with coordination and tutoring staff, in long-term transitional projects like the MEDA-ETE project it is important to provide for persons to support both the project and its participants in their respective institutions. These support staff facilitate project implementation and their support contributes to ownership and the commitment of the institutions involved.

It is necessary to single out participants in the course in each area characterised by specific features (described below) to act as on-the-spot coordinators who facilitate communication, gather information on difficulties or problems emerging during activities performed online and ensure fluid organisation of face-to-face meetings.

The function of national coordinators in the teacher training institutions is to support the project staff, because their better command of the language and their knowledge of the area and sociocultural reality can provide a significant contribution in terms of the organisation of face-to-face meetings, learning spaces and equipment required for the classes, not to mention the provision of support for project monitoring (such as providing information on particular situations affecting participants or institutions, including pressures, real possibilities of commitment, changes within management entailing different distributions of time and responsibilities).

At the same time, the national coordinator has a twofold function with respect to participants. On the one hand, the national coordinator acts as a spokesperson articulating requirements, requests and comments shared by the participants (difficulties or suggestions related to content, vocabulary, language, applicability of the topics covered and difficulties encountered in doing practical exercises). These issues can also be introduced—and usually are—in forums or personal messages by individual participants in the course. The national coordinator, however, has a more direct opportunity to observe problems that emerge constantly at the territorial group level that the coordinating and tutoring staff might not recognise. The advantage of informing the national coordinator is that the tutoring staff can feel they have a partner to whom explanations and materials can be sent for analysis in a small group and this ensures better understanding

of a problem and also a more effective and efficient solution. On the other hand, the national coordinator is also a reference point for the group for the information and materials available and directly shared and analysed by the coordinating and tutoring staff, who, as a result, have additional information at hand to help those encountering difficulties at the standard level of the course.

National coordinators are not substitutes for the coordinating and tutoring staff, but they are likely to facilitate communication, promote exchanges and integrate and motivate participation more than tutors, as they are often personally acquainted with the work settings. The national coordinator shares a learning experience with the participants, promotes communication of difficulties and encourages a willingness to interact. The national coordinator is not perceived as someone from outside but as a person belonging to the group.

In order for these different functions to be performed successfully, the national coordinator needs to have specific professional qualifications for the position as well as certain personality features. From the professional point of view, it is important for national coordinators to play strategic roles in their organisations and to have extensive knowledge of the work setting in order to ensure a full perspective. Above all, in courses such as the MEDA-ETE course, where cultural and methodology changes as well as modifications in consolidated procedures are proposed, it is necessary that national coordinators are experienced and competent and that they share the cultural background of participants and this will facilitate discussions and interaction. It is also essential that candidates for the position have upper-intermediate competences regarding technologies and equipment because a major part of their coordinating activity will be online or via email or chat and they will need to be credible in providing first-line support in the use of tools and methods and in responding to the questions of colleagues.

Finally, it is vital that these persons are flexible in terms of cooperation. They should also have a strong interest in e-Learning topics and methods. In accordance with the hypothesis that e-Learning is a method and not a project with content it is essential that national coordinators are really involved in the e-Learning course topics.

### **5.3. Delivery process: the relevance of face-to-face sessions**

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Having defined the exact audience (composition of the participants and their partitioning in terms of professional profiles and experiences), designed and structured the courseware and its contents, and implemented the LMS and the tutoring plan, the deployment phase can be implemented using a country-based approach.

In an e-Learning course based on a blended learning approach, face-to-face sessions are considered extremely important for two main reasons: firstly to create the basis for the learning process and secondly to consolidate acquired knowledge/skills and the CoP. They also contribute to increase the motivation of participants and counteract dropout tendencies. Classroom sessions are mainly devoted to creating and enhancing relationships and exchanges while didactic materials represent a means for transferring content.

The face-to-face approach should be used in at least three phases of the learning process: at start-up, in the intermediate phase and in the training closure phase. In an e-Learning course based on online learning and face-to-face sessions, the delivery model can be presented as described in Table 7.

	<b>Aims</b>	<b>Method/tools</b>	<b>Timing/duration (est. no. of days)</b>
<b>Start-up meeting (classroom)</b>	<ul style="list-style-type: none"> <li>To introduce participants to team members (tutors, experts, etc) and to enhance relationships</li> <li>To describe and explain the courseware structure. Each didactic unit is examined in order to highlight prerequisites, scopes and benefits of completion. Portions relevant for each type of audience (for example, managers, developers, etc) are clearly put at the forefront.</li> <li>To put in place an adequate mapping between content and context. This has to be intended not as a localisation of content to a specific context, but rather as the definition of the most adequate learning path to be followed in terms of: what to see, what to skip, what to achieve, what to verify and how to identify feasible solutions/ fallbacks depending on own context and in what time-frame.</li> <li>To acquire hands-on practice in learning platform usage and related support procedures.</li> </ul>	<ul style="list-style-type: none"> <li>Introduction of the participants.</li> <li>Introduction of the tutors/experts, of the training programme and of the required level of engagement.</li> <li>Listening to the specific needs of each participant.</li> <li>Description of the course syllabus.</li> <li>Distribution of materials (format with the availability of the tutors/experts, training guide, platform guide, etc).</li> </ul>	At the beginning of the course. (2/3 days)
<b>Self-paced and collaborative learning (online)</b>	<ul style="list-style-type: none"> <li>To acquire new knowledge, to perform individual and collective tasks in order to activate passive knowledge connected to the topic and to start a reflection process.</li> </ul>	Interactive learning object. Alternative reading material. Interactive activities.	Throughout the course.
<b>Intermediate assessment (online)</b>	<ul style="list-style-type: none"> <li>To verify the knowledge acquired by each trainee (factual knowledge).</li> <li>To demonstrate the capacity of the participant to integrate his/her knowledge in action (procedural knowledge).</li> <li>To keep track and synthesise the achievements of the participants.</li> </ul>	Individual assessment test. Outcome-based assessment.	Individual self-assessment test at the end of each unit of each module. Outcome-based assessment at the end of each module.
<b>Intermediate meeting (classroom)</b>	<ul style="list-style-type: none"> <li>To verify the experiences of the participants during the first part of learning (problems, difficulties, opportunities, issues to be strengthened).</li> <li>To assess the module outcomes and the learning process.</li> <li>To enhance the localisation of the knowledge acquired to the specific context of the participants.</li> <li>To introduce the second part of the course.</li> </ul>	<ul style="list-style-type: none"> <li>Working group session.</li> <li>Practical exercise.</li> <li>Listening to the specific needs of each participant.</li> <li>Presentation by the participants of the work done during the first part of learning.</li> </ul>	Halfway through the course. Depending on the duration of the course it might be necessary to organise more than one face-to-face session. When the project involves more countries it would also be necessary to hold regional meetings. (2/3 days)
<b>Final assessment (online)</b>	To contextualise the knowledge and develop it in a specific professionally relevant context. Besides the self-assessment tests and outcome-based assessments, trainees could be required as a final assessment synthesis to produce an e-Learning project (for example to design their own e-Learning course or lesson for their own context and adapted to their particular speciality). Trainees can compile and reinvest all the outcomes and deliverables they have been asked to produce during the one-year course as these form a logical and coherent set of milestones for designing and implementing an e-Learning course.	Pilot project.	At the end of the course.
<b>Final meeting (classroom)</b>	<ul style="list-style-type: none"> <li>To wrap up the whole course and give visibility to the results of the project/course and the outcomes produced by the participants.</li> <li>To verify the experiences of the participants during the training course.</li> <li>To assess module outcomes and the learning process.</li> <li>To reflect on how concretely participants can put in place the implementation of their outcome/project and to discuss the sustainability potential of their projects.</li> </ul>	<ul style="list-style-type: none"> <li>Working group session.</li> <li>Listening to the specific needs of each participant.</li> <li>Presentation by the participants of the results/outcomes produced.</li> </ul>	At the end of the course. (2 days)

**Table 7. Delivery model with online learning and face-to-face sessions**

If the project is designed as a regional project, some regional events should be foreseen with the aim of learning by sharing experiences and lessons learned while focusing on collaborative work and examples of good practice.

In the MEDA-ETE project, six regional meetings were held. The first meeting, held in Sestri Levante in September 2006, was focused on requirements and the presentation of the aim and scope of the project. The second meeting took place in Sestri Levante in February 2007 and was mainly dedicated to the presentation of the results of the requirement analysis, the course design and methodology as well as the training of the participants on Component 4 portal usage. During the third meeting, held in Turin in July 2007, the results of the course kick-off and assessment methodology were presented and TTIs' problems with trainees' participation were tackled. The fourth meeting was held in Sestri Levante in March 2008 and dealt with participation and motivation issues and actively supported the work of the trainees successfully progressing in the course. The annual forum, held in April 2008 in Turin, provided another opportunity for participants to reflect on lessons learned and discuss possible proposals for sustainability through an exchange of ideas and suggestions. The thematic discussion on the MEDA-ETE Regional Project on Component 4 - E-Learning was split into two main phases. The first phase was dedicated to the challenges faced up to that point in project implementation, proposed solutions and the support expected from the project and the team of experts. In the second phase, participants were asked to look at the potential for sustainability from an institutional, national and regional perspective and to provide feedback following the principle of high, medium and low priorities. The sixth meeting was organised in Florence in December 2008 (at the end of the course), in order to present, discuss and collect feedback for fine-tuning the product and the methodology, to understand how to integrate the MEDA-ETE project into the institutional settings and into overall country reforms and also to enhance collaboration at the regional level.

## **5.4. Lessons learned, challenges met and corrective measures adopted**

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In the context of the challenges that arose in the implementation of the MEDA-ETE project, specific grey areas were identified. Key issues that emerged in relation to the delivery process are discussed in the following paragraphs, specifying the difficulties encountered and the type of solutions or corrective measures that were put in place to overcome them.

### ***Choice of the methodology***

The idea at the outset was to focus on online training (through an online platform) interspersed with face-to-face meetings with trainees in the countries and regional events. During course delivery, however, it became clear that trainees required more face-to-face meetings and stronger online tutorial support. In particular, it became evident that during the course start-ups in the beneficiary countries, participants showed commitment and enthusiasm, with peaks of online presence for a few days afterwards. However, participation dropped consistently and continuously after the start-up and this had an impact on course delivery, causing delays in the opening and closure of modules.

As it is often pointed out by teacher training institutions and as it is often the case in e-Learning, it is difficult to sustain the motivation of trainees, avoid dropouts and promote dropins. With the aim of overcoming this difficulty, it was decided to organise country-specific virtual meetings to gain a better understanding of the major difficulties of trainees, to provide them with ad hoc support and to motivate them for the phases to come. In addition, face-to-face meetings in the countries took place in the intermediate phase: the first session from November 2007 to January 2008 and the second session between May and June 2008. Along with these ad hoc activities, online tutoring support was reviewed and a revised plan for tutoring actions was put into place to strengthen regular support to trainees. Teacher training institutions in the countries collaborated by

providing continuous support through the monitoring of trainees' progress and the organisation of specific training sessions.

To tackle participation and motivation issues more strongly, a special regional training event was organised in Sestri Levante to actively support the work of all the trainees who were successfully progressing in the course. More than 90 trainees from the countries involved in the project took part at this face-to-face seminar. The objectives of the course—finalise the wrap-up activity for Module 4 and make progress in the production of the wrap-up activity for Module 5—were successfully met. Thanks to the effort of the trainees, experts and local tutors, the progress gaps were filled and after the meeting participants were ready to start working on Module 6.

### ***The socio-constructivist approach and collaborative learning***

The socio-constructivist approach to learning was not very familiar to MEDA-ETE teachers and trainers, who were more used to traditional didactic methods. Further complications were linked to the use of online tools and the introduction of new didactic, pedagogic and technological concepts that were still being pioneered in most of the countries. Experience shows that teachers have difficulties in accepting and understanding new learning and teaching processes and contexts and, in fact, continue to act in environments where traditional ways of teaching and learning are still widely preferred. As a collaborative tool for improving the quality of teaching and learning, e-Learning is a rather new concept for institutions and trainees, who would prefer to put more emphasis on face-to-face discussions and less on learning through the online platform, which in itself represents a new learning environment. This issue was addressed at all levels of the project, by motivating trainees to exploit the potential for using the platform as a collaborative tool as much as possible. Groups established in different countries were tasked with achieving certain outcomes or were engaged in a process-oriented task, the objective of which was to work effectively in a group or team inside national communities and/or regional communities. Even though several collaborative tasks were included in the MEDA-ETE course and the participation in forums was monitored and included in the evaluation, the participants frequently did not make use of the tools. One of the main reasons was probably their poor knowledge of the official languages (English and French). This was also the reason why collaboration between the Maghreb region and the other countries was limited.

### ***Time and formal institutional recognition***

Authorisation and acceptance from the teacher training institution is a necessary element from the outset and throughout the implementation phase, as this guarantees the concrete implementation of the e-Learning in the organisation/institution and the allocation of human resources to the project. For both sectors identified for the MEDA-ETE project (ICT and tourism), trainees had generally insufficient time to dedicate to training/learning. The entire course effort was thought in terms of four working hours per week, but the time really spent by the trainees and tracked by the platform was generally less than required. Moreover, it should be noted that the participation of trainees in the course was not always formally recognised by their institutions and therefore they needed to dedicate time to course participation outside working hours and on top of other working engagements.

### ***Basic ICT and e-Learning knowledge***

ICT and e-Learning skills are one key indicator of the inclination to engage in e-Learning. Certain skills in using information and learning technologies, such as the usage of communication technology or Internet tools but also the ability to self-organise learning processes, can be described as necessary preconditions for e-Learning to be successfully taken up.

Almost all the MEDA-ETE participants had extensive experience in using the Internet and communications technology and had also already had previous experience in e-Learning courses. Concerning the ICT skills, 92% of the participants claimed to be able to carry on a conversation with others using the Internet, which means that they had at least basic computer skills.

It needs to be highlighted that the trainers belonging to the tourism sector proceeded at a much slower speed than the ICT trainers and had also more difficulties. Their participation was in some cases very low. Several reasons explain such weak participation. The basic ICT skills of the trainers belonging to the tourism sector were much more basic than those of the ICT tutors. Moreover, the fact that the tourism community belongs to different institutions as compared to the ICT community did not help to build a collaborative environment, primarily because of the physical distance. In order to deal with this problem, some countries adopted specific corrective measures. In the case of Algeria, an ICT trainer was enrolled on the course to help tourism sector trainees overcome their difficulties with technology. In Tunisia a similar approach was adopted. It should also be noted that the tourism trainees who were active in the platform expressed the need to receive greater support from their sector-specific tutor, in particular, punctual feedback on outcomes, guidance throughout the modules and more general technical assistance.

### ***E-Learning platform***

The learning platform on which participants worked was the open-source Moodle platform, which has been widely used in recent years at the international level. The Moodle platform was customised by Giunti Labs and was continuously adapted to changing needs as they emerged—based on feedback from tutors, experts, trainees and country representatives.

While experience shows that the selected platform is flexible, easy to use and adaptable to different contents, its potential as a collaborative learning environment and pedagogic tool needs to be better exploited for the benefit of the trainees. In the project, the platform was primarily used for digital distribution of content and as a digital library of resources and references rather than as a dynamic space for collaboration. After a first assessment of the participants' use of and familiarity with the platform, it is suggested that trainees who experience occasional problems in navigating the platform and finding their way through the different forums will need support and also further awareness to help them make the best use of the platform as an environment for collaborative learning.

In addition, the project pedagogic team planned to increase guidance of the trainees throughout the learning process, with particular attention paid to the learning resources and the overall pedagogic pathway proposed. Opportunities for collaborative learning should be increased so that participants can share and learn from one another. A focus on the learner and on learner needs and pedagogical requirements would increase awareness of the overall learning process, leading to a final quality learning outcome.

The assessment tool is a mixture of multiple choice tests and an assessment of learning outcomes. While this allows regular monitoring of participants' results, analysis suggests that there is a need to further accommodate a formative assessment approach in order to improve the regulation of the learning process and, in general, to improve the quality of learning outcomes.

### ***Language barriers***

In the MEDA-ETE course some teams had a poor knowledge of the official languages (English and French) used for the courseware. Even though language knowledge was a major prerequisite to participation, this was one of the main problems faced during course delivery. The language issue not only slowed down the learning process of these groups, splitting the learning community into different groups progressing at different speeds, but also placed at risk the course itself, since performance and collaboration among students were hindered by a poor understanding of the content and a limited capability for expressing ideas and suggestions. Promoting group work could be a solution, because the less skilled participants could take advantage of more skilled colleagues. Teacher training institutions in the different countries collaborated by providing continuous support through monitoring of trainees' progress and the organisation of specific training sessions. Other corrective measures could be the localisation of the course syllabus into all the national languages in order to ensure better accessibility and understandability.

### ***E-readiness***

While the training needs analysis investigated individual needs, it examined to a lesser extent the e-readiness of education and training systems in the countries, particularly existing structural conditions allowing the development of e-Learning. In most countries, the integration of new technologies in education and training is supported by strategic frameworks (integrated into laws, policies, special plans, e-strategies, etc). Recent findings show that implementation is moving slowly and concerns mainly general secondary and higher education. Examples can take different forms. One form is public-private partnerships between education and training authorities and private companies—as in the education initiatives in Jordan and Egypt.<sup>11</sup> In other cases, advantage is taken of international certification, such as the International Computer Driving License (ICDL) delivered in various countries to ensure information technology literacy skills at various levels.

Regarding technology and infrastructure, many challenges have been faced or are being faced at the country level, including lack of, or obsolete, infrastructure, high telecommunications costs, poor quality of telecommunications, a low rate of access to the Internet, poor digital literacy and the digital divide. All these aspects, present at different levels in all the countries throughout the MEDA region, have had an impact on course delivery. In particular, the majority of trainees did not possess a computer at home, which meant that they had to rely on resources at their disposal in their institutions or in Internet cafes. This introduces additional difficulties and creates real technological barriers.

Although the project itself does not wish to put the focus on technology but on the methodology, and despite the growing interest and demands for e-Learning in the countries, the existing technological and infrastructural barriers still represent a major challenge. This makes the further integration of e-Learning a secondary priority in the overall process of education and training reforms.

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11 See <http://www.weforum.org/en/initiatives>.

## 6. EVALUATION AND ASSESSMENT

This section describes the crucial issue of evaluation, which covers many different aspects of training: programme effectiveness, overall outcome of student training (results in terms of learning, competence, decisional autonomy, organisation, awareness, etc), the quality of teaching and stakeholders' approval (teachers, managers, students, etc).

When we speak of evaluation in e-Learning, the elements to be taken into consideration increase exponentially in comparison with the elements used for traditional learning evaluation. Evaluation of various aspects of online learning will contribute to our understanding of learning innovation.

Commonly evaluated aspects include:

- Evidence of the success of online training
- Course monitoring and participants' tracking in terms of engagement and resource use
- Compliance with institutional quality assurance procedures and standards
- Impact and role of online learning activities
- Extent and nature of student learning
- Quality and participation level in online discussions
- Continuous professional development and self-evaluation.

The section introduces and explains the importance of the evaluation system for the overall training process and describes the different common approaches to evaluation (formative, summative, interpretive and integrative). It introduces and explains the concept of assessment, showing the related areas of training experience that can be assessed (knowledge, competences and personal aspects) and the different phases of the training process where the assessment may take place (in itinere, ex ante and ex post).

The different tools used for results assessment as used in the MEDA-ETE course (self-assessment tests, wrap-up activities (learning outcomes), participation levels, etc) are also described. An example of a grading scheme and a description on how the tracking system can support the evaluation are included. Useful information on how project performance should be evaluated is also provided so as to ensure the maintenance and upgrading process and an overview of a reference framework for project management activities is given, addressing learning object model production and learning content production.

Each of these aspects demands different approaches, strategies and methods of data collection and analysis to enable relevant judgments to be made. Choosing the wrong approach can in fact make it difficult to produce reliable and useful results.

There are many types of evaluation and the four most common approaches for evaluating educational pathways—used in the MEDA-ETE course—are as follows (Higgison, 2000):

- **Formative evaluation** describes the evaluation of course materials or learning environments with the objective of providing information for improvement during the design and implementation phases. For the students, this kind of evaluation gives evidence of the gap between what it is supposed they learned/acquired/experimented with and what they really learned/acquired/experimented with. The goal is not to freeze the gap, but to help students reduce it by giving suggestions about mistakes, missing knowledge or what needs

further review to strengthen learning/understanding. In the MEDA-ETE course for example, formative evaluation was used by course designers and developers to set up the whole course on the basis of the requirements analysis run before implementing the course. The feedback collected via the questionnaires and the focus groups during the two phases of the requirements analysis (see Section 1 and Annexes 1 and 2) was used as the basis for guidelines in creating course content and in choosing the tools to be used.

- **Summative evaluation** describes the evaluation of course materials or learning environments with the objective of providing information on the outcomes of implementation and use by students. For the students, this kind of evaluation expresses the level a student obtains, related to the evaluation grid defined at the beginning of the training process (based on a clear description of tasks, that is, what every student has to achieve) and to the situation of the groups of learners (what this group of learners has achieved). For more details see the discussion below on learning assessment and grading.
- **Interpretive (illuminative) evaluation** aims to discover the factors and issues that are important to the participants in a particular situation rather than how well a method or technique performs against standard measures of evaluation. For the students, this kind of evaluation takes account of what they feel to be their learning needs as opposed to their needs as defined by tutors/teachers of the course. Students, by reflecting on their experience, find out the importance of certain issues for them and for their profession and will study learning materials with a more task-oriented approach. In the MEDA-ETE project, for example, besides self-assessment tests and outcome-based assessments, learners were required, for the final evaluation, to draft an e-Learning course project for ICTs or tourism, tuning it to the peculiar needs of their own environment and training institution. This task was done reinvesting all module outcomes and deliverables prepared during the course, as these formed a logical and coherent set of milestones for designing, implementing, delivering, managing and evaluating an e-Learning course. The final project was the result of individual or collaborative work.
- **Integrative evaluation** aims to improve teaching and learning by integrating materials and techniques into the overall situation more effectively. This kind of evaluation considers students in terms of a holistic (all-comprehensive) approach, not only based on measurements, but even analysing participation in activities and contributions given during the training process. Thanks to student feedback (requests, questions, forum posts, complaints, suggestions and proposals), teachers/tutors understand how the learning process is progressing. Integrative evaluation was an important aspect of the MEDA-ETE course. Kick-off discussions and feedback collection, the conclusions of work groups held during the annual forum in 2007 and 2008 and mid-term assessment questionnaires guided course developers and tutoring staff in fine-tuning course content and adapting the chosen tools to student needs and expectations.

Collecting continuous feedback from participants in a training course is extremely important in order to revise learning and teaching processes and adjust strategies in response to the assessment. Through close observation of students in the learning process and the collection of frequent feedback on student learning, it is possible to learn a great deal about how students learn and, more specifically, on how students respond to particular teaching approaches. Formative evaluation helps obtain feedback on what, how much and how well the students are learning and this information can be used to refocus the teaching process to help students make their learning more efficient and more effective. Below are some of the questions that should be answered during formative evaluation:

- Have training needs been identified correctly?
- Are there any other areas which need attention?
- Are there indications that the training objectives will be met?
- Do the objectives need to be revised?
- Are the training topics being taught?
- Have additional training topics come up which need to be taught?

## 6.1. Learning assessment and grading

The assessment system is the toolkit to verify the knowledge acquired by the trainees. According to the definition given by Higgison (Higgison, 2000), assessment is the process whereby teachers set specific tasks related to the learning outcomes. In regard to these formal and informal assessment tasks for the subjects they are studying, success provides evidence of how effective learning has been. All evaluation plans should contain assessment data, which is just one aspect of the evaluation.

Assessment is strictly related and linked to course design and covers a wide area of the training experience, including the cognitive and behavioural changes in people resulting from following the training pathway. Individual changes occurring during and after the training process can be assessed in terms of knowledge (acquired information and notions), competence and skills (professional skills, effectiveness of work activities and use of acquired knowledge), and personal features (determination, autonomy, flexibility towards change, sense of responsibility, etc).

When assessing students, it must be ensured that the assessment is clearly linked to aims, objectives and learning outcomes of the training programme against which results are to be measured. Moreover, the definition of learning objectives and the expected results should be clearly defined and shared among the students.

Student assessment is usually carried out at three different stages: *ex ante* (at the beginning of the course), *in itinere* (during the course) and *ex post* (at the end of the course). The *ex ante* assessment is generally used to assess pre-knowledge so as to investigate if the students' knowledge is adequate. If a student does not have sufficient knowledge to attend the course, he/she can be recommended for a preliminary course of studies that will enable him/her to achieve the desired level and thus minimize the dropout risk. *In itinere* assessment provides information on learning progress for students, teachers and tutors. This may mean being able to proceed more quickly or going back and revising topics that were not sufficiently understood. *Ex post*, or final assessment, is normally used to determine the level reached by the student.

There are many different tools to perform results' assessment. In the MEDA-ETE course three tools were used to assess learners' progress, that is, tests, wrap-up activities (learning outcomes) and personal assessment (participation). The combination of these tools enables both cognitive and behavioural areas of training to be assessed, with each tool dealing with a specific aspect of the learning experience as described in Table 8 and further discussed below.

Tool	Assessment area	What is assessed
Test	Knowledge	Notions and newly acquired information.
Wrap-up activities (learning outcomes)	Competences	Acquired skills and abilities, use of newly acquired knowledge.
Participation	Personal features	Autonomy, flexibility, etc.

*Table 8. Assessment methods*

### **Assessing learning with tests**

Individual self-assessment (self-correcting) tests are a powerful tool for the tutors, as well as for the learners, to keep track of progress and to provide a first - even if only partial - feedback on the degree of understanding of the topics addressed in a specific learning unit. Since they are intended as an individual checkpoint, no constraint is put on time of completion or number of times

questions are viewed (without submitting the answers).

In the MEDA-ETE course the participants had the possibility to access self-assessment tests at any time and to repeat them many times until they submitted the answers. The screenshots (Figure 15) illustrates the two options foreseen.

- **Save without submitting.** The participant can go back, look at the answers and repeat or change the answers if he/she wants.
- **Submit all and finish.** When the participant has completed the tests, he/she submits the answers and the system gives feedback for each answer (correct or incorrect) and a brief summary of the evaluation (date started and finished, time taken, raw score and grade).

6 (50%) In the learning assessment through Tests, distractivity is:

Marks: 1

Answer:  a. the difficulty for students to concentrate on the right answer.  
 b. the ability of the different answers to an item to induce people to deviate from the correct answer.  
 c. the resistance an item opposes to its solution.  
 d. the ability of stimulate the creativity of the students.

Save without submitting Submit all and finish

2 (50%) Ex post (or final) is an assessment activity:

Marks: 1

Answer:  a. balancing assessment, efficacy and the overall quality of the action  
 b. performed before the course starts  
 c. attesting the results obtained by the student at the end of the training pathway. Correct  
 d. aimed at adjusting and enhancing the student's resources and experience

Correct  
Marks for this submission: 1/1.

3 (50%) Choosing the items through the 'item analysis' is aimed at:

Marks: 1

Answer:  a. ensuring ability to assess tutor behaviour  
 b. simplifying the answers to test items  
 c. giving better guarantees in terms of validity and reliability  
 d. providing adequate answers to all students No that is not right.

Incorrect  
Marks for this submission: 0/1.

Start again

Started on: Wednesday, 5 November 2008, 04:12 PM  
Completed on: Wednesday, 5 November 2008, 04:14 PM  
Time taken: 1 min 31 secs  
Raw score: 4/6 (67 %)  
Grade: 6.67 out of a maximum of 10

**Figure 15. Example feedback to the factual knowledge activity (test)**

Different types of tests measure, in a more or less adequate way, knowledge and competences. Irrespective of test types (multiple choice, multiple response, true/false, etc), it is essential that the items forming the test provide sufficient guarantees in terms of validity and reliability. For a correct selection of the items forming the assessment test, the item analysis approach can be used as the reference method. This method aims at selecting questions that can properly measure adequate items (for example, specific knowledge), allowing, at the same time, an appropriate level of difficulty. The item analysis, performed by delivering a first test questionnaire to a sample of students, identifies specific features of items and related answers. In particular, the following aspects of items are assessed:

- Difficulty of the item, defined as the resistance an item opposes to its solution
- Discriminatory ability, that is, the ability of an item to separate the group of students who gave the best performance from the group who gave the worst performance
- Distractivity, which is the ability of the different answers to induce people to deviate from the correct answer. This measure, particularly important in multiple choice tests, is necessary to identify which answers should be offered in alternative to the correct answer. A good test should have sufficiently effective distractors as likely answers to test which student have not studied adequately.

## Assessing learning through learning outcomes

In an outcomes-focused course, assessments measure the outcomes students have achieved. Although this concept may seem simple, it is a relatively new way of thinking about assessment. In a VET environment, practical activities have crucial importance. Outcome-based assessment helps deal with this aspect, offering the students a sandbox where they can experiment with using newly acquired knowledge in the context of their own professional field. When planning an outcome-centred assessment system, it is important to make sure that the assigned task is clearly linked to the course's learning objectives.

In the MEDA-ETE course, for each major learning unit (module) a final wrap-up activity (module outcome) was proposed to the learners in order to capitalise on the knowledge acquired. Module outcomes, depending on module content, can address general or methodological issues or more specific topics related to the expertise field of the learner (tourism or ICTs). Trade-specific outcomes use the knowledge and know-how acquired by the learners during the learning process and help them focus on e-Learning issues in their expertise field and find viable solutions to real problems. Outcome evaluation was performed by the tutoring and project experts according to the evaluation grid developed for that specific outcome (see Figure 16 for an example evaluation grid from the MEDA-ETE course) and individual feedback was provided to each student. Sharing with students the criteria that teachers will use to assess their work is definitely a good way to avoid misunderstandings.

**What are the evaluation goals?**

- *To obtain a deeper understanding of the factors that influence the success of a training process (course and subject design, assessment strategies, availability of resources, integration of courses and subjects).*

Outcomes Module 9	Fall 0% - 69%	Pass 70% - 85%	Distinction 86% - 100%
<p>Define the methodological assessment guidelines, identifying the assessment system, the assessment tools and the conditions of successful completion of the course</p> <p>Define the characteristic features of at least three different tools you decided to use in your assessment system</p>	<p>The assessment guidelines are not defined in a clear manner and/or don't respect the request key-points.</p> <p>Less than three different tools have been identified, and/or the table is not fully developed in every part.</p>	<p>A description of the assessment guidelines is given, with respect of the different key-points requested, but the definition of the key-points is incomplete and/or generic.</p> <p>The table provided is complete, but tools' description is generic and imprecise.</p>	<p>The assessment guidelines are well defined, a well-detailed description of three different key-points requested is given.</p> <p>The table provided is complete in every part, three different tools have been identified, and tools description is well developed and explained.</p>

Figure 16. Example MEDA-ETE evaluation grid for Module 9

## Measuring learning through participation

Besides the test (verifying factual knowledge acquired in the training pathway) and the learning outcomes (verifying procedural knowledge and competences with practical activities), there is still an important aspect left to consider when defining an assessment system.

### What are the evaluation outputs?

- An assessment system and tools designed and implemented according to the structure of the training course.

In a training pathway and especially in e-Learning, assessment should cover all aspects related to the training environment and should also collect information on students' experiences. Personal aspects such as feelings, commitment and sense of belonging play an important role in a collaborative knowledge- and competence-building process, especially in a socio-constructivist environment. It is possible to set up specific assessment tools that can feed the evaluation with important information, whether through: self-assessment, which involves the students in the process of assessing their own learning and performance and so can convert them into

more reflective, autonomous and effective learners; peer assessment, which involves students in assessing each other and providing feedback and opportunities to improve the quality of the results; collaborative or group-based assessment, where small, interdependent groups of students work together as a team to help each other learn. The online environment is particularly appropriate for collaborative learning approaches that emphasise group interaction between group members dependent on each other.

## Grading

In the assessment system of a course inspired by a socio-constructivist approach, the procedural knowledge acquired working at real products (outcomes and assignments) and discussing with peers and tutors (forums, discussions, chats, etc) should have a bigger weighting than factual knowledge. For example, in the MEDA-ETE course, assessment for each module was calculated as in Figure 17.

<b>Assessment system</b>	Learning Outcomes:	50%
	Tests	40%
	Participation	10%

Figure 17. MEDA-ETE assessment system

As mentioned before, the evaluation grid adopted for grading each outcome-based assessment should be published on the course portal along with a description of the result expected for that specific module outcome, in order to avoid misunderstandings and frustration by the participants.

The final mark for each module is determined not by the sum of the single scores of the single activities, but by the overall weighted score, determined by the relevance of the single activity block, according to the formula **score : total score = weighted score:total weighted score**. An example is given (Figure 18) as tests 70%:100% = x:40% and outcomes 70%:100% = x:50%.

Activity	score	weighted score
Tests	70%	28%
Outcome	70%	35%

**Figure 18. Calculation of weighted scores**

### **Tracking system**

To monitor progress closely, activity reports should be prepared at least monthly and shared with all stakeholders to keep them informed of the state of the course and of the trainees' activity, as this enables implementation of corrective measures.

The data to be collected and analysed to provide such a report may vary from course to course or even from time to time during the delivery of a course. The tracking system—that is, the definition of what kind of information about participant activities and moves within the course should be saved for future elaboration—is closely related to the choices made during the design phase and during the implementation of the courseware. The data collected during course delivery (and especially their importance) should always be consistent with course learning objectives but, generally speaking, an LMS should allow tutors and project team members to monitor at least for each enrolled user, the following items:

- Access to the platform (login/logout timestamp on a daily/weekly/global basis)
- Access to the resources (number of views)
- Status for each SCORM learning object
- Results of test session
- Percentage success/failure for each single test question.

The goal of each tracking system is to provide quantitative raw data to feed into an analysis process that will then create a report. It is at this stage that the quantitative data collected becomes qualitative or simply makes sense. When making decisions about the tracking system for an e-Learning course, the focus should always be on the kind of report (relevant information for students' evaluation) rather than on the available data. To avoid an overload of (potentially) useless information, tutors and course managers should make it clear what data are needed to gain the necessary information on learners' activities rather than subjecting the reports to collectable data. In the MEDA-ETE project the coordinators were involved in this process. They received monthly activity reports to monitor participants and manage the overall course, including corrective measures. While the system provides quantitative data, however, it does not allow for qualitative data (Figure 19).



Satisfaction	Feedback gathered from the course participants. See Annex 6: Mid-Term Train-the-Trainer Course Assessment: Participant Satisfaction Questionnaire.
Self-assessment of the learning path	<p>Each module consists of:</p> <ul style="list-style-type: none"> <li>- A self assessment test, which is basically the participant's perception of the main aspects of the content covered in a module. The participants can interrupt the test whenever they want, consult the contents and go back to the test to complete it. This non-punitive approach with respect to the performance assessment gives participants the possibility of focusing their attention on learning fundamental concepts rather than on their grade.</li> <li>- Activities, with proposals of actions of various types and importance gathered under this point in order to enable the participants (individually or in small groups) to navigate among the basic concepts and increase the level of action in comparison to the tests.<sup>1</sup></li> </ul> <p>Each path from Module 1 onward, and especially activities with different levels of complexity, enables individuals or small groups to verify the level achieved. In fact, possible difficulties in fulfilling the planned assignments are indicative, for a single participant and, perhaps, without any formal consequences for the process of assessment that is the learning path. In some cases, in order to fill such gaps, it is sufficient to propose some ad hoc assistance to a participant by the tutoring staff, whereas in other cases, it may be necessary to call the attention of the group to specific issues covered by the contents.</p>
Self-assessment of transferability	In the MEDA-ETE project, this aspect was covered by asking individual participants/working groups to implement a feasibility and sustainability analysis of the projects developed during the e-Learning course. In this case, the transferability of individual knowledge/competences proposed was not taken into account but, rather, the whole of the methods offered by the MEDA-ETE project covering both the target participants <sup>2</sup> and a systemic outlook by means of which the project was realised.

**Table 9. MEDA-ETE evaluation of satisfaction and self-assessment**

From the point of view of learning, the following aspects should be considered:

- Whether the learning takes place at the individual, group or sub-group level
- Learning methods
- Criticalities of lack of learning.

The MEDA course addresses these elements as described in Table 10.

Whether learning takes place <sup>3</sup>	<p>Data regarding the presence or the absence of learning are gathered through:</p> <ul style="list-style-type: none"> <li>- Self-assessment activities (how the test results proceed, not only in terms of the final mark but also the attempts to complete it)</li> <li>- Self-evaluation activities, such as outcomes</li> <li>- Quantitative and qualitative analysis of cooperative activities in a specific use of the platform in general (access, logout typology, importance of posts on the forum, etc).</li> </ul>
Learning methods	<p>The elements considered are as follows:</p> <ul style="list-style-type: none"> <li>- Schedule of, for example, deadlines or needs to change the dates and the reasons</li> <li>- Frequent problems regarding the choice of content and content clarity and comprehensiveness</li> <li>- Preferred or ignored activities in order to verify cognitive methods and more enjoyable and efficient relationship dynamics.</li> </ul> <p>Obviously, each of these factors should always be considered in the context of a single participant, the entire group and sub-groups.</p>
Criticalities of a lack of learning	<p>This dimension is analysed in the aspect of a single content/module and a specific participant. If specific content, materials or concept are not studied, it may be necessary to modify it or to give support to the entire group (apart from analysing the reasons for the lack of learning—whether a design problem, inadequate language, inefficient work method, etc). If problems apply to a specific participant, special assistance should be given to this person and a detailed behavioural analysis of the individual on the platform and/or during the entire course (meeting participation) should be conducted.</p>

**Table 10. Aspects and issues in learning**

As for the coordinating and tutoring staff, factors worth considering are as follows:

**Before the project:**

- Ease with which both self-applicants and participants sent by institutions/entities/ companies can check out if the proposed educational offer is interesting and competitive for the sociocultural context referred to.
- Candidate suitability for the course in terms of cognitive, formal and professional prerequisites.

**During the project:**

- Quality of group rapport (with respect to personal dynamics) and stability and influence on the learning of individuals, group and sub-groups as well as on the development of the course.
- Quality of the rapport between individuals, group and sub-groups and the coordinating and tutoring staff and the influence on learning as well as on the development of the course.
- Level (quantitative) of participation at the beginning and during the course and the quits

rate.<sup>14</sup>

- Level (qualitative) of participation at the beginning and during the course, significance of the measures proposed, comprehensiveness of documents and activities performed by participants, adoption of new cognitive, organisational and methodological strategies by the participants and relationship to the knowledge/competences offered by the course.
- The need to modify deadlines, materials and activities, organisational methods, measures of assessment and support during the course as a response to non-anticipated problems regarding participants and the course.<sup>15</sup>
- Suitability of changes in effectiveness and efficiency in terms of time allowed and immediate response to problems.
- The process of learning.
- Correspondence between self-evaluation during the course and analyses carried out by the coordinating and tutoring staff.

***By the end of the project:***

- Quantitative and qualitative level of persons who have completed the course.
- Correspondence between learning as perceived by the coordinating and tutoring staff, and also final evaluation of participant satisfaction and results achieved by participants in the tests and the final evaluation.
- Correspondence between planning (at start-up and in the course of learning) and results for participation, learning and data gathered by the end of the course (percentage of persons who have completed the course, marks, course duration, etc.)
- Simplicity and speed<sup>16</sup> in defining final reports covering analysis and synthesis of the courses held, in statistical, quantitative and qualitative terms.

***After the project:***

- Quantity and quality of long-term relations between the staff and the participants in terms of requests for information, suggestions and proposals of work.
- With regard to methodology and design, the elements to be assessed are as follows:
- Correspondence between analysis of needs and requirements which arises as a result of the relationship with real participants in the course and in terms of content, language, methods and proposals of work.
- Effectiveness and efficiency levels of methodology and design choices (materials, schedules and preliminary examinations) in terms of learning and technological solutions.
- The need to modify deadlines, materials and activities, organisational methods, measures of assessment and support during the course as a response to non-anticipated problems regarding participants or the course itself.
- Suitability of the tutoring and assessment system applied.

Finally, beyond specific variables in the administrative field, it is necessary to mention:

- Correspondence of expenditure in budget planning between the design phase, the start-up of activities and various intermediate verification steps.
- The extent of discrepancies between planned and real expenditure.
- Frequency of amendments to contracts regarding remuneration, tasks and working hours.
- Frequency of substitution or location of different human resources other than initially planned.

In terms of the accuracy analysis of initial plans related to working hours and the resources involved, the last two points are shared, above all, by the administrative staff and the coordinating and tutoring staff.

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14 The quits rate was an important problem for distance learning previously as it is now for e-Learning, due to the fact that it is slightly higher in comparison to in-class learning. Certain elements are aimed at controlling and minimising this phenomenon, such as the adoption of blended solutions and methods of collaborative and cooperative learning, tests to verify real computer literacy, an investment and a check of availability of technological devices adequate for the needs of the training.

15 This dimension is shared by the coordinating and tutoring staff and methodology and design.

16 These elements are assured as long as, right from the beginning of activities, the coordinating and tutoring staff collects suitable data related to information and types of documentation to be elaborated by the end of the course.

## 6.3. Project management and quality assurance

The following figure provides an overview of the courseware engineering methodology (CEM) workflow for designing and developing interactive courseware, either produced for the off-the-shelf market or tailored for the specific training needs of a customer.



Figure 20. CEM workflow

Each courseware production follows the CEM, performing six standard tasks as described in the figure. Tasks 1-6—requirements definition, structure of contents definition, design and macro-storyboarding, micro-storyboarding, product implementation and evaluation and validation—are described immediately below.

### **TASK 1. Global project study: single courseware requirements definition**

This task is normally focused on achieving a qualitative answer to four wh- questions underlying any instructional process (which information must be transferred, when, to whom and why). All addressed needs and populations are considered within the general study introducing an array of possible single coursewares. For each courseware, a requirements document is produced, based upon a standard template, interviewing those who have requested improvements, content experts and any interested body within the specific environment. Each global project, considering more titles to be produced, also requires the establishment of cross-courseware standards, templates and house style. The study takes into account overall instructional objectives and delivery conditions detailing and relating possible courseware productions. The specific requirements document is then produced, describing addressed contents, population and objectives for each courseware together with available sources, alternative approaches and addressed arguments and goals.

### **TASK 2. Single courseware: structure of contents definition**

The second task focuses specifically on content analysis for each courseware. Interviews (telephone or personal) take place with project heads both inside and outside the site and with human resources. Knowledge structuring is performed with analytical tools (for example, Petri nets

or semantic nets) and conceptual maps traced in order to highlight topics with relationships and attributes. An instructional overlay is then fitted listing instructional parameters for each topic (for example, prerequisites, average consultation time, objectives, cross-links, deepening levels and testing points).

### ***TASK 3. Single courseware: design and macro-storyboarding***

The third task defines how topics may be presented to the addressed population, with the best instructional strategies assigned for each topic. The documentation produced in previous tasks guide interface design and visual layout specification. All the functional specifications of the courseware is also reported in the macro-storyboarding documentation. Information selectivity, interactivity and processability are detailed and the most appropriate medium for each topic is highlighted, guiding the selection of the best development and delivery technologies. Depending on the dimensions of the project, the quality of the storyboard may be assured through specific workshops among experts and customers and revised versions of the storyboard.

### ***TASK 4. Single courseware: micro-storyboarding***

In the previous tasks, instructional designers trace strategic guidelines for system structure and contents assuming decisions on the best instructional strategies without considering technological constraints. Media selection is then performed assigning the best solution in accordance with macro-storyboard requirements (for example, video for a situational simulation or graphics and animations for physical simulation). Once such high level instructional parameters have been defined, single media professionals (graphic experts, art directors, animators, speakers, etc) are engaged in order to optimise message effectiveness within each selected media. Storyboard standards are defined and traditional storyboarding and pre-production sessions activated.

### ***TASK 5. Single courseware: implementation***

The storyboard is incrementally implemented through assets production, digitisation and implementation on selected platforms, starting from the courseware's empty shell (interfaces, menus, icons, etc). All the available information (for example, photographs, text and videos) is requested in the highest quality formats available, whether digital or analogic. Formats and supports are defined for each foreseen asset post-production and/or digitising process. Delivery platform constraints are defined (colour photo palette, video resolution and frame rate, audio word length and sampling rate). Final implementation is in the form of a trial delivery with real sampled users. Content and software errors are debugged and further languages implemented and localised.

### ***TASK 6. Single courseware: evaluation, validation and final delivery***

Evaluation and validation activities are constantly performed throughout the CEM lifecycle by implementing a quality control and quality assurance task that evaluates documents and raw deliverables and provides feedback. The alpha version of a course is internally debugged and the subsequently beta version is delivered for final pre-mass delivery testing on sampled users. Such testing is usually done by the client with support monitoring and resulting in a report on the ergonomic and effective acceptance of the material. Typical quality dimensions are detailed as follows:

- Technical (compliance with standards, usability, accessibility).
- Communication (understandability of interfaces and contents, motivation, involvement and attractiveness, graphic quality, symbolic soundness and relevance).
- Structural (flexibility and expandability, customisation, user's interaction autonomy)
- Cognitive (multidimensionality of cognitive aspects, originality and creativity, metacognitive dimension, game/fantastic dimension).
- Critical-cultural (scientific validity of content and methods, criticality and problematisation, interdisciplinarity, interculturality).
- Didactic (soundness of curriculum, clarity of learning goals formulated, appropriateness of content to objectives, quality of verification tools).

- Documentative (presence of appropriate instructions and quality of help, clear explanation of objectives, presence of examples of educational use).

## **6.4. Lessons learned, challenges met and corrective measures adopted**

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### ***Regular feedback from e-tutors***

In an e-Learning course, especially if based on an outcome-centred approach, participants need to get more regular feedback from the tutoring staff because face-to-face sessions are not as frequent as in a traditional context. In the MEDA-ETE course, during the delivery phase the participants asked to get quicker feedback on outcomes and more punctual quality feedback. Thus, more and better feedback and guidance was provided to the participants in the outcome preparation phase through the virtual forum, instant messaging, chat, etc. Virtual meetings on a country basis were planned and organised in line with module opening in order to share the achievements of trainees (activity reports), address issues and explain the objectives of the new module. In order to partially address this particular problem of feedback, a detailed and comprehensive methodological guide was added to each module (starting from Module 3) to explain in detail the learning path that connected all the course modules together. The information about how evaluation was carried out and how the outcomes were collected was posted in the forum and sent to the local coordinators.

### ***Strict monitoring of the learning progress***

The monitoring of the learning progress of each participant is extremely important in order to understand whether he/she is progressing or whether corrective measures are necessary. In the MEDA-ETE course, in order to monitor progress closely, a monthly activity report (describing the main activities of the trainees) was delivered to the national team coordinator/facilitator to keep them informed of the progress of the course and of trainees' activities so as to enable corrective measures to be taken as necessary. For each country one of the trainees was chosen by the teacher training institute as an internal facilitator to help the project team solve issues and better manage communication with the CoP.

### ***Open evaluation***

Individual self-assessment (self-correcting) tests are a powerful tool (for the tutors as well as for the learners) to keep track of progress and provide a first (even if only partial) feedback on the degree of understanding of the topics addressed in a specific learning unit. The possibility for the student to access self-assessment tests at any time and to consult content during a test ensures a focus on real studying of content, as the student is aware that the aim is not to get a good mark but to learn fundamental concepts. The approach adopted in the MEDA-ETE course was not aimed at punishing students but at supporting them in understanding the e-Learning methodology and in acquiring knowledge through the application.

### ***Multidimensional evaluation***

When the course moves from a socio-constructivist approach, in the assessment system the knowledge acquired in discussions with peers and tutors (forums, discussions, chats, etc) should be taken into consideration. Apart from assessing notions and newly acquired information through tests and through acquired skills, abilities and uses of newly acquired knowledge through the wrap-up activities (learning outcomes), it is necessary to assess active participation in the platform.

# 7. HOW TO SUPPORT E-LEARNING PROJECT IMPLEMENTATION

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This section introduces the elements that should be taken into account in terms of ensuring the sustainability of an e-Learning project. There is no magic formula for sustainability, especially because it depends on many different factors. We look at sustainability in terms of stability and more specifically in the sense of organisational and institutional integration as well as pedagogical and didactic innovation, which should lead, in the long run, to regular and daily use of e-Learning, seen as one of many pedagogical methods and not as a stand-alone action (Hense et al, 2001).

When we speak of sustainability in e-Learning we must look certainly to the sustainability of the investment in infrastructure, but the issue cannot be limited to these aspects only, since it is far more than merely the cost and maintenance of procuring and developing learning infrastructures and materials. The sustainability of e-Learning hinges on social processes and organisations and on the context and purpose of learning as much as it does on hardware and software (Attwell, 2004).

Course implementation is a crucial step when implementing an e-Learning action within an organisation. When implementing an e-Learning course/project, it is necessary to take into consideration many different issues, keeping in mind for each issue the sustainability level. By sustainability we mean, in general, the characteristic of a process or condition that can be maintained at a certain level indefinitely. The term, in its environmental usage, refers to the potential longevity of vital human ecological support systems, such as the planet's climatic system, systems of agriculture, industry, forestry, fisheries and the systems on which they depend.

## 7.1. Implementation and project sustainability: key elements

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In managing an e-Learning project, all the aspects that are part of a project implementation process should be taken into consideration. Attention should be paid therefore to the following elements:

- **Ability to involve top management and employees.** It is important to ensure high involvement at the organisational/institutional level. Senior management has to be involved, in order to verify whether the course/project will be implemented, as well as the employees to whom the course is addressed. This also has the aim of guaranteeing the effectiveness of the course. In terms of sustainability, authorisation and acceptance on the decision makers' side are necessary elements from project outset and throughout the implementation phase. This is what can guarantee concrete possibilities for sustainably introducing e-Learning in the organisation/institution.
- **Link between specific e-Learning aims and more complex organisational objectives.** Running a requirements analysis of target user needs is one of the fundamental steps in designing an e-Learning course. The requirements analysis should meet the didactic objectives of the course that is going to be implemented (in terms of pedagogical methodology, didactic content, etc). In terms of sustainability, this means that the course (with respect to the issues mentioned just above) should be correlated in a coherent way to meet the more general objectives of the organisation within which the course will be implemented.

- **Regular work with the ICT department (or with outsourcing companies) so as to identify adequate and standard technological solutions.** One of the aspects that play a fundamental role in ensuring the feasibility of the course/project is the correct choice of the technological solution. In order to understand what is the best solution, a specific section of the requirements analysis should be dedicated to this aspect and completed in close cooperation with the ICT department (or outsourcing companies) present in the working area, in order to adopt solutions that best fit the features of the course, the target group and the technical infrastructure available in the institution. The same is also true for the choice of platform. In terms of sustainability, this means that the decision taken in regard to a technological solution will have to consider several factors (for example, the cost of licensing software, software support, functionality, accessibility, etc) in order to be coherent and consistent with the institutional objectives and to guarantee the possibility of re-using the adopted solution also in the long term.
- **Involvement of content experts and other necessary professional profiles (graphic designers, programmers, speaker, etc).** Choosing the right professional profiles to involve in a project is another aspect of particular importance for the realisation of the project/course. It is necessary that these profiles have adequate knowledge, competences and abilities in order to support and contribute to the realisation of all steps needed to design, develop and deliver the course. In terms of sustainability, this means that it should be decided, from the outset, which professional profiles are needed, so as to establish whether these resources are already available within the institution or should be hired for the project. This will contribute, on the one hand, to the design of a course that is feasible and, on the other hand, to a more general awareness of the type of abilities and competences needed at the institutional level for e-Learning integration and sustainability.
- **Development of a structured plan to help teachers, tutors and trainers manage the necessary changes.** Developing a structured plan for managing all the figures involved in a course/project is another fundamental aspect to consider at the moment of implementation. In terms of sustainability this means that the introduction of e-Learning in an institutional context should be accompanied by a proper change-management process in order to support all the key players involved in adapting to the change in methodological, pedagogical and technological terms.
- **Identification of costs and timing.** Defining correctly costs and timing for each project/course allows objectives to be managed in an adequate and well balanced way. It allows managing a project with the aim of reaching training effectiveness and expected results. In terms of sustainability, this means thinking about the project from a managerial point of view, taking into consideration all the factors that could, positively or negatively, impact on it in terms of timing and costs. This analysis should look into the real and concrete context in which the trainee operates.
- **Determination of criteria to assess expected results and benefits.** Identifying and setting an adequate assessment plan allows expected results to be determined and verifies whether the obtained results are coherent or not with the objectives. Assessment criteria to measure benefits and results should, in fact, originate from the course objectives set at the beginning of the course. For example, if the objective of the course was to enhance specific competences of the target group, the criteria should focus on measuring the improved performance linked to that specific competence. In this respect and in terms of sustainability, the acquisition of new competences should be recognised at the institutional/organisational level. Additionally, the new competences acquired should be integrated in a recognised national qualifications framework in order to be re-usable and comparable throughout the country.

- **Raising general awareness of e-Learning methodologies and techniques.** Promoting and spreading information on the projects/courses to be implemented is an essential and key factor for the future. This means also raising course participants' awareness on the opportunities and potential offered by the e-Learning methodologies and techniques. In terms of sustainability of the course and of e-Learning in general, promotion, dissemination and awareness raising will produce a cascade effect that will reach a wider audience than that of just a single course and will further contribute to the growing interest in e-Learning.

## 7.2. Sustaining an e-Learning project

Ensuring sustainability can be clustered in terms of three different levels, as follows:

- **Institutional**, referring to what the institution involved in the project could aim to do to make the project sustainable in the future.
- **National**, referring to the reforms that could take place at a more systemic level.
- **Regional**, referring to the possible options for keeping regional dialogue and cooperation going after a particular project ends.

During the implementation and delivery phase of the e-Learning MEDA-ETE course, ETF and Giunti Labs always endeavoured to obtain constant feedback on course progress (using face-to-face meetings, assessment questionnaires and annual forum discussions) from the stakeholders (participants and representatives of the institutions). These tools were aimed at collecting suggestions and advice on the didactics as well as on the sustainability, both for the MEDA-ETE project itself and for the pilot projects implemented by participants. In particular, during the MEDA-ETE Second Annual Forum, participants elaborated proposals for sustainability that are particularly worthy of mention as key points of reflection.

**Institutional level.** In order to ensure a cascade effect it would be necessary to:

- Allow trained trainees to train other teachers in the same institutions
- Provide a roll out for in-service training in the same institutions
- Further develop, localise and integrate developed pilot courses in the institutions and put them at disposal of other trainers and students
- Develop new programmes in the framework of MEDA to provide more support
- Raise awareness among managers in terms of recognition for e-Learning.

**National level.** At this level it would be necessary to:

- Recognise e-Learning competences based on international standards (e-tutor/instructional designer/content expert, etc)
- Recognise e-Learning as a pedagogical method at the same level of other methods.
- Develop e-Learning competences among the teacher trainer community in each country at the national level
- Envisage in-service training on e-Learning for ministries of education
- Create a national network between institutions to cooperate on e-Learning
- Set up a structure for developing e-Learning policies on use and recognition of e-Learning as a pedagogical method and e-Learning competences.

**Regional level.** At this level it would be necessary to:

- Use possible synergies with existing programmes (such as the MedNetU e-Learning project)
- Set up a common virtual platform at the regional level (or sub-regional level or bilaterally) to share the e-Learning courses developed with other institutions/with other trainers
- Share the developed project, if possible
- Share documents between countries with similar contexts
- Create a regional forum to function after the project ends
- Create and facilitate a virtual network/forum to be accessible after the project ends.

Beside these aspects two other important structural/institutional aspects should be taken into

consideration in order to support the sustainability of an e-Learning project:

- **Certification of e-Learning competences and recognition of e-Learning.** In most countries, even those where e-Learning is more advanced and popular, there are several elements of recognition that remain unclear or around which there is no consensus. The debate is still ongoing also in terms of certification of e-Learning competences, topic such as quality, new competences for the teachers, evaluation and assessment, still remain open for further discussion (as concluded in the MEDA-ETE Annual Forum 2008 conclusions from the thematic session on e-Learning).
- **Technological barriers, digital divide and digital literacy.** The penetration and further use of new technologies in education and training (and society in general) depends on many factors, including costs, a free telecommunication market, etc. Technological development will depend very much on the overall economic development of a country. Some issues, however, could be addressed specifically by the institutions, for example, by seeking further support (at the national or international level) to equip school laboratories, raise awareness on the benefits of using technology to enhance the quality of education and training, etc. In most countries and also in the EU, the integration (and acceptance) of new technologies in traditional environments like schools and universities has proven to be a long and difficult process and has met (and still meets) with resistance. For these reasons, we believe that institutions should, wherever possible, be initiators of these changes and raise awareness on e-Learning in general (as concluded in the MEDA-ETE Annual Forum 2008 conclusions from the thematic session on e-Learning).

The main focus and objectives of the course was to train teachers and trainers to acquire didactic and pedagogical methodologies and so be able to conceive, design, deliver and manage an e-Learning course. Two other key elements should be taken into account when thinking about the sustainability factors of an e-Learning project and its future implementation:

- The need for an appropriate, well structured and well planned tutoring action that should support students all along the training and learning path
- The need for more classroom or face-to-face sessions, especially in the starting phase of the course or at specific critical moments, thus reflecting that an e-Learning course should maintain its blended learning aspect, striking a balance between distance and presence training sessions.

## 8. BEST CASES OF E-LEARNING PILOT PROJECTS

As mentioned in the previous chapters, in the MEDA-ETE course, besides self-assessment tests and outcome-based assessments, learners were required, for the final evaluation, to draft an e-Learning course project in ICT or tourism, tuning it to the particular needs of their own environment and training institution. Five e-Learning pilot projects were selected as the best cases for presentation here.

The evaluation criteria that were used for the selection of the best e-Learning pilot projects are described in Table 11.

<b>Quality</b>	5 = Excellent	Quality assessment will be based on content. In order to decide on a score, the assessor should answer certain questions: <ul style="list-style-type: none"> <li>• Is the project based on a proper requirements analysis?</li> <li>• Are the issues, learning objectives and content clearly defined and logically interrelated?</li> <li>• Can the expected objectives be achieved through the proposed approach and methodology?</li> <li>• Are the proposed activities and materials in line with the learning objectives?</li> </ul>
	4 = Good	
	3 = Adequate	
	2 = Poor	
	1 = Very poor	
<b>Level of impact</b>	I = Institutional	The assessor should indicate whether the pilot project is included in the regular curriculum of the institution or rolls out to a wider level (national or regional).
	N = National	
	R = Regional	
<b>Type of innovation</b>	TH = Technological	The assessor should indicate if the innovation is related to the methodology, the technology or the training content.
	C = Content	
	M = Methodological	
<b>Level of sustainability</b>	H = High	The level of sustainability is linked to the capacity of the project for contributing to: <ul style="list-style-type: none"> <li>• Capacity building in the partner countries and in particular in teacher training institutions.</li> <li>• Overall education and training reform integrating the pilot project at the institutional and country levels.</li> <li>• Regular sharing of experiences and knowledge in the region.</li> </ul>
	M = Medium	
	L = Low	

*Table 11. Evaluation criteria used to select the best e-Learning pilot projects*

## Algerie

<b>Project title</b>	Introduction to graphic animation with Macromedia Flash Mx						ICT		
<b>Reference</b>	Kamel Ghezzaz, Ministry of Training and Professional Teaching and Institut de Formation Professionnelle de Birkhadem – Algiers – Training of Trainers, Algeria								
<b>Project duration (hours and period)</b>	This project lasts 1 renewable year and duration per cycle is 10 weeks.								
<b>Funding</b>	Ministry of Training and Professional Teaching from the budget allocated to the annual training and improvement programmes earmarked for vocational training institutes (training of trainers).								
<b>Project Description</b>	<p>The software Macromedia Flash Mx will be useful to learners of the Algerian training and professional teaching sector to design animations destined for the publication of teaching tools in the exercise of their duties.</p> <p>In this course learners will explore the basics of Flash, including tools and functionalities, and will then create different types of animations. They will also examine how to publish Flash movies and Flash animations (projections, CD-ROM, web pages).</p>								
<b>Project goals/expected results</b>	To allow trainers from the training and professional teaching sector at national level to acquire knowledge in the field of graphic animation and the use of e-Learning tools.								
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>			
<input checked="" type="checkbox"/> Institutional	<input type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low	

## Egypt

<b>Project title</b>	Applying e-Learning in hospitality education						T		
<b>Reference</b>	Dr. Mohamed Abou Taleb								
<b>Project duration</b>	12 months								
<b>Funding</b>	Proposal to be funded by the Faculty of Tourism Hotels, Menofia University. Estimated budget \$100,000								
<b>Project Description</b>	<p><b>Background</b> - The project aims at the development of an important element in the educational process at Menofia University by developing practical training in hospitality. This project aims to earn a permanent place for practical training in order to achieve the principle of equal opportunities for students of the hospitality sector.</p> <p><b>Purpose</b> – The aim is to enhance the quality of education in the hospitality area, producing a number of e-Learning courses that meet the needs of stakeholders (industry, education sector and students).</p> <p><b>Activities</b> – Phases covering preparing infrastructure and superstructure for the project, workshops and seminars related to the use of electronic tools, arranging train-the-trainer programmes to increase the number of trainers, establishing a web site (adapting Moodle for this purpose) for project awareness, and handouts and brochures about the project aims.</p>								
<b>Project goals / expected results</b>	<ul style="list-style-type: none"> <li>- To create e-Learning courses in the hospitality area with a database of electronic resources.</li> <li>- To create a network with other educational institutes.</li> </ul>								
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>			
<input checked="" type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low	

## Israel

<b>Project title</b>	English for academic purposes in the field of electrical engineering							<b>ICT</b>	
<b>Reference</b>	Linda Weinberg: lweinber@ort.org.il - Suzy Esquenazi Cohen: suzyecohen@hotmail.com								
<b>Project duration</b>	12 months, starting from September to October of the following year, with a follow-up phase.								
<b>Funding</b>	No external funding will be sought as the development of the course could be part of the teaching staff's regular activities.								
<b>Project Description</b>	<p><b>Background</b> - From the year 2000, the institution has been interested in integrating computer technology and the Internet in academic studies in an organised way in order to enhance the learning experience, to encourage greater participation in the learning process by learners and to find more effective methods of evaluation. Electronic and Internet literacy are an essential requirement for students and integrating electronic resources into an EAP course meets this need while providing access to a wealth of authentic materials around which tasks with relevance to the learners' needs can be developed.</p> <p><b>Purpose</b> - The main goals of this project are to integrate ICT and elements of e-Learning into the learning process, supporting students in a more autonomous approach to learning combined with the ability to engage in teamwork, to improve all aspects of the language (in the four main skills areas), to expand the technical and sub-technical lexical base as a prerequisite for improved reading comprehension and to provide a course structure which can be developed and adapted across subject areas so that subsequently we can build courses which will work in other departments too. Concurrently it is hoped that these changes will improve both teaching and the quality of the educational content including the teaching and learning materials. Greater learner autonomy can enhance learner motivation and lead to improved learning outcomes.</p> <p><b>Activities</b> - The primary areas of activity within this project include developing complementary course sites, developing an LMS to allow teachers to follow student processes and obtaining the support of Institution to realise the project.</p>								
<b>Project goals / expected results</b>	From the student site, students will gain content knowledge, will enhance their linguistic skills and will develop greater autonomy through student-centred and individualised or group activities. At the institutional level the result is proof-of-concept: if the course fulfils its goals and the students are satisfied it can be adapted to suit other subject areas and in other departments in the college.								
<b>Level of impact</b>			<b>Type of innovation</b>				<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	

## Jordan

<b>Project title</b>	How to design an e-training course (train-the-trainer)							<b>ICT</b>	
<b>Reference</b>	1- Zaid Alqaisi: email zalqaisi@vtc.gov.jo 2- Murad Alkurdi: email mkordi@vtc.gov.jo 3- Ahmad Altalafih: email atalafeeh@vtc.gov.jo 4- Nabeha Alkhangy: email nalkhnji@vtc.gov.jo								
<b>Project duration</b>	6 months								
<b>Funding</b>	Vocational Training Cooperation budget								
<b>Project Description</b>	<p><b>Background</b> - The trainers need to develop their knowledge of e-Learning methodology and its characteristics.</p> <p><b>Purpose</b> - To support the development of trainer skills development in e-Learning methodology</p> <p><b>Activities</b> - To develop a blended learning course on the issue of e-Learning methodology, considering two types of activities in the project (individual activity like OCs and practices and collective activities like forums).</p>								
<b>Project goals / expected results</b>	Training for 60 trainers on the issue of training in e-Learning								
<b>Level of impact</b>			<b>Type of innovation</b>				<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> Institutional	<input type="checkbox"/> National	<input type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	

## Turkey

<b>Project title</b>	HTML programming for VET students							<b>ICT</b>	
<b>Reference</b>	Hidayet Çitfci hidayetciftci@gmail.com Banu Olgunoğlu banues@yahoo.com Sevgi Boydak sevgi_boydak@hotmail.com								
<b>Project duration</b>	12 months, starting from October to October of the following year.								
<b>Funding</b>	Not defined								
<b>Project description</b>	<p><b>Background</b> - The e-Learning methodology course seems the best approach for a course focusing on HTML. The blended learning approach combines face-to-face sessions (because the students are VET students), web-based learning, constructivist theories and an online course. The e-Learning methodology online course has been conceived taking into account the outcomes of the requirements analysis and methodology collection.</p> <p><b>Purpose</b> - During the course, students will develop a web site of their choice, become familiar with HTML 4.01 Strict, understand how to use basic CSS for presentations and produce valid markup.</p> <p><b>Activities</b> - Building of networking, creation of online environments, defining the course offering/availability and following content production, managing teacher training, evaluation and quality and information sharing.</p>								
<b>Project goals / expected results</b>	Students accept the combination of classroom and e-Learning environment positively, finding in the human factor one of the keys to a successful introduction to e-Learning.								
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>			
<input checked="" type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	

# 9. INVENTORY OF E-LEARNING PILOT PROJECTS

## INVENTORY OF E-LEARNING PILOT PROJECTS

Country	Type of field	Title of the project	EN/FR
Algeria	ICT	Introduction to the development of web page with JavaScript	FR
Algeria	ICT	Architecture and maintenance of a micro-computer	FR
Algeria	ICT	Architecture and maintenance of a computer	FR
Algeria	ICT	Hardware Informatique	FR
Algeria	ICT	CSW web site creation	FR
Algeria	ICT	Introduction to graphic animation with Macromedia Flash MX	FR
Algeria	T	Tourist circuits	FR
Algeria	T	Customer care in food service	FR
Egypt	ICT	Microsoft visual Studio ASP .NET	EN
Egypt	ICT	Basic of Hydraulic	EN
Egypt	ICT	Visual basic	EN
Egypt	ICT	Hardware and Network Technology	EN
Egypt	T	Applying e-Learning in Hospitality Education	EN
Israel	ICT	English for Academic Purposes in the field of Eletrical Engineering (EAP for Eletrical Engineering)	EN
Israel	ICT	Advance Calculus	EN
Israel	ICT	License to Surf - Safe Internet e-Learning course	EN
Jordan	ICT	How to design e-training course (Train the Trainer)	EN
Jordan	ICT	Computer Networking	EN
Jordan	ICT	Using e-training technology on the field of tourism and ICT	EN
Jordan	T	Food production (oriental food)	EN
Jordan	T	Food service	EN
Morocco	ICT	EITIA Consulting towards e-Learning	FR
Morocco	ICT	MMFFEE-APC - Vocational Training E-APC	FR
Morocco	ICT	I.T.A.G. for e-Learning	FR
Morocco	ICT	Architecture and operation of computers	FR
Morocco	ICT	eL3RI: Training in e-Learning level L3 in IT Networks	FR
Morocco	ICT	Creation and exploitation of data bases by SGBDR Pratique Access	FR
Morocco	ICT	Technological development for all	FR
Occupied Palestinian Territory	ICT	Development of e-Learning for training	EN
Occupied Palestinian Territory	ICT	Help in e-Learning	EN
Occupied Palestinian Territory	ICT	Microsoft Networking Services Infrastructure	EN
Occupied Palestinian Territory	T	Introduction to Eletrical Machines	EN
Occupied Palestinian Territory	ICT	Local Area Networks (LAN'S) course	EN

Occupied Palestinian Territory	ICT	Introduction to C++ Programming	EN
Occupied Palestinian Territory	ICT	Training the schools teachers of Technology subject in Palestine	EN
Occupied Palestinian Territory	ICT	Introduction to technology for e-Learning	EN
Syria	ICT	Train The Trainer How To use HTML language to create a web site	EN
Tunisia	ICT	Ecole Ouverte des travailleurs	FR
Tunisia	ICT	Technicien en Maintenance Informatique à distance	FR
Tunisia	ICT	Hardware informatique	FR
Tunisia	ICT	Learning guide of Flash MX	FR
Tunisia	T	Project "E-2T": Implementation of tourism E-Training	FR
Turkey	ICT	Fireworks program course for VET students	EN
Turkey	ICT	Computer Aided Circuit Design	EN
Turkey	ICT	Hardware and Network Technologies	EN
Turkey	ICT	HTML Programming for VET Students	EN
Turkey	T	(Service facilities in the golf sports) The Golf Tourism	EN
Turkey	T	Cleanliness and usage in the Hotels	EN

## Algeria

<b>Project title</b>		Introduction to the development of web pages with JavaScript			ICT			
<b>Reference</b>		Kamel BENACHOUR email: mcpbenach@hotmail.com						
<b>Project duration (hours and period)</b>		1 renewable year, with a cycle duration of 10 weeks.						
<b>Funding</b>		Ministry of Training and Professional Teaching, from the budget allocated to the vocational training centre programme.						
<b>Project Description</b>		<p><b>Context</b> – The software Macromedia Dreamweaver will be used to train and professionally teach learners to easily design web pages for the publication of teaching tools during the exercise of their duties. Learners will explore the basics of html and JavaScript, including tools and functionalities, and will create different types of web utilities (for example, advertising pages, search engines, learner data collection forms). They will also examine how to publish these different web pages.</p> <p><b>Objectives</b> – At the end of learning through the envisaged course, learners will have:</p> <ol style="list-style-type: none"> <li>1. Acquired knowledge in the field of interactive web site development</li> <li>2. Improved web sites in order for them to interact with all user events.</li> </ol> <p><b>Activities</b> – If we envisage to develop e-Learning training programmes, it is preferable to conduct a technical study and a well-studied project in order to design a suitable environment. This will consist of:</p> <ul style="list-style-type: none"> <li>• Installing, configuring and hosting an LMS platform</li> <li>• Setting up an administrator and tutors for learning process follow-up</li> <li>• Integrating, designing and developing contents and e-Learning learning objects</li> <li>• Testing the load of learners simultaneously connected to the platform in order to ensure durability</li> <li>• Testing the project on a sample of learners</li> <li>• Launching a course as an annual training action.</li> </ul>						
<b>Project goals/expected results</b>		To enable learners in the training and professional teaching sector at the national level to acquire knowledge in the field of interactive web site development using the highest-level tools.						
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> Institutional	<input type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	Architecture and maintenance of a micro-computer		ICT					
<b>Reference</b>	Souissi Boularbah, Boutiche Mourad, Ait-Bachir Hafid and Bourihane Said Coordinators of the e-Learning Training Department Minister of Training and Professional Teaching, Algiers							
<b>Project duration (hours and period)</b>	1 year							
<b>Funding</b>	Ministry of Training and Professional Teaching							
<b>Project Description</b>	<p><b>Context</b> – Our first project will follow a structured, strict and consistent methodology and will ensure avoidance of certain obstacles (loss of time, cost explosion, etc.). It will strengthen training and professional training and will contribute to meeting the economic and industrial needs of the country.</p> <p><b>Objectives</b> – Development of a pilot project and establishment of a full training path followed by salaried learners, with the aims of rethinking the e-Learning approach within companies in order to better meet the expectations of users and better integrate it with their in-progress information flow. This project will facilitate access to knowledge and define efficient practices in terms of use and appropriation.</p> <p><b>Activities</b> – The success of a distance course is directly linked to the motivation and behaviour of learners, and to reach the end of training, learners will need tutoring and technical support.</p> <p>A well-prepared e-Learning project will include:</p> <ul style="list-style-type: none"> <li>• Training specifications</li> <li>• Definition of training objectives</li> <li>• Module choices</li> <li>• Training and module scripting</li> <li>• Construction of a platform-based tool</li> <li>• Learner follow-up</li> <li>• Organisation of learner entry to the tool</li> <li>• Organisation of media and tutoring for the period of training.</li> </ul>							
<b>Project goals/expected results</b>	<p><b>General objectives:</b></p> <ul style="list-style-type: none"> <li>• To propose homogenous and customised training</li> <li>• To offer training to users who can train themselves when necessary and at any time</li> <li>• To reduce learner travel and accommodation costs</li> <li>• To enable a free learning rhythm</li> <li>• To propose in-service training.</li> </ul> <p><b>Pedagogic objectives:</b></p> <ul style="list-style-type: none"> <li>• To identify the different components of a micro-computer</li> <li>• To assemble and disassemble the different elements of a micro-computer</li> <li>• To install suitable systems and different types of software</li> <li>• To test and commercialise the micro-computer</li> </ul>							
<b>Level of impact</b>		<b>Type of innovation</b>		<b>Level of sustainability</b>				
<input checked="" type="checkbox"/> Institutional	<input type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	Architecture and maintenance of a computer		ICT					
<b>Reference</b>	Malika Laribi malika.laribi@enp.edu.dz							
<b>Project duration (hours and period)</b>	1 year							
<b>Funding</b>	N.A.							
<b>Project Description</b>	<p><b>Context</b> – Relying on equipment with increasingly complex technology forces us to attach particular importance to the maintenance function that plays a curative role, the objective of which is, ultimately, to reduce the duration of machine immobilisation. For this reason, we have proposed a project based on the architecture and maintenance of a computer.</p> <p><b>Objectives</b> – At the end of training, learners should be able, within an IT environment, to:</p> <ul style="list-style-type: none"> <li>• Install and uninstall each component of a PC from an empty case</li> <li>• Know the necessary hardware configuration for the various activities of a PC</li> <li>• Intervene in case of failure of a system (micro, mini or network), regardless of the software or hardware and to make a reliable diagnosis and remedy the failure.</li> </ul> <p><b>Activities</b> –</p> <ul style="list-style-type: none"> <li>• To know and be able to assemble the elements of a computer</li> <li>• To handle hardware and install software</li> <li>• To identify and analyse the causes of malfunctioning</li> <li>• To put into service, maintain and repair the hardware.</li> </ul>							
<b>Project goals/expected results</b>	<p>Learners can have access to the distance learning module and progress in the units at their own rhythm. They will have available theory elements, practical examples of maintenance application, self-evaluation tests, summary forms and a FAQ section that will enable them to solve any difficulties they encounter, whether or not they are linked to the platform or participating in a training module.</p> <p>At the end of training, the learners will be able to identify each element of a PC, assemble components, correctly install piloting and application software, correctly localise faults, reboot the PC and ensure good operation of the PC.</p>							
<b>Level of impact</b>			<b>Type of innovation</b>		<b>Level of sustainability</b>			
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	HARDWARE INFORMATIQUE						ICT		
<b>Reference</b>	MELIANI FADHILA m_fadhila@yahoo.fr								
<b>Project duration (hours and period)</b>	4 weeks								
<b>Funding</b>	Ministry of Training and Professional Teaching								
<b>Project Description</b>	<p><b>Context</b> – The course is intended for people with basic ICT knowledge and accustomed to surfing the net. The course will be focused on:</p> <ul style="list-style-type: none"> <li>• Description of the different components of a computer</li> <li>• Assembly and disassembly of the machine</li> <li>• Fine-tuning in order to enhance machine performance.</li> </ul> <p><b>Objectives</b> – The course will allow learners to:</p> <ul style="list-style-type: none"> <li>• Define and use ICT hardware</li> <li>• Assemble and disassemble a computer</li> <li>• Install the different peripherals</li> <li>• Fine-tune in order to enhance machine performance.</li> </ul> <p><b>Activities</b> –</p> <ul style="list-style-type: none"> <li>• Analysis of platforms</li> <li>• Design engineering and development of content (text management, web pages, audios, videos, etc)</li> <li>• Scripting</li> <li>• Launching of training</li> <li>• Online tutoring to successfully implement training.</li> </ul>								
<b>Project goals/expected results</b>	<ul style="list-style-type: none"> <li>• Definition and use of ICT hardware</li> <li>• Assembly and disassembly of a computer</li> <li>• Installation of different peripherals</li> <li>• Fine-tuning in order to enhance machine performance</li> <li>• Reduced travel and accommodation costs.</li> </ul>								
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>			
<input checked="" type="checkbox"/> Institutional	<input type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	CSW web site creation						ICT		
<b>Reference</b>	Ms Bousnina Lila and Ms Habak Wahiba email : lila.bousnina@caramail.fr and habakwah@yahoo.fr								
<b>Project duration (hours and period)</b>	3 days								
<b>Funding</b>	Ministry of Training and Professional Teaching in collaboration with INDEFOC.								
<b>Project Description</b>	<p><b>Context</b> – The creation of a web site becomes almost a forced transition for companies. The web site is the showcase of a company and its creation must be carefully thought out. By combining creativity and ICT tools, this project proposes a type of training allowing you to create your own web site with no initial knowledge. The web sites are functional and value the image of a company.</p> <p><b>Objectives</b> –</p> <ul style="list-style-type: none"> <li>• To define and design a site</li> <li>• To create web pages</li> <li>• To lay out texts and images</li> <li>• To create hypertext links</li> <li>• To publish an online site.</li> </ul> <p><b>Activities</b> –</p> <ol style="list-style-type: none"> <li>1. To create a web site</li> <li>2. To design the pages</li> <li>3. To enter hypertext links</li> <li>4. To apply a layout method</li> <li>5. To prepare and integrate images</li> <li>6. To upload the site online.</li> </ol>								
<b>Project goals/expected results</b>	The participants learn how to implement a site from A to Z.								
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>			
<input checked="" type="checkbox"/> Institutional	<input type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	Introduction to graphic animation with Macromedia Flash Mx						ICT	
<b>Reference</b>	Kamel Ghezzaz, Ministry of Training and Professional Teaching and Institut de Formation Professionnelle of Birkhadem – Algiers – Training of Trainers, Algeria							
<b>Project duration (hours and period)</b>	This project lasts 1 renewable year and duration per cycle is 10 weeks.							
<b>Funding</b>	Ministry of Training and Professional Teaching from the budget allocated to the annual training and improvement programmes earmarked for vocational training institutes (training of trainers).							
<b>Project Description</b>	The software Macromedia Flash Mx will be useful to learners of the Algerian training and professional teaching sector to design animations destined for the publication of teaching tools in the exercise of their duties. In this course learners will explore the basics of Flash, including tools and functionalities, and will then create different types of animations. They will also examine how to publish Flash movies and Flash animations (projections, CD-ROM, web pages).							
<b>Project goals/expected results</b>	To allow trainers from the training and professional teaching sector at national level to acquire knowledge in the field of graphic animation and the use of e-Learning tools.							
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> Institutional	<input type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	Tourist circuits						T	
<b>Reference</b>	Mansour Sid-ahmed Phone: 021 48 13 03 / 07 92 76 57 00 Email : mansidah@yahoo.fr Mansouri Meriem Phone: 07 79 34 25 97 Email : mansmeriem@yahoo.fr							
<b>Project duration</b>	12 months							
<b>Funding</b>	Funding is conceivably within the budget of the institution, without resorting to external funding (by a ministry).							
<b>Project Description</b>	<p><b>Background</b> – This project was initiated with the supervision of MFEP, integrating CNEPD, on 18<sup>e</sup> and 19<sup>e</sup> September 2006 in order to participate in the 1st Regional Workshop in Sestri Levante. The project for the course itself was started following the beginning of the course and of training with a group of 3 persons, 2 from CNEPD and 1 teacher of the institute of El Tarf.</p> <p><b>Purpose</b> – To design a tourism course in order to teach a methodology for subsequent experimentation on a course class and make it available to teachers and trainees.</p> <p><b>Activities</b></p> <ul style="list-style-type: none"> <li>• To design content</li> <li>• To disseminate courses to a pilot group if the institution accepts the experiment</li> <li>• To design and follow-up tutoring</li> <li>• To train platform and technical personnel.</li> </ul>							
<b>Project goals / expected results</b>	To design other e-Learning courses and disseminate this type of teaching in the sector in view of generalising e-Learning, making multi-media content available to teachers in the sector in order to make design costs profitable and reach distant areas with no training structures or specialist teachers.							
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>		
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	Customer care in food service	<b>T</b>						
<b>Reference</b>	Coordinator of the Training and Professional Teaching Department							
<b>Project duration</b>	14 weeks (January 2009 - April 2009)							
<b>Funding</b>	Ministry of Training and Professional Teaching							
<b>Project Description</b>	<p><b>Background</b> – Hotel service and tourist management is technological and very scientific and demands a wide range of knowledge. In Algeria training in food and hotel sectors must not be held back with respect to the concrete requirements of the international market. Through our online training tool it is possible to re-adapt the food and hotel sectors in order to meet professional requirements and comply with international regulations in terms of competences and qualification, promotion and commercialisation.</p> <p><b>Purpose</b> – Implementation of a pilot project and a complete training path to be followed by learners who are already active in this field. The objective of the project is to: offer online training in the food and hotel sectors in order to meet the needs and expectations of domestic and foreign customers who are increasingly demanding and so improve the image of Algeria across the globe.</p> <p><b>Activities</b>  Training specifications  Definition of training objectives  Module choices  Training and module scripting  Construction of the platform-based tool  Learner follow-up  Organisation of learner entry to the tool  Organisation of media and tutoring for the period of training.</p>							
<b>Project goals / expected results</b>	<p><b>General objectives:</b> By the end of training, the courses will have enabled learners to acquire competences, skills, knowledge and know-how in the field of food and hotel service.  In addition, this project :</p> <ul style="list-style-type: none"> <li>- proposes homogenous and customised training</li> <li>- offers training to people who would like to train themselves when necessary and at any time</li> <li>- allows for a reduction of learner travel and accommodation costs</li> <li>- allows for a free learning rhythm</li> <li>- proposes in-service training.</li> </ul> <p><b>Pedagogic objectives:</b> By the end of training learners will be able to approach customers with all the theoretical and practical competences required in order to:</p> <ul style="list-style-type: none"> <li>- Establish the food supplying needs</li> <li>- Provide for beverages, products and linen</li> <li>- Implement cleaning and maintenance of rooms and materials in compliance with hygiene and safety and security rules</li> <li>- Provide for rooms before the arrival of customers</li> <li>- Welcome customers and take care of them from their arrival until their departure</li> <li>- Ensure food service in agreement with the instructions and objectives of the company</li> <li>- Ensure beverage service in agreement with the instructions and objectives of the company</li> <li>- Clear and place materials and furniture of the restaurant</li> <li>- Issue invoices and provide receipts.</li> </ul> <p>For each training objective we have identified the following qualification levels:</p> <ul style="list-style-type: none"> <li>- Awareness: to have some notions on the concepts chosen</li> <li>- Familiarisation: to apply know-how, skills and competences in known situations</li> <li>- Mastery: to acquire practical and professional competences</li> <li>- Expertise: to apply competences in real situations and be able to analyse and evaluate these situations.</li> </ul>							
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>		
<input type="checkbox"/> Institutional	<input type="checkbox"/> National	<input checked="" type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low

# Egypt

<b>Project title</b>	Microsoft Visual Studio ASP.NET						<b>ICT</b>		
<b>Reference</b>	Mohamed Saleh Ali moh_gdvet@yahoo.com								
<b>Project duration</b>	40 training hours								
<b>Funding</b>	Funding from Ministry of Education and involved organisations such as the ETF, the European Union and GTZ Germany (technical education agent).								
<b>Project Description</b>	<p><b>Background</b> - The Microsoft Visual Studio ASP.NET has some hard points, and blended learning can facilitate hard points and mastery points by development of content.</p> <p><b>Purpose</b> – Students will increase their knowledge in describing and using ADO.NET and in connecting with the Microsoft SQL server database.</p> <p><b>Activities</b> – To assess our target group (students in vocational training) by questionnaire; to prepare content from the requirements analysis; to develop the content and prepare the syllabus; to make the storyboard; to choose the platform suitable for our project; to plan our tutors and their roles; to assess methods for testing knowledge and practical outcomes.</p>								
<b>Project goals / expected results</b>	Improvement in skills and competences of the students which will reflect on employment in the labour market with positive results. Increasing the number of participants who will share this program. Dissemination of e-Learning projects in other subjects and other branches.								
<b>Level of impact</b>			<b>Type of innovation</b>				<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input checked="" type="checkbox"/> Low	

<b>Project title</b>	Basics of hydraulics						<b>ICT</b>		
<b>Reference</b>	E/ Mohamed Mohamed Gad Allah gadallah2006@yahoo.com E/Akram Ismail Mohamed akraam@yahoo.com								
<b>Project duration</b>	2 months								
<b>Funding</b>	Funding from Ministry of Education and involved organisations such as the ETF, the European Union and GTZ Germany (technical education agent).								
<b>Project Description</b>	<p><b>Background</b> - The basics of hydraulics have some hard points, and blended learning can facilitate hard points and mastery points by development of content.</p> <p><b>Purpose</b> – Students will increase their knowledge in the basics of hydraulics</p> <p><b>Activities</b> – To assess our target group (students in vocational training) by questionnaire; to prepare content from the requirements analysis; to develop the content and prepare the syllabus; to make the storyboard and the version for hydraulic pumps; to choose the platform suitable for our project; to plan our tutors and their roles; to assess methods for testing knowledge and practical outcomes.</p>								
<b>Project goals / expected results</b>	Improvement in skills and competences of the students which will reflect on employment in the labour market with positive results. Increasing the number of participants who will share this program. Dissemination of e-Learning projects in other subjects and other branches.								
<b>Level of impact</b>			<b>Type of innovation</b>				<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> Institutional	<input type="checkbox"/> National	<input type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	Visual Basic							<b>ICT</b>	
<b>Reference</b>	E / Mohammed Alkilany aliadel_sti@yahoo.com E / Amal Farid Ibrahim amal_farid@hotmail.com								
<b>Project duration</b>	1 month								
<b>Funding</b>	Funding from Ministry of Education and involved organisations such as the ETF, the European Union and GTZ Germany (technical education agent).								
<b>Project Description</b>	<p><b>Background</b> – Visual basics has some hard points, and blended learning can facilitate the hard points and mastery points by development of content.</p> <p><b>Purpose</b> - Students will increase their knowledge of Visual Basic.</p> <p><b>Activities</b> - To assess our target group (students in vocational training) by questionnaire; to prepare content from the requirements analysis; to develop the content and prepare the syllabus; to make the storyboard; to choose the platform suitable for our project; to plan our tutors and their roles; to assess methods for testing knowledge and practical outcomes.</p>								
<b>Project goals / expected results</b>	Improvement in skills and competences of the students which will reflect on employment in the labour market with positive results. Increasing the number of participants who will share this program. Dissemination of e-Learning projects in other subjects and other branches.								
<b>Level of impact</b>			<b>Type of innovation</b>				<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	Hardware and network technology							<b>ICT</b>	
<b>Reference</b>	E/ Fathi Mohamed Belal fathi@sadat-city.com								
<b>Project duration</b>	10 months								
<b>Funding</b>	Funding from Ministry of Education and involved organisation such as: ETF org Europe union and Gtz org Germany ( technical education agent )								
<b>Project Description</b>	<p><b>Background</b> – Hardware and network technology has some hard points, and blended learning can facilitate the hard points and mastery points by development of content.</p> <p><b>Purpose</b> – Students will increase their knowledge of hardware and network technology</p> <p><b>Activities</b> – To assess our target group (students in vocational training) by questionnaire; to prepare content from the requirements analysis; to develop the content and prepare the syllabus; to make the storyboard; to choose the platform suitable for our project; to plan our tutors and their roles; to assess methods for testing knowledge and practical outcomes.</p>								
<b>Project goals / expected results</b>	Improvement in skills and competences of the students which will reflect on employment in the labour market with positive results. Increasing the number of participants who will share this program. Dissemination of e-Learning projects in other subjects and other branches.								
<b>Level of impact</b>			<b>Type of innovation</b>				<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	Applying e-Learning in hospitality education						<b>T</b>	
<b>Reference</b>	Dr. Mohamed Abou Taleb							
<b>Project duration</b>	12 months							
<b>Funding</b>	Proposal to be funded by the Faculty of Tourism Hotels, Menofia University. Estimated budget \$100,000							
<b>Project Description</b>	<p><b>Background</b> - The project aims at the development of an important element in the educational process at Menofia University by developing practical training in hospitality. This project aims to earn a permanent place for practical training in order to achieve the principle of equal opportunities for students of the hospitality sector.</p> <p><b>Purpose</b> – The aim is to enhance the quality of education in the hospitality area, producing a number of e-Learning courses that meet the needs of stakeholders (industry, education sector and students).</p> <p><b>Activities</b> – Phases covering preparing infrastructure and superstructure for the project, workshops and seminars related to the use of electronic tools, arranging train-the-trainer programmes to increase the number of trainers, establishing a web site (adapting Moodle for this purpose) for project awareness, and handouts and brochures about the project aims.</p>							
<b>Project goals / expected results</b>	<ul style="list-style-type: none"> <li>- To create e-Learning courses in the hospitality area with a database of electronic resources.</li> <li>- To create a network with other educational institutes.</li> </ul>							
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low

# Israel

<b>Project title</b>	English for Academic Purposes in the field of electrical engineering						<b>ICT</b>		
<b>Reference</b>	Linda Weinberg: lweinber@ort.org.il - Suzy Esquenazi Cohen: suzyecohen@hotmail.com								
<b>Project duration</b>	12 months, starting from September to October of the following year, with a follow-up phase.								
<b>Funding</b>	No external funding will be sought as the development of the course could be part of the teaching staff's regular activities.								
<b>Project Description</b>	<p><b>Background</b> - From the year 2000, the institution has been interested in integrating computer technology and the Internet in academic studies in an organised way in order to enhance the learning experience, to encourage greater participation in the learning process by learners and to find more effective methods of evaluation. Electronic and Internet literacy are an essential requirement for students and integrating electronic resources into an EAP course meets this need while providing access to a wealth of authentic materials around which tasks with relevance to the learners' needs can be developed.</p> <p><b>Purpose</b> - The main goals of this project are to integrate ICT and elements of e-Learning into the learning process, supporting students in a more autonomous approach to learning combined with the ability to engage in teamwork, to improve all aspects of the language (in the four main skills areas), to expand the technical and sub-technical lexical base as a prerequisite for improved reading comprehension and to provide a course structure which can be developed and adapted across subject areas so that subsequently we can build courses which will work in other departments too. Concurrently it is hoped that these changes will improve both teaching and the quality of the educational content including the teaching and learning materials. Greater learner autonomy can enhance learner motivation and lead to improved learning outcomes.</p> <p><b>Activities</b> - The primary areas of activity within this project include developing complementary course sites, developing an LMS to allow teachers to follow student processes and obtaining the support of Institution to realise the project.</p>								
<b>Project goals / expected results</b>	From the student site, students will gain content knowledge, will enhance their linguistic skills and will develop greater autonomy through student-centred and individualised or group activities. At the institutional level the result is proof-of-concept: if the course fulfils its goals and the students are satisfied it can be adapted to suit other subject areas and in other departments in the college.								
<b>Level of impact</b>			<b>Type of innovation</b>				<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	Advanced calculus						<b>ICT</b>		
<b>Reference</b>	Rivka Weiser Biton rivkaw@braude.ac.il								
<b>Project duration</b>	12 months								
<b>Funding</b>	Not explained								
<b>Project Description</b>	<p><b>Background</b> - ORT Braude College has students from a variety of educational backgrounds. So the further target of this course is to help students adjust quickly to academic requirements.</p> <p><b>Purpose</b> – The goal of the course is to improve student learning skills and help them adjust quickly to academic requirements. These objectives will also help to bridge mathematical gaps between the students.</p> <p><b>Activities</b> – The course, which is a blended learning course focusing on scientific logic issues, is facilitated by an instructor and accompanying website, both providing information and tools for better use of the Internet and for raising learner awareness of safe behaviour on the net. The course is based on a weekly schedule and the learner is given one week for each topic. During the week the learner studies the specific topic and at the end of each week (in accordance with the scheduled dates) the learner sends the assignments required. Every week the instructor opens a new special topic. The time expected for the work is 2-3 hours.</p>								
<b>Project goals / expected results</b>	In this course our goal is to improve student learning skills in mathematics, such as the ability to know the important steps to build knowledge and the ability to ensure that they achieve the necessary level of knowledge, the ability for formulating ideas in writing, the ability to understand scientific articles, etc.								
<b>Level of impact</b>			<b>Type of innovation</b>				<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	License to surf – safe Internet e-Learning						<b>ICT</b>	
<b>Reference</b>	Michal Biran, ORT Israel R&D and Training Centre							
<b>Project duration</b>	20 months							
<b>Funding</b>	Funding source for requirements analysis, design and development of the course is ORT R&D and Training Centre. Funding source for teacher training and implementation is ORT high schools.							
<b>Project Description</b>	<p><b>Background</b> - With the technological developments of the modern age, the Internet has become an inseparable part of adolescent lives. This raises questions that are both ethical and behavioural and which must be considered as part of the process of education. The purpose of this project is to raise student awareness of the risks they face online as it pertains to their privacy and information security.</p> <p><b>Purpose</b> - The designed course is aimed to teach learners (students aged between 15 and 18 and their teachers) safe Internet practices that reduce their chances of becoming a victim of cyber-crime.</p> <p><b>Activities</b> - The project will produce an e-Learning course, designed in a blended learning (online training with face-to-face meetings) approach. Implementation in schools will be over 8 weeks (24 hours for each student articulated in 2 units), with weekly evaluations to check the learning path. A tutoring staff will follow up learners and there will be actions to support teachers in schools in disseminating a culture of safety for the Internet.</p>							
<b>Project goals / expected results</b>	<ul style="list-style-type: none"> <li>- Train over 2000 students and 10 teachers from different schools every year in safer use of the Internet.</li> <li>- Improve competency and proficiency of Internet use among students and teachers in ORT high schools.</li> </ul>							
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low

## Jordan

<b>Project title</b>	How to design e-training course (train-the-trainer)	<b>ICT</b>
<b>Reference</b>	1- Zaid Alqaisi: email zalqaisi@vtc.gov.jo 2- Murad Alkurdi: email mkordi@vtc.gov.jo 3- Ahmad Altalafih: email atalafeeh@vtc.gov.jo 4- Nabeha Alkhangy: email nalkhnji@vtc.gov.jo	
<b>Project duration</b>	6 months	
<b>Funding</b>	Vocational Training Cooperation budget	
<b>Project Description</b>	<p><b>Background</b> - The trainers need to develop their knowledge of e-Learning methodology and its characteristics.</p> <p><b>Purpose</b> – To support the development of trainer skills development in e-Learning methodology</p> <p><b>Activities</b> – To develop a blended learning course on the issue of e-Learning methodology, considering two types of activities in the project (individual activity like OCs and practices and collective activities like forums).</p>	
<b>Project goals / expected results</b>	Training for 60 trainers on the issue of training in e-Learning	
<b>Level of impact</b>		
<input checked="" type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> Regional
<b>Type of innovation</b>		
<input type="checkbox"/> Technological	<input type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological
<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	Computer networking	<b>ICT</b>
<b>Reference</b>	Firas Nweiran firaswww@lycos.com	
<b>Project duration</b>	5 months	
<b>Funding</b>	Vocational Training Cooperation budget	
<b>Project Description</b>	<p><b>Background</b> - To support students in entering the labour market at the end of school it is fundamental to improve student skills in computer networking, primarily a need of Jordan's major beneficiaries (high school).</p> <p><b>Purpose</b> – To increase student knowledge and skills in computer networking</p> <p><b>Activities</b> – To develop a blended learning course on the issue of computer networking, considering two types of activities in the project (individual activity like OCs and practices and collective activities like forums).</p>	
<b>Project goals / expected results</b>	To support 100 high school graduates giving them essential knowledge to enter the Jordan labour market.	
<b>Level of impact</b>		
<input type="checkbox"/> Institutional	<input type="checkbox"/> National	<input checked="" type="checkbox"/> Regional
<b>Type of innovation</b>		
<input checked="" type="checkbox"/> Technological	<input type="checkbox"/> Content	<input type="checkbox"/> Methodological
<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	Using e-training technology in the field of tourism and ICT	<b>T</b>
<b>Reference</b>	Raed Mohammad Alhammad, Eptisam Jepreel Mohamad Awad, Mohamad Sameer Naji, Hussein Autoon	
<b>Project duration</b>	Every year there will be a period in e-Learning during the specialisation	
<b>Funding</b>	Public funds	
<b>Project Description</b>	<p><b>Background</b> – To follow the training of trainers using e-Learning methodology used in 2005</p> <p><b>Purpose</b> – To develop trainer skills and knowledge in e-Learning process and in using Moodle in vocational training centres.</p> <p><b>Activities</b> – Defining trainer groups in hotels to develop and use specific materials, using even electronic cards.</p>	
<b>Project goals / expected results</b>	To enhance the training process, to reduce the time and effort of training exercises and to reduce training costs.	
<b>Level of impact</b>		
<input type="checkbox"/> Institutional	<input type="checkbox"/> National	<input checked="" type="checkbox"/> Regional
<b>Type of innovation</b>		
<input checked="" type="checkbox"/> Technological	<input type="checkbox"/> Content	<input type="checkbox"/> Methodological
<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	Food production (oriental food)						<b>T</b>		
<b>Reference</b>	Jihad Masandeh rfakes@siyaha.org (Ali Yousef Ali, Khaled Al Jaziri, Ayman al Tamimi, Mohamed Irashid)								
<b>Project duration</b>	6 months								
<b>Funding</b>	USAID								
<b>Project Description</b>	<p><b>Background</b> – The oriental food course project has three courses (cold food, kitchen hot food and oriental sweets) and uses a blended learning approach.</p> <p><b>Purpose</b> – The trainee should be able to produce and cook food and oriental sweets.</p> <p><b>Activities</b> – Students will follow a blended learning course sharing training in the private sector (6 months in a vocational centre and 6 months in hotels).</p>								
<b>Project goals / expected results</b>	To graduate professional trainees to work in 5-star Jordanian hotels.								
<b>Level of impact</b>			<b>Type of innovation</b>				<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> Institutional	<input type="checkbox"/> National	<input checked="" type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	Food Service						<b>T</b>		
<b>Reference</b>	Jihad Masandeh rfakes@siyaha.org (Mahmood Maharmeh, Isam Ajarmeh, Nimer Kharfan, Mohamed Rashid)								
<b>Project duration</b>	6 months								
<b>Funding</b>	USAID								
<b>Project Description</b>	<p><b>Background</b> – The food service project has three courses (food production, food service and housekeeping) and uses a blended learning approach.</p> <p><b>Purpose</b> – The purpose is to train students for the hotel industry and hospitality.</p> <p><b>Activities</b> – Students will follow a blended learning course sharing training in the private sector (6 months in a vocational centre and 6 months in hotels).</p>								
<b>Project goals / expected results</b>	To graduate professional trainees to work in 5-star Jordanian hotels.								
<b>Level of impact</b>			<b>Type of innovation</b>				<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> Institutional	<input type="checkbox"/> National	<input checked="" type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	

## Morocco

<b>Project title</b>		EITIA consulting towards e-Learning			ICT			
<b>Reference</b>		<a href="http://www.eitia.ma/EITIACONSULTING/formation/index.php">http://www.eitia.ma/EITIACONSULTING/formation/index.php</a>						
<b>Project duration (hours and period)</b>		5 months						
<b>Funding</b>		N.A.						
<b>Project Description</b>		<p><b>Context</b> – Current interest in continuous learning and the need to integrate it within a global strategy. Given its recent development, in Morocco continuous training can be considered a growth market. We estimate that in the last 4 years annual growth has been 20% and the market should continue growing at a similar rate in the years to come. Unfortunately, at the national level, continuous training sessions have never had much success due to many reasons, among them:</p> <ul style="list-style-type: none"> <li>- The choice of modules (modules did not match participant needs)</li> <li>- Heterogeneous participant profiles</li> <li>- Heterogeneous participant levels.</li> </ul> <p>EITIA aims at improving the quality of its training sessions for the benefit of trainees, participants and trainers and animators.</p> <p><b>Objectives</b> – By the end of this project, the aim of EITIA was to introduce a new product that would enhance its reputation at the national and international levels and double its turnover in 3 years, while keeping the current profitability of the group (15%).</p> <p><b>Activities</b> – The main activity of our project was to propose training modules for organisations that meet the requirements and needs of participants through an e-Learning platform on the net. This would enable distance training at times that best suited participants. This project will not replace traditional learning, since some tutors will be mobilised to assist all the participants on the net and 5 will participate in face-to-face training. In this case e-Learning will be aimed more at supporting participants during and after training.</p>						
<b>Project goals/expected results</b>		<p>To meet this need for a distance learning platform that brings together the different elements and offer and the demand, thus allowing a more precise definition of:</p> <ul style="list-style-type: none"> <li>- The current situation of the market</li> <li>- Long-term market trends</li> <li>- Needs and expectations of this type of activity</li> <li>- Potential profit and growth expected in the mid- and long- term.</li> </ul>						
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>		
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	MMFFE-APC – Vocational Training E-APC		ICT					
<b>Reference</b>	<p><b>M. Abdelhafid BENMOUSSA</b> 061 39 20 39 abenmoussa@multihexa.net.ma</p> <p><b>M. Nouredine AARAB</b> 061 92 04 23 n_aarab@hotmail.com</p> <p><b>Ms. Najate BENABID</b> nbenabid1@gmail.com or nbenabid1@hotmail.com</p>							
<b>Project duration (hours and period)</b>	<b>24 months</b> (2009 and 2010)							
<b>Funding</b>	<p>Amount of the project: 3 million dirhams Financed by: Ministry of Employment and Vocational Training</p>							
<b>Project Description</b>	<p><b>Context</b> Within the framework of modernisation of Moroccan vocational training and adapting it to the labour market, the Department of Vocational Training has adopted APC as an approach to national training for a few years. But the improvement of a significant number of vocational training trainers throughout Morocco needs huge efforts and resources in terms of time, teaching personnel, money and premises. In order to overcome or at least minimise financial, human and geographical difficulties and to simultaneously meet the needs of the Department of Vocational Training and the needs of trainers, we think that it is important to commit ourselves to online fine-tuning of training. This means implementing an online training programme for trainers of the Department of Vocational Training.</p> <p><b>Objectives</b></p> <ul style="list-style-type: none"> <li>- To contribute to improving resources</li> <li>- To prepare trainers to take on responsibilities in fine-tuning competences and to contribute to their personal development</li> <li>- To deploy ICTs within vocational training centres</li> <li>- To encourage fine-tuning training via the Internet.</li> </ul> <p><b>Activities</b></p> <ul style="list-style-type: none"> <li>- January 2009 - February 2009: choice of pedagogic platform</li> <li>- March 2009 - April 2009: design of e-Learning modules</li> <li>- May 2009 - August 2009: instructional design</li> <li>- September 2009 - December 2009: technical engineering</li> <li>- January 2010 - December 2010: deployment.</li> </ul>							
<b>Project goals/expected results</b>	<ul style="list-style-type: none"> <li>- Mastery of use and administration of a platform</li> <li>- Implementation of description sheets for the learning modules</li> <li>- Scripting and granularisation of content</li> <li>- Creation of content</li> <li>- Preparation of a team of online tutors</li> <li>- Preparation of a technical support team.</li> </ul>							
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>		
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	ITAG for e-Learning		ICT					
<b>Reference</b>	http://www.ITAG.ma/Elerning//index.ASP							
<b>Project duration (hours and period)</b>	5 months							
<b>Funding</b>	N.A.							
<b>Project Description</b>	<p><b>Context-</b> In Morocco continuous training can be considered a growth market. Unfortunately, at the national level, continuous training sessions have never had much success due to many reasons, among them:</p> <ul style="list-style-type: none"> <li>- The choice of modules (modules did not match participant needs)</li> <li>- Heterogeneous participant profiles</li> <li>- Heterogeneous participant levels.</li> </ul> <p>ITAG aims at improving the quality of its training sessions for the benefit of trainees, participants and trainers and animators.</p> <p><b>Objectives-</b> To introduce a new product that would allow ITAG to enhance its reputation at the national and international levels, facilitating transfer of knowledge and know-how to participants and improving the turnover of the institution.</p> <p><b>Activities-</b> The main activity of our project is to propose training modules to organizations that meet the requirements and needs of participants in a platform. This would allow participants to train at a distance (training flexibility). This project will not replace traditional learning, since tutors will be mobilised to assist participants on the net and 5 tutors will give face-to-face training. In this respect, e-Learning will act as more as a support during and after training.</p>							
<b>Project goals/expected results</b>	N.A.							
<b>Level of impact</b>			<b>Type of innovation</b>		<b>Level of sustainability</b>			
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	Architecture and operation of computers		ICT					
<b>Reference</b>	Said TARIK ipiab@menara.ma, Saidtarik62@yahoo.fr							
<b>Project duration (hours and period)</b>	2 working years							
<b>Funding</b>	Institution							
<b>Project Description</b>	<p><b>Context -</b> The main motivation that led us to choose e-Learning is pragmatic-moral.</p> <p><b>Objectives -</b> The main objectives of our project are:</p> <ul style="list-style-type: none"> <li>- Improvement of the knowledge of learners in the field of architecture and operation of computers</li> <li>- Introduction to the use of e-Learning tools</li> <li>- Improvement of their level of communication and their responsibility for the productions requested by their instructors</li> <li>- Development of competences and skills and deployment of efforts to develop new competences and skills.</li> </ul> <p><b>Activities –</b> We envisage e-Learning as a training mode with multiple facets. By disseminating the course on an online platform and by making our trainees familiar with the specific ICTs of the chosen platform, we will be able to encourage communication, reflection and team working through debates and discussion forums, and thereby enriching the content of the modules proposed.</p>							
<b>Project goals/expected results</b>	Our adherence to this type of training project requires deploying the necessary efforts in order to achieve the expected results. Our intention is to make our pilot project emerge, so as to distinguish ourselves from the rest of the participants, without omitting the collaborative and sharing nature of knowledge and information. The success of all means the success of the group and, hence, of the whole project.							
<b>Level of impact</b>			<b>Type of innovation</b>		<b>Level of sustainability</b>			
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	eL3RI : Training in e-Learning level 3 in IT networks		ICT					
<b>Reference</b>	Abdelouahed KRIOUILE miage01@menara.ma, www.groupemiage.net							
<b>Project duration (hours and period)</b>	2 years (2009-2010)							
<b>Funding</b>	By the institution (Group MIAGE)							
<b>Project Description</b>	<p><b>Context</b> – Following the implementation of the train-the-trainer programme (Component 4 MEDA-ETE), MIAGE decided to experiment with e-Learning within the framework of level 3 training in IT networks.</p> <p><b>Objectives</b> –</p> <ul style="list-style-type: none"> <li>To create training leading to certification by the centre and to a national diploma, if any, of L3 level in IT Networks</li> <li>To exploit ICTs in order to better improve the revenues of MIAGE</li> <li>To contribute to the development of competences in our country by offering training to any person having an educational level Bac+2 and wishing to improve his/her level of mastery in IT networks.</li> </ul> <p><b>Activities</b> –</p> <ul style="list-style-type: none"> <li>January 2009 - March 2009: Training of the team who will be responsible for eL3RI.</li> <li>March 2009 - July 2009: <ul style="list-style-type: none"> <li>✓ Implementation of the digital contents of the course</li> <li>✓ Hosting of contents.</li> </ul> </li> <li>October 2009-December 2010: Launch and accompanied use of eL3RI.</li> </ul>							
<b>Project goals/expected results</b>	<ul style="list-style-type: none"> <li>Implementation for the first time of e-Learning within our institution.</li> <li>Development of appropriate content for e-Learning training.</li> <li>Creation of an e-Learning teaching skills team and of a project technical support team.</li> </ul>							
<b>Level of impact</b>			<b>Type of innovation</b>		<b>Level of sustainability</b>			
<input checked="" type="checkbox"/> Institutional	<input type="checkbox"/> National	<input type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	Creation and exploitation of data bases by SGBDR Pratique Access		ICT					
<b>Reference</b>	www.cesakup.ma							
<b>Project duration (hours and period)</b>	2009-2010 one year							
<b>Funding</b>	Le Centre D'enseignement Des Sciences Appliquées –CESA-Casablanca Morocco							
<b>Project Description</b>	<p><b>Context:</b> Project developed within the MEDA-ETE Component 4 e-Learning train-the-trainers project. This project aims at developing an online training module for trainees of the centre (according to the competences approach) and registered candidates for inter- and intra-company continuous training.</p> <p><b>Objectives:</b> This e-Learning project will have, as a starting point, the development of the module SGBDR Access (design, exploitation and administration of data bases using SGBDR), but the objective is to master design and implementation of e-Learning courses according to APC for initial training in order to finalise all ICT-oriented training modules according to the referentials designed within the MEDA-ETE project. In terms of continuous learning, this project meets the increasing needs of companies to train their employees at a distance.</p> <p><b>Activities:</b> Since June 2007 we have implemented training within the MEDA-ETE Component 4 e-Learning train-the-trainers of EFPT. This project will end on 17 October 2008. Once it is ended, it will be important to review the different stages of the method ADDIE to make the necessary modifications and corrections to the actual launch of our project.</p>							
<b>Project goals/expected results</b>	<ul style="list-style-type: none"> <li>Training of CESA human resources on design and delivery of e-Learning training</li> <li>Acquisition of techniques and organisational, teaching and technical methodologies for e-Learning.</li> </ul>							
<b>Level of impact</b>			<b>Type of innovation</b>		<b>Level of sustainability</b>			
<input checked="" type="checkbox"/> Institutional	<input type="checkbox"/> National	<input type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	Technological development for all		ICT					
<b>Reference</b>	AJAOUN Khadija, Ecole MIAGE Tangier, Morocco							
<b>Project duration (hours and period)</b>	2.5 years							
<b>Funding</b>	Group MIAGE, consulting firm SMART PARTNER and ministries of vocational training in Maghreb countries							
<b>Project Description</b>	<p>Many young people have been forced to work and have not finished their studies in order to cope with the increasing demands of the current lifestyle. The idea of an e-Learning course project originated from this situation, within the notion of the modernisation of training, especially in terms of technological development, and so as to meet the training needs of Bac+2 graduates not having time to access schools for face-to-face training. This course will initially be implemented on a small scale for the target population of MIAGE. After evaluation and analysis of results some modifications will be made and the project will be extended to other institutions in Maghreb countries with some improvements. In this case, we will need the financing from the ministry. There is another context of this project, which is the extension of the group MIAGE to the big cities of Morocco. The idea of this project is to harmonise training and maintain the same course for all the graduates of MIAGE. A third aspect is the network of contacts we have with companies wishing to train their employees, and, therefore, offering possibilities of financing.</p>							
<b>Project goals/expected results</b>	<ul style="list-style-type: none"> <li>• To effectively achieve real and measurable improvement in the acquisition of knowledge, know-how, competences and new working methods</li> <li>• To train and retrain teachers in real time or at a later time in a way that traditional methods do not permit</li> <li>• To train 50 Bac+2 graduates in technological development via the Internet</li> <li>• To establish a culture of assisted self-study in Maghreb countries</li> <li>• To adapt the institutions involved to tools and methods that enable the production of content and innovation to go beyond the role of consumers only</li> <li>• To encourage young people in their technological development</li> <li>• To improve the level of education in the Maghreb countries.</li> </ul>							
<b>Level of impact</b>		<b>Type of innovation</b>			<b>Level of sustainability</b>			
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low

## Occupied Palestinian Territory

<b>Project title</b>	Development of e-Learning for training							<b>ICT</b>	
<b>Reference</b>	Derar Mraiziq								
<b>Project duration</b>	12 months								
<b>Funding</b>	Not defined								
<b>Project Description</b>	<p><b>Background</b> – Referring to the MEDA-ETE course, it seems interesting to develop a training action to assist the partners in the vocational area in the MEDA countries in further developing and using e-Learning in education and training.</p> <p><b>Purpose</b> – To enable learners to acquire the competences to deploy e-Learning in a VET institution and understand the different phases of an e-Learning course, its design, management, delivery and evaluation.</p> <p><b>Activities</b> – To define a process that supports learners (who are trainers) to experiment directly with the e-Learning approach and e-Learning methodology.</p>								
<b>Project goals / expected results</b>	At the end of the course, learners are able to implement an e-Learning course adapted to the needs of their own country and training institution.								
<b>Level of impact</b>			<b>Type of innovation</b>				<b>Level of sustainability</b>		
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	Help in e-Learning							<b>ICT</b>	
<b>Reference</b>	E.Rabee N. N. Abu-Shamleh Rabee_abushamleh@yahoo.com								
<b>Project duration</b>	10 weeks								
<b>Funding</b>	The Ministry of Education and Higher Education								
<b>Project Description</b>	<p><b>Background</b> – The use of an e-Learning methodology could have many positive effects on education in the occupied Palestinian territory</p> <p><b>Purpose</b> – To develop e-Learning in the occupied Palestinian territory and the use of this methodology</p> <p><b>Activities</b> – To define a system to support e-Learning methodology by defining communication tools, promoting ICTs and creating content.</p>								
<b>Project goals / expected results</b>	This project will support the creation of a new field in e-Learning methodology in the occupied Palestinian territory and will also develop the field of education.								
<b>Level of impact</b>			<b>Type of innovation</b>				<b>Level of sustainability</b>		
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	Microsoft networking services infrastructure							<b>ICT</b>	
<b>Reference</b>	Yusuf Shuqair y_shuqair@hotmail.com								
<b>Project duration</b>	12 months								
<b>Funding</b>	The Ministry of Education and Higher Education, supported by International Bank								
<b>Project Description</b>	<p><b>Background</b> - The project idea came from the plan of deploying e-Learning courses in institutions and vocational schools. The plan is to start building e-Learning courses by piloting in selected specialisations, such as computer maintenance</p> <p><b>Purpose</b> - The project gives the necessary skills needed to create a Microsoft Windows networking infrastructure design that supports the required network applications. Each module provides a solution for one component of the network infrastructure, such as DHCP or DNS.</p> <p><b>Activities</b> – To present the project in schools, to provide studies and to highlight the importance of the project, to specify the target group, to define the roles of instructors, to train and qualify the team and to provide a suitable infrastructure to build the project.</p>								
<b>Project goals / expected results</b>	The goal of the project is to construct an e-Learning course which will combine with other courses to transfer the whole specialisation to an e-Learning model, with the possibility - at the end of the project – to be extended to other specialisations.								
<b>Level of impact</b>			<b>Type of innovation</b>				<b>Level of sustainability</b>		
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input checked="" type="checkbox"/> Low	

<b>Project title</b>	Introduction to electrical machines						<b>ICT</b>		
<b>Reference</b>	Sameer Hanna Khader sameer@ppu.edu								
<b>Project duration</b>	16 weeks								
<b>Funding</b>	Funded by the e-Learning unit at Palestine Polytechnic University								
<b>Project Description</b>	<p><b>Background</b> - This course is an introduction to a series of advanced courses in the field of industrial automation and forms the basis for all the upcoming courses.</p> <p><b>Purpose</b> – The general goal is to teach learners to be capable of understanding the basic skills required to deal with online material for education and training.</p> <p><b>Activities</b> – This course takes a blended learning (web-based and face-to-face) format and will be delivered using Moodle. There will be 3 sections in 6 units. The activities will be: to develop a new teaching method (e-Learning/blended learning) to be used in training fields, to adopt Moodle LMS to deliver the course using all its basic and advanced features and to use HTML, Word, PDF, PowerPoint and other authoring tools to create course content.</p>								
<b>Project goals / expected results</b>	The main purpose of the course is to train learners to use technologies in order to become used to e-Learning.								
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>			
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	Local Area Networks (LANs) course						<b>ICT</b>		
<b>Reference</b>	Salah Haj Ahmed Salahbestpost@yahoo.com								
<b>Project duration</b>	6 weeks								
<b>Funding</b>	Ministry of Education and Higher Education								
<b>Project Description</b>	<p><b>Background</b> - The purpose of this course is to train students of communication workshop and computer maintenance workshops in Palestinian vocational schools in the fundamentals of Local Area Networks (LANs) and to exchange and share information in every day life between persons and between different establishments.</p> <p><b>Purpose</b> – To develop student skills in LAN issues using an e-Learning methodology.</p> <p><b>Activities</b> – To create interactive learning objects to present new knowledge, promote individual and collective activities, activate passive knowledge and encourage collaborative activities especially in practical exercises in workshops.</p>								
<b>Project goals / expected results</b>	Different goals include to reduce overall cost and learning times, to increase retention, to develop knowledge and to prove completion and certification.								
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>			
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	Introduction to C++ Programming						<b>ICT</b>		
<b>Reference</b>	Mohammad Salameh (Palestine Technical University) and Luai Malhis (An-Najah N. University)								
<b>Project duration</b>	8 months								
<b>Funding</b>	Not defined								
<b>Project Description</b>	<p><b>Background</b> - The course is to be given to first year college students majoring in computer-related fields. It presents the fundamental concepts of programming using C++. It covers the basic programming structures, including identifiers, data types, control structures, arrays, functions, struts (records). The course will be offered to students at both An-Najah N. University and Palestine Technical University.</p> <p><b>Purpose</b> – To increase and develop student skills in programming and using the e-Learning methodology</p> <p><b>Activities</b> – The principal activities of the project are to develop teaching materials with the help of a multimedia specialist (4 months) and to offer the course to students in the spring semester of 2009 with the help of tutors and LMS administrators (4 months). The course will include both online sessions and face-to-face meetings.</p>								
<b>Project goals / expected results</b>	To develop and deliver an online blended course on introductory C++ programming, test it in 2 universities and promote cooperation between the 2 institutions.								
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>			
<input checked="" type="checkbox"/> Institutional	<input type="checkbox"/> National	<input type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	Training school teachers of technology in the occupied Palestinian territory							<b>ICT</b>	
<b>Reference</b>	En. Jalal Salaimeh jalals@ppu.edu								
<b>Project duration</b>	12 months								
<b>Funding</b>	Not defined								
<b>Project Description</b>	<p><b>Background</b> - Technology is a new subject added to the Palestinian school curriculum. It concerns various fields of technology and engineering. It is difficult to find the necessary number of teachers, each of whom has various fields of specialisation (most of those who have been employed to teach this subject are engineers or IT specialists who have good knowledge and skills in a specific field but limited in other fields). It was necessary to provide these employees with the required knowledge and skills in various fields. It was difficult to bring them together for a training course so the most suitable method e-training or online training.</p> <p><b>Purpose</b> - This course aims at providing technology teachers and trainers with knowledge of the technological aspects of various technology fields for the purposes of teaching and learning.</p> <p><b>Activities – In order</b> to achieve the main objective of this project the following solutions and activities are to be followed:</p> <ol style="list-style-type: none"> <li>1) To design and develop an online e-Learning course by assessing topics to determine the knowledge and skills to be delivered through the course, designing modules according to various fields (engineering drawing, mechanical engineering, electrical engineering, environments, energy, IT, etc) and delivering this material online</li> <li>2) To allow a pilot group of teacher to access the course, assessing the knowledge and skills of ICT teachers and providing training to teachers to be able to access and use this online course</li> <li>3) To start training and acquiring the knowledge</li> <li>4) To train a number of subject matter experts in various fields of engineering to design and develop an online course.</li> </ol>								
<b>Project goals / expected results</b>	<p>The expected results of this project are:</p> <ol style="list-style-type: none"> <li>1) To develop a platform to deliver the content of the technology subject curriculum online to any new teacher</li> <li>2) To enhance the knowledge and skills of teachers of this subject</li> <li>3) To improve the quality of teaching of this new subject (technology).</li> </ol>								
<b>Level of impact</b>			<b>Type of innovation</b>				<b>Level of sustainability</b>		
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	Introduction to technology for e-Learning							<b>ICT</b>	
<b>Reference</b>	Abdul Fattah A. Khalifeh af_khalifeh@hotmail.com								
<b>Project duration</b>	19 weeks								
<b>Funding</b>	Internally by Ministry of Education and Higher Education								
<b>Project Description</b>	<p><b>Background</b> - This course is a pilot project that will assist and promote the adoption of e-Learning in training in higher education sector by top management and decision makers. The general goal of this course is to help learners understand the basic skills required to deal with online material for education and training.</p> <p><b>Purpose</b> – The main objectives beyond this course (as a pilot project) are to train ministry employees on how to use, support and facilitate technology in training and learning processes and to foster a correct use of the new technologies and methodologies to train skillful ministry employees. The main purpose of the course is to train learners to employ technologies in order to be familiar with e-Learning.</p> <p><b>Activities</b> – To create interactive learning objects to present new knowledge, to promote individual and collective activities and to activate passive knowledge and collaborative activities especially in practical exercises in workshops. This course takes a blended learning (web-based and face-to-face) format and will be delivered using Moodle. The activities will be: to develop a new teaching method (e-Learning/blended learning) to be used in training fields, to adopt Moodle LMS to deliver the course using all its basic and advanced features and to use HTML, Word, PDF, PowerPoint and other authoring tools to create course content .</p>								
<b>Project goals / expected results</b>	<p>The main project deliverables include the following:</p> <ul style="list-style-type: none"> <li>- To employ modern technology by establishing an e-Learning platform LMS (Moodle) that promotes an active approach to learning</li> <li>- To design and create an electronic and reusable course (training package) to be used through the Moodle platform or through other institutions inside or outside the occupied Palestinian territory</li> <li>- To qualify and train 21 ministry employees on how to use technology in training and increase their technical skills to improve their educational attainment (capacity building)</li> <li>- To enhance the Palestinian governmental sector in terms of e-Learning.</li> </ul>								
<b>Level of impact</b>			<b>Type of innovation</b>				<b>Level of sustainability</b>		
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	

## Syria

<b>Project title</b>	Train-the-trainer: How to use HTML language to create a web site.		<b>ICT</b>					
<b>Reference</b>	Syrian team engner10@hotmail.com kamdwr@yahoo.com mmbeshl@yahoo.com mahranmasri185@hotmail.com mudhar@aloola.sy adam66@scs-net.org nahlaromia@gmail.com iman.baradi@gmail.com							
<b>Project duration</b>	37 hours							
<b>Funding</b>	ITE project budget							
<b>Project Description</b>	<p><b>Background</b> – The project derives from the need expressed by major beneficiaries (ITE trainers) and the knowledge gained from the ITE project.</p> <p><b>Purpose</b> – To propose a learning activity based on an e-Learning methodology, combining the individual use of proposed learning resources, self-assessment and collaborative activity through open discussion and ICTs. Learners will learn technological issues in a technological way, using a metacognitive approach.</p> <p><b>Activities</b> – To create interactive learning objects to present new knowledge, to promote individual and collective activities and to activate passive knowledge and collaborative activities.</p>							
<b>Project goals / expected results</b>	The main goal is to train 150 trainers from ITE and to teach them how to use HTML language to create a web site.							
<b>Level of impact</b>		<b>Type of innovation</b>		<b>Level of sustainability</b>				
<input checked="" type="checkbox"/> Institutional	<input type="checkbox"/> National	<input type="checkbox"/> Regional	<input type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low

## Tunisia

<b>Project title</b>	Open school of workers	ICT
<b>Reference</b>	Address: IPST Tunis 6 rue Christophe Colomb 1001 Tunis Web site: www.ipst.edunet.tn Telephone: 216 240 060	
<b>Project duration (hours and period)</b>	An ambitious and relevant project that needs time and advice.	
<b>Funding</b>	Financed by the Ministry of Education and Training.	
<b>Project Description</b>	<p><b>Context</b> – This project refers to the right to study during a whole lifetime.</p> <p><b>Objectives</b> – To ensure workers the right to continue their studies and get a professional or university diploma allowing them to deepen their factual knowledge and promote their professional situation.</p> <p><b>Activities</b> – Distance training for workers.</p> <p><b>Solutions</b> – The Edunet platform, with its owner and designer (Institut National de Bureautique et de Micro-informatique), was used to implement the distance training tool. The platform ILIAS (LMS) was installed later on.</p>	
<b>Project goals/expected results</b>	To allow the greatest number of workers to adhere to this training mode, to explore all sectors of activities and to meet the needs of learners across Tunisia. Expected result: diploma for thousands of workers in different sectors, such as management, accounting, finance, international commerce, IT, electronics, mechanics, etc.	
<b>Level of impact</b>		
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional
<b>Type of innovation</b>		
<input type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological
<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	Distance IT maintenance technician	ICT
<b>Reference</b>	Dhouha MEJRI dmejri@laposte.net 96909992	
<b>Project duration (hours and period)</b>	An ambitious and relevant project aiming to generalise this training.	
<b>Funding</b>	Financed by the Ministry of Education and Training	
<b>Project Description</b>	<p><b>Context</b> – This project falls within the development of distance training in vocational training centres.</p> <p><b>Objectives</b> – To ensure young people or workers the right to benefit from training or to continue their studies and get a professional diploma offering them employment opportunities and allowing them to deepen their factual knowledge and integrate it in their professional environment and promote their professional situation.</p> <p><b>Activities</b> – Distance training for young people and workers.</p> <p><b>Solutions</b> – A special platform dedicated to this project and shared use of the platform Edunet with its owner and designer (Institut National de Bureautique et de Micro-informatique), was used to implement the distance training tool. The platform ILIAS (LMS) was installed later on.</p>	
<b>Project goals/expected results</b>	To allow the greatest number of young people and workers to use this training mode, to explore this growth sector, to generalise this experience to other sectors and to meet the needs of the learners across Tunisia. Expected result: to generalise this training mode.	
<b>Level of impact</b>		
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional
<b>Type of innovation</b>		
<input type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological
<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>			IT hardware			ICT		
<b>Reference</b>			<p><b>Project leader:</b> not yet appointed  <b>Centre National de Formation de Formateurs et d'Ingénierie de Formation</b>  Address: 5, Rue de France Rades, 2040 Tunisie  Phone: (+216).443.963 / (+216).443.292  Fax: (+216).441.375  Web site: www.cenaffif.edunet.tn</p> <p><b>Agence Tunisienne de la Formation Professionnelle</b>  1 rue de Libye  1001 Tunis  Tunisia  Phone: 21671885959  Fax: 21671885999  Web site: www.atfp.edunet.tn</p> <p><b>Centre National de Formation Continue et De promotion Professionnelle</b>  10, Rue de Kélibia- Bab Elkadra - 1075 TUNIS  Phone: 71 285 067- 71 846 112 –  Fax: 71 847 225- 71 789 681  Web site: www.cnfcpp.nat.tn</p>					
<b>Project duration (hours and period)</b>			10 weeks					
<b>Funding</b>			<b>Centre National de Formation de Formateurs et d'Ingénierie de Formation</b>					
<b>Project Description</b>			<p><b>Context</b> – The Initiation to Photoshop project falls within the technical training of trainers of vocational training.</p> <p><b>Objectives</b> –</p> <ul style="list-style-type: none"> <li>• To favour a permanent learning culture in an environment based on knowledge and innovation</li> <li>• To take up the challenges of the growth of the number of trainees in vocational training in graphic design</li> <li>• To favour the development of training over the Internet.</li> </ul> <p><b>Activities</b> –</p> <ol style="list-style-type: none"> <li>1. Definition of the specifications of the project</li> <li>2. Training of designers, teachers and administrators of the platform (tutoring, distance learning)</li> <li>3. Design of modules and creation of content</li> <li>4. Implementation of the technical infrastructure (platform, etc)</li> <li>5. Implementation of training and first promotion of training.</li> </ol> <p><b>Solutions</b> –</p> <ul style="list-style-type: none"> <li>• 3 program designer-trainers in the vocational training centre in graphic arts</li> <li>• 5 trainers of vocational training centres trained in tutoring (introduction to distance collaborative work and distance tutoring)</li> <li>• 2 technicians from partner teaching institutions trained in order to acquire the status and competences of a network engineer</li> <li>• A training platform: <ul style="list-style-type: none"> <li>✓ Hosts the teaching (textual and multimedia) content</li> <li>✓ Controls access to resources</li> <li>✓ Offers teaching activities</li> <li>✓ Facilitates tutoring and piloting activities (follow-up of learners)</li> <li>✓ Facilitates piloting of training organisation resources (management of trainers, logistic means and techniques)</li> <li>✓ Manages the community of learners</li> <li>✓ Administratively manages documents associated with training (training certificates, etc).</li> </ul> </li> </ul>					
<b>Project goals/expected results</b>			<ul style="list-style-type: none"> <li>• Design of modules and content</li> <li>• Training of trainers, tutors and managers of the project</li> <li>• Training of technical personnel for installation, management and maintenance of a distance teaching tool.</li> </ul>					
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>		
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>		Learning guide to Flash MX			ICT			
<b>Reference</b>		www.ipst.edunet.tn						
<b>Project duration (hours and period)</b>		Unlimited duration						
<b>Funding</b>		CNFCPP École Ouverte des Travailleurs						
<b>Project Description</b>		<p><b>Context</b> – A distance continuous training tool via the Internet for workers. Training can be followed on the web site of the Ecole Ouverte from:</p> <ul style="list-style-type: none"> <li>• Secondary schools acting as distance training centres</li> <li>• Home, the work place or Publinet.</li> </ul> <p>In addition, learners will have individualised supervision and follow-up and group sessions in the concerned secondary schools.</p> <p><b>Objectives-</b> To allow workers to enrol in:</p> <ul style="list-style-type: none"> <li>• Secondary teaching institutions (ISET, ESG of Tunis, ISG of Gabes, FSEG of Sfax, École Supérieur de Commerce of Tunis) for the preparation of a Senior Technical Diploma.</li> <li>• Sectorial vocational training centres for the preparation of a Senior Technical Certificate.</li> </ul> <p><b>Activities</b> – Self-study and consultation of the teaching content hosted on the web site of the École Ouverte des Travailleurs:</p> <ul style="list-style-type: none"> <li>• Free from the IT laboratories of the secondary schools;</li> <li>• From any other place via the Internet (Publinets, home, work)</li> <li>• Tutoring follow-up of learners by teachers through tutoring sessions</li> <li>• Synchronous: face-to-face or distance (chat)</li> <li>• Asynchronous: electronic mail</li> <li>• Group sessions: weekly face-to-face sessions combined with work experience in the different subjects.</li> </ul>						
<b>Project goals/expected results</b>		<p>Experimental phase: 2003-2004, EOT in 5 regions  First phase: 2004-2005, EOT in 12 regions  Second phase: 2005-2006, generalisation to all the regions  Third phase: 2006-2009, opening of other branches and BTP and BTS enrolment of 1000 participants.</p>						
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>		
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	E-2T project: Implementation of tourism e-training						T	
<b>Reference</b>	<p><b>Centre National de Formation de Formateurs et d'Ingénierie de Formation</b>  Phone: (+216).443.963 / (+216).443.292  <b>Association Nationale pour la Formation Professionnelle des Adultes (France)</b>  Web site: www.afpa.fr  Agence Française de développement  Phone: 01 53 44 31 31  <b>Agence Tunisienne de la Formation Professionnelle</b>  Phone: 21671885959  Web site: www.atfp.edunet.tn  <b>Centre National de Formation Continue et De Promotion Professionnelle</b>  Phone: 71 285 067- 71 846 112  Web site: www.cnfcpp.nat.tn</p>							
<b>Project duration</b>	36 months (2009 – 2011)							
<b>Funding</b>	Agence Française du Développement							
<b>Project description</b>	<p><b>Background</b> – The E-2T project is the first e-Learning initiative in the field of vocational training and tourism. Tourism is among the most important economic sectors in Tunisia. Training and improvement of the people working in the tourism sector have become imperative in order to make this sector competitive. This project shows the development of NTIC in Tunisia and proves the adaptation of vocational training to these technologies. It also proves its capability to be integrated in the society and economy of knowledge.</p> <p><b>Purpose</b></p> <ul style="list-style-type: none"> <li>- Design of modules and content</li> <li>- Training of trainers, tutors and managers of the project</li> <li>- Training of technical staff in installation, management and maintenance of a distance teaching tool.</li> </ul> <p><b>Activities</b></p> <p>March 2009 – June 2009: To define the specifications of the project  July 2009 – December 2009: To ensure training of designers, teachers and administrators of the platform (tutoring, distance learning)  February 2010 - May 2010: To design modules and create content  May 2010- September 2010: To implement the technical structure (platform, etc)  November 2010 – December 2011: Implementation of training for a group of participants and first promotion of training.</p>							
<b>Project goals / expected results</b>	<ul style="list-style-type: none"> <li>• To favour a permanent learning culture in an environment based on knowledge and innovation</li> <li>• To take up challenges due to the growth of the number of trainees in vocational training in the field of tourism, progressively relieving the priority supply chains in face-to-face training institutions to cover 20% of the content in 2011</li> <li>• To create a new online training course leading to a national diploma (BTS Receptionist)</li> <li>• To favour the development of training delivered by means of the Internet.</li> </ul>							
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>		
<input type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input checked="" type="checkbox"/> Content	<input checked="" type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low

## Turkey

<b>Project title</b>	Fireworks programming course for VET students						<b>ICT</b>		
<b>Reference</b>	Osman Ermiş (Course director) – osermis@hotmail.com K. Ufuk Ertürk (Team leader) - kemalufkerturk@gmail.com Savaş Kılınç (Tutor) - savaskilinc@yahoo.com								
<b>Project duration</b>	10 months, starting from September to June of the following year, with a follow-up phase								
<b>Funding</b>	Ministry of National Education								
<b>Project description</b>	<p><b>Background</b> - A fundamental part of web page design is graphics. There are many programs for graphics. In this course the program taught is Fireworks.</p> <p><b>Purpose</b> - The course is designed for ICT students in VET schools to teach/train them to use Fireworks graphic program.</p> <p><b>Activities</b> - The e-Learning course is designed in a blended learning approach, combining face-to-face sessions and an online course in 6 units, with a final exam and the creation by students of an example using advanced techniques.</p>								
<b>Project goals / expected results</b>	Students will learn to successfully use Fireworks.								
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>			
<input checked="" type="checkbox"/> Institutional	<input type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	Computer-aided circuit design						<b>ICT</b>		
<b>Reference</b>	Arslan Lüleci marmaslan@yahoo.com								
<b>Project duration</b>	2 months, starting form January to March of the same year.								
<b>Funding</b>	Haydarpaşa VET								
<b>Project description</b>	<p><b>Background</b> - The course aims to develop the skills to build and test analog and digital electronic circuits using electronics workbench software on a computer. It will also be beneficial if a student is aware of other software being currently used for drawing, drafting and designing electronic circuits. This course will also help provide the necessary knowledge and skills for project work in the third year of this diploma programme.</p> <p><b>Purpose</b> - The purpose of this short course is to introduce the software package, allow participants to evaluate Proteus VSM against alternative design packages and provide an insight into current trends in ECAD.</p> <p><b>Activities</b> – Students will follow an e-Learning course in 6 units.</p>								
<b>Project goals / expected results</b>	This course intends to help students use their knowledge of CAD to prepare working drawings of electronics projects.								
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>			
<input checked="" type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	Computer hardware and network technologies							<b>ICT</b>
<b>Reference</b>	Şahine Özçakir sahine_ozcakir@yahoo.com Resul Çavuşoğlu resul.cavus@gmail.com Şükrü Gümüş sukrugumus98@hotmail.com Cem Tekin cem_tekin@hotmail.com							
<b>Project duration</b>	2 weeks							
<b>Funding</b>	MEB							
<b>Project description</b>	<p><b>Background</b> - Computers and networks are being used very much in our daily life, but most people do not know how they can better use these technologies for their work. This inspired the decision to make a project about computer hardware and network technologies at school.</p> <p><b>Purpose</b> – This is an introductory course for beginning students to learn computer hardware and network technologies.</p> <p><b>Activities</b> – The course is categorised in two sections: traditional materials (lesson book) and web-based content. Computer and network components are for presentation and to do some practice. The web page has a simulator to understand lessons and has tests for assessment.</p>							
<b>Project goals / expected results</b>	Students will acquire fundamental knowledge on LAN, TCP/IP protocols, network devices and some of the major networking applications, including DNS, FTP, Mail Transfer and the WWW.							
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input checked="" type="checkbox"/> Low

<b>Project title</b>	HTML programming for VET students							<b>ICT</b>
<b>Reference</b>	Hidayet ÇİTFCİ hidayetciftci@gmail.com Banu Olgunoğlu banues@yahoo.com Sevgi Boydak sevgi_boydak@hotmail.com							
<b>Project duration</b>	12 months, starting from October to October of the following year.							
<b>Funding</b>	Not defined							
<b>Project description</b>	<p><b>Background</b> - The e-Learning methodology course seems the best approach for a course focusing on HTML. The blended learning approach combines face-to-face sessions (because the students are VET students), web-based learning, constructivist theories and an online course. The e-Learning methodology online course has been conceived taking into account the outcomes of the requirements analysis and methodology collection.</p> <p><b>Purpose</b> - During the course, students will develop a web site of their choice, become familiar with HTML 4.01 Strict, understand how to use basic CSS for presentations and produce valid markup.</p> <p><b>Activities</b> - Building of networking, creation of online environments, defining the course offering/ availability and following content production, managing teacher training, evaluation and quality and information sharing.</p>							
<b>Project goals / expected results</b>	Students accept the combination of classroom and e-Learning environment positively, finding in the human factor one of the keys to a successful introduction to e-Learning.							
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>		
<input checked="" type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low

<b>Project title</b>	(Service facilities in the golf sports) The Golf Tourism						T		
<b>Reference</b>	Hasan Kindir ikra_7@hotmail.com								
<b>Project duration</b>	5 months, starting form March to August of the same year.								
<b>Funding</b>	Antalya Serik IMKB Anatolian Hotel Management and Vocational High School								
<b>Project description</b>	<p><b>Background</b> - The students involved in the project have done the theoretical and practical studies in their courses. They have the ability to serve in qualified and crowded working areas. The students should learn some information and knowledge about golf and golf sports. Therefore, they need to research about golf from the digital and real environment. The students should be given enough time to observe golf sports and golfers and should also practice golf sports.</p> <p><b>Purpose</b> – The purpose of this course is to teach students about golf and golf sports and the service facilities in golf sports.</p> <p><b>Activities</b> – The development and delivery of this course includes e-Learning concepts, methods and techniques. The e-Learning course is designed as a blended learning approach, combining face-to-face sessions and an online course in 6 units with practical activities.</p>								
<b>Project goals / expected results</b>	Students will have learned the skills related to golf sports and services for golfers.								
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>			
<input checked="" type="checkbox"/> Institutional	<input type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	

<b>Project title</b>	Cleanliness and usage in hotels						T		
<b>Reference</b>	Yavuz Yildirim yavuzyildirim77@hotmail.com								
<b>Project duration</b>	5 months, starting from March to August of the same year.								
<b>Funding</b>	Denizli Akköy Anatolian Hotel Management and Vocational High School								
<b>Project description</b>	<p><b>Background</b> - The students involved in the project have done the theoretical and practical studies in their courses. They have the ability to serve in qualified and crowded working areas, but they should learn some information and practice about cleanliness and usage in hotels.</p> <p><b>Purpose</b> – The students will learn the skills of cleanliness and modern housekeeping concepts.</p> <p><b>Activities</b> – The development and delivery of this course includes e-Learning concepts, methods and techniques. The e-Learning course is designed as a blended learning approach, combining face-to-face sessions and an online course in 7 units.</p>								
<b>Project goals / expected results</b>	This course is intended to teach students about cleanliness and usage in hotels and to help the housekeeping department staff. The students are expected to be qualified in their work.								
<b>Level of impact</b>			<b>Type of innovation</b>			<b>Level of sustainability</b>			
<input checked="" type="checkbox"/> Institutional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> Regional	<input checked="" type="checkbox"/> Technological	<input type="checkbox"/> Content	<input type="checkbox"/> Methodological	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	



## 10. SUMMARY

The experience gained through the MEDA-ETE project represents a methodological example for all teacher training institutions interested in introducing and adopting e-Learning in the teaching process.

The lessons learned have demonstrated that the approach adopted in the MEDA-ETE e-Learning course, based on a blended method that combines self-paced learning and collaborative learning activities with country-based and regional face-to-face meetings, and strongly oriented to the development of an outcome rather than to simple factual knowledge assessment, was successful in terms of the users' needs.

Some of the elements, that arise from the MEDA-ETE experience and are considered necessary preconditions for e-Learning to be successfully taken up, are described as follows:

- Teacher training institutions should be involved in the entire process. Their involvement from the beginning, their contribution to the validation/improvement of the survey tools to be used for the requirements analysis and distribution/collection of the data to be analysed and their continuous support in monitoring trainees' progress constitutes an opportunity to extract important data on the national and institutional context of the participating partners in the countries. At the same time it guarantees the concrete implementation of e-Learning in the organisation/institution and the allocation of human resources to the project.
- In a project with a regional dimension, language represents an important issue and this could have an impact at different levels:
  - On the availability of learning resources. This is because e-Learning has its roots in the Anglo-Saxon world and it may be difficult to find appropriate resources and terminology in other languages. In this case native-speaking experts involved in the project should be invited to provide additional support and trainees should also be invited to contribute with good practices and examples from within their own institutions and countries.
  - On the learning process and collaboration among students. A poor knowledge of the language slows down the learning process, splits the learning community into different groups progressing at different speeds and also places the course itself at risk, since the performance and collaboration among students is hindered by a poor understanding of content and a limited capacity of expressing ideas and suggestions. Promoting group work could represent a solution, as less skilled participants could take advantage of more skilled colleagues. Another solution is the localisation of the course into the national language in order to ensure better accessibility and understandability.
- In a VET environment, practical activities (outcome-based approach) based on progressively building results and actively involving participants (action learning approach) are strongly advised. An outcome-based approach offers the students a sandbox where they can experiment with the use of the newly acquired knowledge in the context of their own professional field.
- Teachers may still have difficulties in accepting and understanding new learning and teaching processes and contexts and in particular the socio-constructivist approach. Trainees should be motivated to exploit as much as possible the potential for using the platform as a collaborative tool. Groups of participants established in different countries could be tasked with achieving certain outcomes or engaging in process-oriented tasks, with the goal

of working effectively in a group or team inside national communities and/or in regional communities.

- The course structure should be clear from the beginning and participants should be given adequate notice of scheduling. A clear structure of the learning programme from the outset enables participants to have a clear overview of the course (modules, content of learning units, scheduled activities and final wrap-up activity). Participants should also be informed from the beginning with regard to:
  - How to use tools and how content is structured. In this way participants do not waste time finding their way through the broad-ranging training offer and this means that the risk of participants' attention loss and time and effort wasting is reduced.
  - The role of each specific expert involved in the tutoring, his/her tasks and their availability in terms of working days and time. This allows the participants to know when they can contact the e-tutors and at the same time address their questions to the most suitable expert.
- The platform to be chosen should take into consideration many aspects, but in particular:
  - Provide multilingual support in order to allow course designers to create different working areas according to the different languages spoken (in the case of an international environment with more than one exchange language).
  - Ensure low or no costs for a teacher/institution.
  - Guarantee the sustainability of each project in each country.
  - Be consistent with the system of each country at the programming level.
  - Envisage tools for supporting collaborative learning activities.
- An institutional acknowledgment in the form of certification should be foreseen. An official (national, institutional or even international) acknowledgment of the certification proposed may play an important role not only in motivating learners during the course but also in fostering the sustainability of participant efforts and in increasing their employment opportunities. The opportunity of issuing a certificate that could be used within the academic/institutional environment the student belongs to should also be considered.
- The use of a recursive production model is recommended even in case of tailor-made courseware meeting the needs of a specific group. Problems may arise when, as a result of turnover and/or replacements among the participants in the course, the real learners differ from the defined target. Releasing learning modules one at a time, using student feedback on the preceding modules to adjust subsequent modules may require great investment in terms of time and effort, but it ensures that courseware and target are always fine-tuned, minimising problems and dropouts.
- Additional country-specific virtual meetings, face-to-face training sessions and regional meetings (when the project has a regional dimension) may be necessary along the training path to gain a better understanding of the major difficulties of the trainees and to provide them with ad hoc support and motivate them for the phases to come. A regional meeting at the beginning could also represent an opportunity to foster and promote constructive dialogue in the field of e-Learning and ensure good coordination of efforts between the country level of operationalisation and the project coordination level in regard to setting up the training course and concept.
- Certain skills in using information and learning technologies, such as the use of communications technology or Internet tools but also the ability to self-organise learning processes are necessary preconditions for e-Learning to be successfully taken up. Participants should have experience in using the Internet and communications technology and should also have previous experience in e-Learning courses. In the case of different levels of knowledge among the participants, some measures should be undertaken, for

example, enrolling ICT trainers to help trainees overcome their difficulties with technology or to enhance the support from their tutor.

- The existing technological and infrastructural content could represent a barrier in some countries. Trainees may not possess a PC at home and may need to rely on resources at their disposal in their institutions or in Internet cafés. Public-private partnerships between education and training authorities and private companies could be a solution and advantage could also be taken of international certifications, such as the International Computer Driving License (ICDL) delivered in various countries to provide information technology literacy skills at various levels.
- The monitoring of the learning progress of participants is extremely important in order to understand whether they are progressing adequately or whether corrective measures are necessary. Specific tools should be created, such as, for example, a monthly activity report (describing the main activities of the trainees) and teacher training institutions should be actively involved in providing continuous support through the monitoring of trainees' progress and organising, if necessary, specific training sessions for resolving particular issues. In long-term transitional projects, the appointment of a national coordinator is advisable to provide support in the organisation of face-to-face meetings (for example, the arrangement of learning spaces and the equipment required for the classes) and to provide support with project monitoring, such as providing information about particular situations with regard to participants or institutions where participants work (work pressures, real possibilities of commitment, changes within management that can entail different distributions of time and responsibilities, etc).
- The evaluation system to be adopted should not be aimed at punishing students but at supporting them in understanding the e-Learning methodology and at acquiring knowledge through the application. Students should have the possibility to access the self-assessment test at any time and to consult content during the test so that the focus is on real studying of the contents being aware that the aim is not to get a high mark but the full acquisition of the fundamental concepts. Moreover, when any course operates according to a socio-constructivist principle, active participation in the platform and the knowledge acquired in discussions with peers and tutors (forums, chats, etc) should be taken into consideration in the assessment system.



# BIBLIOGRAPHY

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Attwell, G., *E-Learning-and-Sustainability*, 2004.

[www.ossite.org/Members/GrahamAttwell/sustainability/attach/sustainability4.doc](http://www.ossite.org/Members/GrahamAttwell/sustainability/attach/sustainability4.doc).

Berge, ZL., *The Role of the Online Instructor/Facilitator*, 2006.

[http://www.emoderators.com/moderators/teach\\_online.html](http://www.emoderators.com/moderators/teach_online.html)

Bloom, Benjamin. S., *Taxonomy of Educational Objectives: The Classification of Educational Goals*; Handbook I, Cognitive Domain, New York: David McKay, 1956.

Carol A. Higginson, *Online Tutoring e-book*, Heriot - Watt University and the Robert Gordon University, 2000.

<http://otis.scotcit.ac.uk/onlinebook/>

European project SIGOSSEE – *Special Interest Group in Open Source Software for Education in Europe*, 2007.

<http://www.ossite.org/>

Gaimster J. and Gray D., *From transmitted knowledge to constructed knowledge – e-Learning as independent inquiry*, European Conference on Educational Research, Lisbon, 11-14 September 2002, 2002.

George Pór, *What is a 'Community of practice' ?*, 2001.

<http://www.co-i-l.com/coil/knowledge-garden/cop/definitions.shtml>

Hense J., Mandl H., Kruppa K. and Gräsel C., *Concept, Realisation and Evaluation of SEMIK*, In D. Watson and J. Anderson (eds.), *Networking the Learner, Computers in Education*, Boston Kluwer, 2001.

Salmon, G., *E-moderating: The key to teaching and learning online*, London: Kogan Page, 2000.

Treumann, K. P., *Triangulation als Kombination qualitativer und quantitativer Forschung*, 1998. In: Abel, J., Möller, R., Treumann, K. P., *Einführung in die Empirische Pädagogik*, Stuttgart u.a., S.: 154-188, 1998.

WGBH Educational Foundation, *Getting Results. A professional Development Course for Community College Educators*, 2006.

<http://www.league.org/gettingresults/web/index.html>

Wiley D.A. (Ed.), *Instructional Use of Learning object*, Association of Educational Communications and Technology, 2002.

<http://reusability.org/read/chapters/wiley.doc>



# GLOSSARY

<b>Asynchronous communication</b>	Where the exchange of information is characterised by a time delay (email, forum, etc.). In asynchronous learning, the exchange of information with other learners or with tutors is performed with a time delay using communication methods that do not require simultaneous connection. This can involve discussion forums or email correspondence and so on.
<b>Action learning approach</b>	Learning approach focused on a task-oriented path, namely a process of building step by step the final outcome of the course. This gives the learner the possibility to actively participate in the training experience.
<b>Audio conferencing Video conferencing</b>	Virtual meeting where participants can see each other on cameras and screens installed specifically to communicate images.
<b>Blended learning</b>	A mixed learning system that combines a diverse range of learning modes, alternating between distance and face-to-face sessions. <a href="http://en.wikipedia.org/wiki/blended_learning">http://en.wikipedia.org/wiki/blended learning</a>
<b>Chat</b>	Virtual space for interactive discussion and exchange, the most famous of which is probably the IRC (International Relay Chat). This system lets you chat with other people on the Internet in real time.
<b>Classroom-based learning (face-to-face sessions)</b>	Learning mode “at a given time and place”. This refers to training that physically groups all the actors at a given time and place during the course.
<b>Collaborative learning</b>	Active process by which a learner works to build up their knowledge base. The trainer facilitates the learning process while the group provides information, stimulates enthusiasm, develops a mutual support and co-operation network and acts as an interactive vehicle dedicated to building pooled knowledge bases. [...] The collaborative process means that individuals and groups each participate in furthering the other’s learning path.
<b>Course content</b>	All the information making up a given course, designed to help learners achieve a set of specific learning objectives.

<b>Debugging</b>	The term ‘debugging’ originated in computer science and means finding and removing errors from a program. By extension, the term can be used to indicate finding and removing all errors of a multimedia product. Debugging can be performed by several professional figures, but normally, since it covers in general the contents of a course, it is performed by the instructional designer. Debugging must be documented by a standardised document, clearly indicating all the points where changes have to be made.
<b>Discussion forum</b>	This is a means for geographically remote people to communicate in writing (asynchronously) via Internet or Intranet. This often involves discussions or an exchange of opinions.
<b>Distance learning</b>	‘Remote’ learning. An e-Learning course is an example of a distance learning (remote) course.
<b>E-Learning</b>	The European Commission defines e-Learning (i.e. learning via electronic (‘e’) means) as “the use of new multimedia technologies and the Internet to improve learning quality by facilitating access to educational resources and services, as well as to opportunities for online forums and teamwork initiatives”.
<b>ICT / ICT in HE</b>	Acronyms for: - Information and Communication Technologies - Information and Communication Technologies in Higher Education. ICT in HE covers digital technologies used from an educational perspective and for training purposes.
<b>Individualisation</b>	The process of individualising learning content is part of a general approach seeking to adapt the learning system to the needs of the individual learner. It can also be defined as custom-designed training. Individualisation means giving learners the opportunity to follow individualised training trajectories tailored to their specific needs and objectives, based on an entry level assessment system. Distance learners are offered a study environment and training context (tools, content, learning method, schedule, etc.) tailored to fit their personal level, needs and preferences and which allows them to learn at their own pace.

<b>Instructional designer</b>	The professional figure in charge of the course educational aspects who must always supervise all the production to ensure that every component of the multimedia product complies with the learning objectives. In graphics, the instructional designer must ensure that the relation between graphics and contents is balanced and functional to the learning objectives. Subsequently, when programmers design the course's physical structure, the instructional designer must verify the compliance with project specifications and, in case of non compliance, he must take corrective actions. During debugging, the instructional designer shall verify the efficacy of the adopted solutions; in other words, he must ensure that the texts, graphics and functionality, that are being delivered, guarantee the expected course learning efficacy.
<b>Learner</b>	Any person taking a course.
<b>Learning</b>	A set of activities designed to enable an individual to acquire or improve his/her practical and theoretical knowledge of a given topic or to build on his/her skills base.
<b>Learning object</b>	This is the smallest available building block of learning content related to a measurable objective.
<b>Learning progress</b>	The progress made by a learner during training and, therefore, during the acquisition of skills and know-how.
<b>LMS (Learning Management System)</b>	This is a set of software tools designed specifically to manage open and distance learning programmes. It offers the three main users - teacher, learner and administrator - a system that is typically aimed at managing online learning services, such as the remote provision and consultation of course content, individualised training and tutoring. These core goals can be supplemented by a number of other functionalities and roles, i.e. functionalities relating to training and skills management guidelines, training product catalogues, e-commerce, administrative management, management of educational resources, management of course quality, administration of educational materials, administration of scholarship or training issues, etc. As e-Learning technologies, network infrastructures and standards develop, LMS platforms will have access to a broader range of communication methods and medias and will be able to build up and enhance their data exchange procedures by extending their range of educational learning resources or other types of information system.

<p><b>Objectives</b></p>	<p>There are two types of objectives:  Training objective: Skill(s) to be acquired, improved or sustained which is initially expressed by sponsors and/or learners. The learning object is the basic building block of the training specifications and refers to a general training objective or a training module. It does not include an assessment criterion and can be formulated as follows: «make the learner capable of».  Learning objective: Skill(s) that the learner must have acquired by the end of a given training activity; these skills are defined by the teacher based on a specific training objective. The learning object is the objective targeted by a given learning module and forms the basic building blocks used to structure and deliver training activities. It includes assessment criteria covering the acquired skills and is expressed as follows: «the learner will be capable of».</p>
<p><b>Outcome-based approach</b></p>	<p>Approach based on project or outcome-oriented activities rather than simple factual knowledge assessment. An outcome-based approach offers the students a “sandbox” where they can experiment the use of the newly acquired knowledge in the context of their own professional field.</p>
<p><b>Pedagogical activities</b></p>	<p>Activities proposed to learners during their training path aimed at optimising their acquisition and memorisation of course knowledge and skills, thereby helping them to achieve the set pedagogical objectives. This can involve studying texts, images or charts, working on simulations, role play, quizzes, discussions, group work, etc.</p>
<p><b>Platform</b></p>	<p>See LMS: An open and distance learning platform can be described as a set of software tools that offer the three main users - teacher, learner and administrator - a system typically aimed at managing online learning services, such as the remote provision and consultation of course content, individualised training and tutoring.  These core goals can be supplemented by a number of other functionalities and roles, i.e. functionalities relating to training and skills management guidelines, training product catalogues, e-commerce, administrative management, management of educational resources, management of course quality, administration of educational materials, administration of scolarity or training issues, etc.  As e-Learning technologies, network infrastructures and standards develop, LMS platforms will have access to a broader range of communication methods and medias and will be able to build up and enhance their data exchange procedures by extending their range of educational learning resources or other types of information system.</p>

<b>SCORM</b>	Acronym for “Shareable Content Object Reference Model”: The SCORM standard is an ADL (Advanced Distributed Learning) initiative: it produces reusable learning objects that can be easily integrated with many different applications and environments without having to worry about the tools used to create them. Among other things, this means that course content has to be fully independent of any constraints relating to context or to specific software execution features; this is to ensure it can be used in other applications. Similarly, to ensure it can be used repeatedly in several different formats, the content must have a shared interface and metadata. The SCORM standard is ADL’s response to the demand for interoperability between learning content and training platforms.
<b>Self-learning training</b>	Individual learning mode enabling learners to study at their own pace using resources designed specifically for this purpose. The learner determines their study programme (pace, content, work time) independently without having to be in contact with an organised group or a trainer. In Self-Learning Training, students are substantially passive, they do not take part in the definition of the objectives and contents to be learned. In the design of Self-Learning Training, a priority is given to contents. Most of the instructional designer’s attention is focused on the content structure, on the definition of possible pathways and on the most effective navigation methods.
<b>Socio-constructivism</b>	The paradigm theory which focuses the attention on subjective differences, on social and environmental contexts and on the active role of individuals in the learning process. This implies that learning can only be partly planned, within the limits of specific, individual requirements and of environmental constraints. In this prospect, a fundamental role is played by learning styles, preliminary knowledge, cultural factors and intersubjective dynamics.
<b>Storyboard</b>	Online course breakdown, both screen-by-screen and in the form of sketches, describing course content and the planned delivery of each learning activity.
<b>Synchronous communication</b>	Method of direct information exchange, i.e. telephone, videoconferencing, videophone communication, audio phone communication, etc. In synchronous learning, the exchange of information with other learners or with tutors is performed in real time via chat rooms, web-conferences or video conferences. Synchronous training also includes the use of shareware and interactive exchange between course actors.
<b>Teaching methods</b>	All the techniques used by teachers to convey knowledge, hard and soft skills.

<b>Tracking</b>	This consists in using a training platform or database to literally 'track' learner progress, activity and scores throughout their training path.
<b>Tutor</b>	<p>The person delivering the 'tutoring' component. The tutor is tasked with tracking learners' progress and providing them with support throughout the course. They should help learners to work through the course, provide encouragement, track their progress, make sure they stay motivated, guide them, answer their questions and so on. As such, the tutor plays a key role in course delivery. Effective follow-up is vital if learners are to stay motivated and not be tempted to drop out of the course. The role of the tutor can therefore be filled equally well by the trainer or by another person provided they are able to contact the course author should they have to provide detailed answers to a complex question. Co-learners can also take on the role of tutor. There are two types of tutoring approach:</p> <ul style="list-style-type: none"> <li>• Proactive tutoring, where the tutor takes the lead by encouraging learners to take part in activities or study meetings in order to fire up their enthusiasm and get them back on track;</li> <li>• Reactive tutoring, where the tutor waits for learners to contact them and answers their questions or deals with their problems as and when they occur.</li> </ul>
<b>Virtual classroom</b>	The virtual classroom is an online learning space that simulates real face-to-face classroom conditions. Lessons are provided via a network solution, at a specific date and time (synchronous learning) to geographically remote learners. This computer environment integrates tools that remotely reproduce the interactive processes of a real classroom.
<b>Web based collaborative learning</b>	A training method depending not only on subjective requirements, but also on group requirements. A more dynamic role of students in building their own knowledge and even in defining the objectives of their learning is required. In the design of Web-Based Learning the priority is on the process. The tools to be used, when to use them, with which objectives etc. have to be precisely defined. This impacts on the type of professional profiles that are involved, on the competence they must have and on the costs they will have to face.

# ANNEX 1: Questionnaire to participants in training modules

## SECTION 1: YOUR EXPERIENCE WITH E-LEARNING

In the first section we would like to know about your experiences with e-Learning in general. E-Learning is used here in a very general sense and relates to *"The use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services as well as remote exchanges and collaboration."* (from E-Learning Action Plan: Designing Tomorrow's Education, European Commission, 2001).

### 1. Are you involved in e-Learning?

- (1) I am currently using e-Learning
- (2) I have used it but I do not use it anymore
- (3) I haven't used it so far.

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**Please note: If you have not yet made any experiences with e-Learning please continue with section 2.**

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### 2. In what way are you involved in e-Learning? Please choose the sentence(s) which correspond(s) best to your situation now.

- (1) I have experiences with e-Learning as a learner
- (2) I use e-Learning as a trainer for my own trainings.
- (3) I am/ have been involved in e-Learning as an instructional designer, developing e-Learning-courses
- (4) I am involved with e-Learning as a manager in my organisation
- (5) I am involved in e-Learning for other professional purposes, please specify:

### 3. Please tell us how long you have been involved in e-Learning so far?

- (1) less than 6 months
- (2) 6 months - 2 years
- (3) 3-4 years
- (4) 5-10 years
- (5) More than 10 years

### 4. How did you come to have experiences with e-Learning in the first place?

- (1) It was my personal choice
- (2) I was asked to use e-Learning by my institution
- (3) Other, please specify:

### 5. With which of the following e-Learning arrangements have you made experiences so far? (Several choices are possible)

- (1) Combination of e-Learning and face-to-face courses
- (2) Self study e-Learning
- (3) e-Learning with online support from an eTutor
- (4) e-Learning with offline support, e.g. handing in paper assignments

(5) Other please specify:

**6. With which kind of e-Learning tools have you made experiences so far? I have experience with learning... (Several choices are possible)**

- (1) ...using a multimedia CD-Rom for self study purposes
- (2) ...in a web based e-Learning course without face-to-face sessions
- (3) ...in a web based e-Learning course with face-to-face sessions
- (4) ...using the Internet for learning purposes
- (5) Other please specify:

**7. Is there any content available in your organisation which can be directly used for e-Learning courses? (available in electronic format)**

- (1) Yes                      (2) No

If yes, please specify the type of resource and the format (Cd-Rom, scenarized web content, non scenarized web content, other)

- (3)
- (4)
- (5)
- (6)

## **SECTION 2: YOUR INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) SKILLS AND ACCESS**

Now we are interested to learn about the way you have access to the Internet, at home and/or within your work context. We also would like to ask information about your ICT and e-Learning skills.

### **A. Access to ICT**

**8. Please tell us where you usually access ICT. (Several choices are possible)**

- (1) I have regular access to a computer with an Internet connection.
- (2) At home    (3) At work
- (4) Broadband    (5) Dial up
- (6) My computer is equipped for multimedia usage (e.g. speakers, CD-ROM, audio/video plug-ins).

**9. Please tell us how your institution is equipped with ICT. (Several choices are possible)**

**My institution provides...**

- (1) a computer room for the training.
- (2) a self study computer room for learners.
- (3) individual computers for the administrative staff
- (4) individual computers for the training staff
- (5) an Intranet network within the institution.
- (6) an access to internet.
- (7) through a broadband connection.
- (8) through a dial-up connection (telephone line).
- (9) an internal e-Learning platform (Learning Management System)
- (10) which one, please specify

### **B. ICT and e-Learning Skills**

**10. Which kind of technology have you used so far?**

Please indicate your previous experience with the following by choosing the most appropriate

number:

	No experience (1)	Some experience (2)	Comfortable with using (3)	Substantial experience (4)	Expert (5)
<b>Communication tools</b>					
a. Forum discussion (asynchronous)					
b. Live Chat (synchronous)					
c. Email					
d. Instant messaging					
<b>Collaboration tools</b>					
e. Wiki					
f. Blog					
g. Shared calendar/ Virtual agenda					
h. Shared whiteboard					
<b>Further technologies</b>					
i. CD-ROM / DVD-ROM based learning					
j. Web Conference System					
k. Videoconference system					
l. Learning Environment, Learning Platform (LMS, LCMS)					
m. Website resources (e.g. Website content or interactive exercises)					
n. Authoring software to create materials or documents					

**11. The following statements describe general ICT skills. Please choose the most suitable answer for you (only one answer possible).**

- (1) I have the basic skills to operate a computer (e.g., saving files, creating folders).
- (2) I have the basic skills for finding my way around the Internet (e.g., using search engines, entering passwords).
- (3) I can send an email with a file attached.
- (4) I can carry on an online conversation with others using the Internet (e.g. Internet chat, instant messenger).

**12. The following statements describe general e-Learning skills. Please choose the most suitable answer for you.**

	completely disagree (1)	strongly disagree (2)	strongly agree (3)	completely agree (4)
(a) I am comfortable using a computer several times a week to participate in a course.				
(b) I am able to use online tools (e.g., email, chat) to work on assignments with other learners remotely.				
(c) I am able to remain motivated even though the instructor is not online at all times.				
(d) I am able to complete my work even when there are distractions in my home (e.g., television, children and the like).				

## SECTION 3: YOUR VIEW ON E-LEARNING AND ICT

In the following we are interested to learn about what you think of e-Learning and ICT in general.

**13. Please choose one of the following statements you most agree with (only one answer possible):**

- (1) I think e-Learning is complementary to traditional learning
- (2) I think e-Learning is more efficient than traditional learning
- (3) I think traditional learning is more efficient than e-Learning

**14. Please tell us what you think of the following statements:**

	completely disagree (1)	strongly disagree (2)	strongly agree (3)	completely agree (4)
a.e-Learning brings greater flexibility				
b.e-Learning allows for a better time management				
c.e-Learning increases individual support of learning				
d.e-Learning gives greater autonomy and responsibility to the learner				
e.e-learning is time consuming				
f.e-Learning requires high technical skills				
g.e-Learning requires a high level of self-discipline				

**15. According to your opinion which of the following aspects can best contribute to a successful e-Learning course? (choose the three most important aspects and then rank them by order of importance 1-3**

1=first most important aspect; 2= second most important aspect, 3= third most important aspect

3 most important aspects	Rank (1-3)	
		(1) the pedagogical model of the course (e.g. if it is a self study course or a tutor led course)
		(2) the duration of the training
		(3) the motivation/ intensity of involvement of the participants
		(4) the quality of the technical support
		(5) the quality of the e-Learning tool which is used for the course (the Learning Management System)
		(6) the quality of learning activities
		(7) the quality of the e-Learning materials
		(8) the quality of support through an eTutor/ trainer
		(9) when the object of the training is directly related to everyday activities of the trainee
		(10) other, please specify

**16. Do you notice the need to use e-Learning or ICT in your own professional life?**

- (1) Yes
- (2) No

## SECTION 4: YOUR LEARNING AND TRAINING EXPERIENCES AND PREFERENCES

In this section we would like to learn about your experience with learning and training and your preferences in this area.

### 17. Please tell us what you think of the following statements:

	completely disagree (1)	strongly disagree (2)	strongly agree (3)	completely agree (4)
a. Without a regular contact with a tutor I will not be able to complete an e-Learning course successfully				
b. Without interaction with a learning group I will not be able to complete an e-Learning course successfully				
c. I can only learn successfully when the e-Learning course requires a frequent participation through handing in assignments.				
d. Without an immediate technical and administrative support I will not be able to complete an e-Learning course successfully.				
e. I will be able to learn best in an e-Learning course when I can organise my own learning process (time and tasks) myself – without depending on a learning group.				
f. In order to learn successfully it is important for me that the course material gives recommendations on how I can apply the learnt to my own field of work.				

### 18. Have you in the last 3 years participated yourself in a training as a learner, whether e-Learning or not?

(1) Yes      (2) No

### 19. In the following we would like to know how comfortable you feel yourself with learning. Please indicate, how you rate your own capability to... :

	Excellent (1)	Great (2)	Good (3)	Fair (4)
Motivate yourself to learning				
Assess your own learning needs				
Find suitable learning materials for your own learning process				
Organise your own learning time and learning process				
Assess your own learning progress				

### 20. For training courses – what would be your preferred language? Please choose only one language from the given options.

- (1) English
- (2) French
- (3) Other, please specify:

### 21. If you had to choose, what would be your preferred way to learn? Please choose only one of the following options:

- (1) I prefer to learn in a group with project activities

- (2) I prefer to learn from teacher-led lectures
- (3) I prefer to learn individually on my own

## **SECTION 5: YOU AND YOUR INSTITUTION/ ORGANISATION**

Finally, we would like to find out more about you and your institution. The answers will remain confidential and will be used for statistical purposes only.

### **22. What kind of institution/ organisation are you belonging to?**

- (1) general/ basic education institution
- (2) higher education institution
- (3) initial VET institution
- (4) continuous VET institution (e.g. Teacher Training Institution)
- (5) company
- (6) governmental organisation
- (7) other, please specify:

#### **Please give the name of your institution**

- (1) Name

### **23. Please state if it is a public or private institution**

- (1) Public Institution
- (2) Private Institution

### **24. If your institution is funded, please state from which source (Several choices possible)**

- (1) funding through national government
- (2) funding through European structural funds (ESF)
- (3) participation in funded R&D projects on national level
- (4) participation in funded R&D projects on European level
- (5) funding through private funds (e.g. through the industry or a Foundation)
- (6) other funding, please specify :

### **25. How many employees does your institution have?**

- (1) Less than 10 Employees
- (2) More than 10 and less than 50 Employees
- (3) More than 50, less than 100 Employees
- (4) More than 100 and less than 500 Employees
- (5) More than 500 and less than 1000
- (6) More than 1000 Employees
- (7) I don't know

### **26. What is your role in your organisation?**

- (1) learner/trainee
- (2) teacher/trainer
- (3) administrator
- (4) project manager
- (5) IT support/expert (graphic designer, online editor, computer programmer, webmaster, other)
- (6) content developer
- (7) pedagogical expert
- (8) tutor /moderator
- (9) Other, please specify:

### **27. What is your professional status?**

- (1) temporary position

- (2) full contractual position
- (3) full time
- (3) part time

**28. How long have you worked in this specific position already? Please give the number of years**

I have worked in this position  
for \_\_\_\_\_ years now.

**29. Apart from training courses – do you offer additional services to your clients? If so, then identify them in the list below (several choices are possible):**

- (1) Counselling with learners on learning processes, learning problems
- (2) Individual coaching for course participants on carrier and application processes
- (3) Consulting services for private companies
- (4) In-House training for private and/or public organisation
- (5) Other services (please specify):

**30. Please tell us your country of residence**

- (1) Country of residence
- (2) if different, also indicate country of origin

**31. How old are you?**

- <20 years (1)
- 21-30 years (2)
- 31-40 years (3)
- 41-50 years (4)
- 51-60 years (5)
- 61-70 years (6)
- >70 years (7)

**32. What is your highest educational attainment?**

- (1) secondary education
- (2) apprenticeship
- (3) university degree
- (4) engineer
- (5) doctorate
- (6) no certificate (yet)

**Thank you very much for answering the questionnaire!!**

Would you allow us to contact you for further questions or a personal interview? If so, please enter your name and email address here:

**My email  
address**



# ANNEX 2: Focus group guidelines

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## Participants

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Country, Name, Position

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---  
---  
---  
---  
---

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## Duration

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60'

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## Focus Group Guideline

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### 1. Do you think it is useful to introduce and use e-Learning for VET in your country? In your institution?

- Do you agree with that?
- What do you do that is different from that person?
- Do you feel that way too?
- You look like you disagree with what was just said. Do you?
- Is that really the way it is?

### 2. Where do you see the main advantages and disadvantages?

(If you think about your own institution: what would be obstacles for introducing e-Learning?)

- Do you agree with that?
- What do you do that is different from that person?
- Do you feel that way too?
- You look like you disagree with what was just said. Do you?
- Is that really the way it is?

### 3. What role are the trainers in the VET system playing in order to introduce e-Learning?

Do you agree with that?

- What do you do that is different from that person?
- Do you feel that way too?
- You look like you disagree with what was just said. Do you?
- Is that really the way it is?

### 4. Which kinds of training programs are most useful to you?

- Do you agree with that?
- What do you do that is different from that person?
- Do you feel that way too?

- You look like you disagree with what was just said. Do you?
- Is that really the way it is?

**5. What are your expectations from Component 4 efforts?**

- Do you agree with that?
- What do you do that is different from that person?
- Do you feel that way too?
- You look like you disagree with what was just said. Do you?

# ANNEX 3: Interview guidelines

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## Information about the interviewee

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Country of residence (of origin)

Name of institution

Role in the institution

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## Duration

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15-30'

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## Interview Guideline

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### 1. Pedagogical practice and models

- What are the usual training methods that are in use in your institution/In your country (if different)
- Are these training methods suitable for e-Learning?
- If they had to be reformed, how could that be done best?
- Could you tell us about the usual pedagogical practice in your country in the VET institutions?
- What are the most commonly used pedagogical models?

### 2. Experience with training

- Have you in the last 3 years participated yourself in a training as a learner, whether e-Learning or not?
- Give some examples of training topics:
- Have you found it useful? Why?
- What is in your view a good training?

### 3. Experiences with e-Learning

- What are your previous experiences with e-Learning?
- How do you perceive your previous experience with e-Learning useful/not ? why ?

### 4. E-Learning Projects and best practices in your institution

- can you tell about projects related to the introduction of e-Learning in your institution?
- can you describe some best practices examples?

### 5. Expectations Component 4

- What are your expectations of the Component 4 efforts ?



# ANNEX 4: Definitions and data presentation formats

## Best Practice Collection

### Definition

A set of descriptions and references to cases of e-Learning either in VET or in other domains that can be used as supportive material to the training in order to put in evidence several aspects of the introduction of e-Learning. It is expected that the mentioned cases could provide the reader with several kinds of information, e.g. what was needed to achieve a specific objective or the results of the adoption of a specific framework / tool / method... or the problems encountered in following a given path, in other words references and ideas on practical issues linked to the adoption of e-Learning in training. Such cases will be identified based on a set of criteria, namely: **results, relevance, impact, visibility, involved entities, location, duration and sustainability.**

### Example of format

For best cases collected data are structured in a table including a concluding (and highlighted) paragraph. The best case should be identified as a text section of third level (basically just like the present one) with a title that would represent the best case name / title.

The table should hold basic data about the identified case starting with the country where the case has been identified, the reference and a basic description just as reported hereafter:

<b>Country</b>	The country where the case has been designed / developed
<b>Name</b>	The name of the project / organisation being presented
<b>Reference</b>	A reference that could be used to identify and access to case related content (URL, URI, ISBN or other specific reference)
<b>Description</b>	<p>The case description will be presented all at once in the same box but will be divided into sections each with a specific purpose and basically structured as follows:</p> <p><b>Background</b> – introductory presentation of the case including (but not necessarily limited to) background and origin of the case, funding origin (if accessible), type of initiative and major beneficiaries</p> <p><b>Goal</b> – a quick description of the goal and targets underpinning the case</p> <p><b>Solutions</b> – a quick description of the adopted solutions, including methods, technology, platforms and other relevant info that explains how the case has been designed and set-up, such as kind of deployment model, user involvement and possibility to transfer or re-scale results...</p>

Then the table should hold additional data devoted to results presentation and case analysis; plus a final one with some conclusions. This second part should help understand why the presented case has been considered and provide a rationale for the major conclusions that can be drawn examining the case.

<b>Results</b>	A quick and objective description of achieved results including comments coming from users / developers / stakeholders, whenever available
<b>Analysis</b>	A basic description of the results of the analysis process that has compared the case to state of the art, area overall development, country situation and relevance of the case for a subject that may be willing to follow a similar path or experience

The conclusions drawn on the basis of presented results and performed analysis should be highlighted in a “boxed” paragraph that should look like the following text:

**Conclusions** – this should be the appearance of the concluding paragraph of each best case presentation. A boxed text starting with “conclusions” in bold and the concluding remarks separated by a hyphen.

## ***Policy Collection***

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### **Definition**

A set of references to major international and national policies on teaching and training based on available reports from ETF and other sources comprising CEDEFOP, UNESCO, UN, World Bank and others. Given the fact that MEDA-ETE Subcomponent 2.2 is working in this area we will devote the utmost care to avoid replication of work and strongly rely on their results.

### **Example of format**

For policies the collected data are structured in a single table. The policy should be identified as a text section of third level (basically just like the present one) with a title that would represent the policy name / title. The table should hold basic data about the identified case starting with the country where the case has been identified, the reference to a basic description, a summary of conducted analysis and some concluding remarks, the whole will look like what is reported hereafter:

<b>Country</b>	The country where the policy has been designed / adopted
<b>Name</b>	The name of the policy being presented
<b>Reference</b>	A reference (URL, URI, ISBN, , Component 2 report / deliverable / study or any other specific reference) that could be used to identify and access to case related content
<b>Description</b>	The case description should be presented all at once in the same box, but should be divided into sections each with a specific purpose just as presented for the best cases.
<b>Analysis</b>	A basic description of the results of the analysis process that has compared the case to state of the art, area overall development and country situation.
<b>Conclusions</b> – A quick remark to conclusions that can be drawn on the basis of the analysis outcomes previously highlighted	

## ***Methodologies Collection***

Given the project structure and nature a blended approach (comprising in-presence and remote training) has been adopted. This does not imply that the only possible approach to the adoption of e-Learning is the blended one, there are many other possibilities that should be presented and explained and therefore we will also have a ***Methodologies collection*** or a set

of methodologies descriptions and references classified and archived as reference material. The descriptions will be taken from valuable and generally accepted sources. Such sources comprise: Explorations in Learning & Instruction: The Theory Into Practice Database TIP WWW Version 2.6 (May 2006), Colorado University, Wikipedia, Cogsim and others, see reference section).

### Example of format

Given Component 4 overall objectives and focus it is necessary also to report a quick reference to methodologies and their usual / reference implementation. This is mainly aimed at providing a quick reference for impacts and needs related to the introduction of e-Learning in a context where a specific methodology may be in use. This should be done in a “light” format with no intention to represent an all-inclusive report. Therefore for each methodology reported data should be collected in a single table that will be structured as follows:

<b>Name</b>	The name of the methodology that is being presented
<b>Father</b>	The scholar / institution that gave origin to it
<b>Description</b>	The description should be presented all at once in the same box, but should be divided into sections each with a specific purpose just as presented for best cases and policies, but structured in order to reflect the specific case of the methodology under exam.
<b>Source</b>	The source(s) used for the reported description
<b>References</b>	Relevant references used for achieving the overall description and analysis



# ANNEX 5: LMS evaluation questionnaire

This LMS evaluation questionnaire has been developed in the framework of the European project SIGOSSEE (SIGOSSEE, 2007). In the process of comparison between LMSs, a three steps path has been followed, in order to acquire a set of comprehension criteria that will be useful from time to time to choose the right platform.

1. The evaluation methodology developed by the team establishes an initial checking on the system conformance to a *Minimum LMS functional definition*.
2. Only those systems that comply with the 'Minimum definition', are installed and analyzed following a *List of criteria*.
3. The Criteria are translated into an *Evaluation questionnaire* consisting of 120 questions. This questionnaire is answered by the evaluation team with the help of the product development team.

It should be considered that this is a very specific scenario, therefore not all the steps taken in this process of evaluating LMS platforms should be followed because some assumptions and choices may not apply in a different situation. What is expected is a **set of requirements and operational criteria** to be used as an investigative tool to select the platform that best improves the needs of a course in a specific learning situation. For more information see <http://www.ossite.org/>

## 1 Questions about functional requirements

### 1.1 Didactics / Learning flow management

**1. Are there any templates offered for setting up courses, e.g. pre-structured course?**

- Learning Design templates for different purposes can be chosen from a list (3)
- There is some basic pre-structured course skeleton or template (2)
- I get some instructions on how to structure a course but no template is provided. (1)
- There is neither course template nor advice (0)

**2. Can tutors define their own course skeletons?**

- Yes (1)
- No (0)

**3. Can tutors define conditional learning paths? The fulfillment of conditions happens in classroom.**

- Yes (1)
- No (0)

**4. Can learning paths be determined by certain test results? The fulfillment of the conditions happens online.**

- Yes (1)
- No (0)

**5. Can alternative learning paths be defined?**

- Yes (1)
- No (0)

**6. Does the system support learning plans e.g. can users plan their long and medium term learning activities, e.g. a schedule for a whole university programme.**

- Yes (1)
- No (0)

**7. Does the system support learner portfolios? Learner portfolios are a record of all of his or her successful learning activities.**

- Yes (1)
- No (0)

**8. How is feedback given to the learner? Please indicate \_\_\_\_\_**

## 1.2 Tests and assessment

**9. Does the system offer web authoring functionality for the generation and modification of tests?**

- Yes and tests can be imported as well. (3)
- Yes, but tests cannot be imported. (2)
- No, but tests can be imported (1)

**10. Please indicate systems tests can be imported from \_\_\_\_\_**

**11. What type of questions can be employed for testing?**

- Multiple choice questions (1)
- Single choice questions (1)
- Terms and/or pictures can be matched (1)
- Terms and/or pictures can be ordered (1)
- Closed tests (1)
- Image-map questions (1)

**12. Is there a functionality offering skills management e.g. learner needs analysis?**

- Yes (1)
- No (0)

**13. Can certificates be generated by the system after finishing a defined workload?**

- Yes (1)
- No (0)

## 1.3 Media formats / authoring

**14. Can content be created within the system?**

- Yes (5)
- No (0)

**15. Contents can be imported from \_\_\_\_\_**

**16. What course content data formats are supported? Please indicate \_\_\_\_\_**

**17. Can learning objects be imported?**

- Yes, standard compliant learning objects (SCORM or AICC) (3)
- Yes, documented learning objects (2)
- Yes, not documented (proprietary) learning objects (1)
- No (0)

**In this question 'documented' refers to a free/open document type definition.**

**18. Can learning objects be exported?**

- Yes, standard compliant learning objects (SCORM or AICC) (3)
- Yes, documented learning objects (2)
- Yes, not documented (proprietary) learning objects (1)
- No (0)

**19. Can courses be imported? The term 'courses' refers to a structured set of learning objects.**

- Yes (1)
- No (0)

**20. Can courses be exported? The term 'courses' refers to a structured set of learning objects.**

- Yes (1)
- No (0)

**21. Can learning objects be categorised?**

- Yes using a taxonomy system (2)
- Yes only with free-form keywords (1)
- No (0)

**22. Can learning objects be annotated with metadata?**

- Yes using standard formats (e.g LOM, IMS Metadata, Dublin Core,..) (3)
- Yes using XML-based, but proprietary, formats (2)
- Yes using only proprietary formats (1)
- No (0)

**23. Can user data be imported?**

- Yes, in XML (2)
- Yes, in proprietary format (1)
- No (0)

**24. Can user data be exported?**

- No (0)
- Yes, all user data can be exported. (1)
- Yes, all user data or a subset of user data can be exported. (2)

**25. Which media formats for applications are supported? 'Supported' refers to embedded representation in the content frame of the Learning Management System. \***

- excel
- word
- pdf
- postscript
- powerpoint

- rtf
- javascript
- latex
- flash
- tex
- other, please indicate \_\_\_\_

**26. Which media formats for audio are supported? 'Supported' refers to embedded representation in the content frame of the Learning Management System. \***

- midi
- mpeg
- realaudio
- wav
- other, please indicate \_\_\_\_

**27. Which media formats for images are supported? 'Supported' refers to embedded representation in the content frame of the Learning Management System. \***

- bmp
- gif
- jpeg
- pict
- png
- tiff
- other, please indicate \_\_\_\_\_

**28. Which media formats for texts are supported? 'Supported' refers to embedded representation in the content frame of the Learning Management System. \***

- css
- html
- plain
- richtext
- sgml
- tab-separatedvalues
- xml
- other, please indicate \_\_\_\_\_

**29. Which media formats for videos are supported? 'Supported' refers to embedded representation in the content frame of the Learning Management System. \***

- mpeg
- quicktime
- msvideo
- sgi-movie
- other, please indicate \_\_\_\_\_

#### 1.4 Course monitoring

**30. Can online/offline times of courses be scheduled in the system e.g. is there a functionality for course availability control?**

- Yes (1)
- No (0)

**31. Which functionality for course registration is provided?<sup>17</sup>**

- Learner enrolls for a course (1)
- Instructor approves enrollment (1)
- Learner is enrolled for some course after he/she met all course prerequisites (1)

**32. Is there a functionality for user tracking?**

- No (0)
- Yes (1)

**33. If so: Does the user tracking allow for any of the following?<sup>18</sup>**

- The data are presented in tables. (1)
- The data are presented in charts. (1)
- The data can be exported. (1)

**34. If so: What kind of data can be tracked?<sup>19</sup>**

- Hit rates of particular objects (1)
- Test results of particular learners (1)
- Objects accessed by a particular learner (1)

---

17 Points are accumulated, this questions yields up to 3 points.  
 18 Points are accumulated, this questions yields up to 3 points  
 19 Points are accumulated, this questions yields up to 3 points.

## 1.5 Communication

**35. How is synchronous communication supported? By ...<sup>20</sup>**

- Chat (2)
- Video conferencing (2)
- Audio conferencing (2)
- Whiteboards (2)
- Application sharing (2)
- Other, please indicate \_\_\_\_\_ (2)

**36. How is asynchronous communication supported? By ...<sup>21</sup>**

- Email (2)
- Internal mail (2)
- Forums (2)
- Other, please indicate \_\_\_\_\_ (2)

**37. Can external tools for communications be integrated into the system?**

- No (0)
- Yes, please indicate \_\_\_\_\_ (1)

**38. Does the system support RSS/blogging?**

- Yes (2)
- No (0)

## 1.6 General look & feel of the system

**39. What is the level of customization of the layout of the system e.g does it employ style sheets?**

- A lot of customizations can be done (2)
- Only few things can be customized (1)
- No customization (0)

**40. Can users personalise the system layout, e.g. change the skin of the system?**

- Yes (1)
- No (0)

**41. Is it possible to customize the login page?**

- Yes (2)
- No (0)

## 1.7 Permissions handling

**42. How are permissions handled?\***

- Access control lists
- Role based access control
- Other, please indicate \_\_\_\_\_

**43. Please describe the handling of permissions in a few sentences.\***

**44. How do you rank the quality of the permission system?**

- Very Good/ Good (2)
- OK (1)
- Sufficient/ Bad (0)

**45. How can users be organised into groups?**

- Very easy/ Good (2)
- Ok (1)
- Sufficient / Not easy (0)

## 1.8 Other features

**46. Is it possible to use any encryption functionality e.g. SSL or the like, for data transfer?**

- Yes (2)
- No (0)

**47. Is there a functionality implemented to handle payment?<sup>22</sup>**

- No (0)
- invoice (1)
- Automatic debit transfer system (1)
- Other, please indicate \_\_\_\_\_ (1)

**48. Can users annotate to the learning content?**

- Yes (1)
- No (0)

**49. Can users share annotations?**

- Yes (1)
- No (0)

---

20 Points are accumulated, this questions yields up to 12 points.

21 Points are accumulated, this questions yields up to 8 points

22 Points are accumulated, this questions yields up to 3 points

**50. How many languages are supported?**

**6 Points are accumulated, this question yields up to 3 points.**

- One (1)
- Two - Five (2)
- Six – Ten (3)
- Ten – Fifteen (4)
- Sixteen or more (5)

**51. Is there some feature for the management of intellectual property rights?**

- Yes (2)
- No (0)

**52. Does the system support Semantic Web features?**

- Yes (2)
- Only partially (1)
- No (0)

**53. Is the system LDAP-capable?**

- Yes (2)
- No (0)

## **2 Maintainability**

### **2.1 Quality of technical documentation**

**54. Is there documentation for developers?**

- Yes, multilingual. Please indicate \_\_\_\_\_ (2)
- Yes in English (1)
- No (0)

**55. Please indicate the quality of the developer documentation.**

- Very good / Good (2)
- OK (1)
- Bad quality / non existant (0)

### **2.2 Scalability**

**56. What is the maximum number of active users of one known installation?**

- Less than 500 users (1)
- 500 – 1,000 users (2)
- 1,000 – 5,000 users (3)
- more than 5,000 users (4)

**57. What is the maximum number of courses within one known installation?**

- Less than 50 courses (1)
- 50 – 150 courses (2)
- more than 150 courses (3)

**58. Is it possible to administrate different clients in one installation? Please indicate whether the system is able to manage different customers in the same instance of the Learning Management System.**

- Yes (2)
- No (0)

**59. Can the system grow horizontally or should it run only on a single server?**

- Yes, the system can grow horizontally. (2)
- No, the system should be run on a single server. (0)

**60. Please rank the Learning Management Systems' Reliability.**

- Very reliable (2)
- Reliable (1)
- Not very reliable (0)

### **2.3 Extensibility**

**61. Are there documented mechanisms for the extension of features in the development process?**

- Yes (1)
- No (0)

**62. Is there a documented extensibility concept i.e. a plug-in concept?**

- Yes (1)
- No (0)

**63. Is a defined API available?**

- Yes (2)
- No (0)

**64. Is the system developed according to an object-oriented approach?**

- No (0)
- Yes, in parts. (1)
- Yes, fully. (2)

**65. Do developers stick to the coding conventions defined for the LMS?**

- Yes and they are normally respected in the source code (2)
- \_\_\_\_\_ Partly, but they are sometimes respected in the source code (1)
- No (0)

**66. Please rate the quality of the source code of the project:**

- Very good (4)
- Good (3)
- OK (2)
- Not well designed (1)
- Bad quality ("spaghetti code") (0)

**67. Is a methodology for managing user requirements employed?**

- No (0)
- Yes, please indicate \_\_\_\_\_ (1)

**68. Is a bug reporting system employed by the developer team?**

- No (0)
- Yes (1)

**69. Is a CVS (or a similar Version Control System – e.g. Subversion) used?**

- No (0)
- Yes (1)

**70. How many full stable versions of this Learning Management System have been released? \_\_\_\_\_\***

## 2.4 Adaptability / standard compliance

**71. Is the system modularized?**

- No (0)
- Yes, in parts. Please indicate in which \_\_\_\_\_ (1)
- Yes, fully. (2)

**72. Is the Learning Management System compliant with SCORM 1.2?**

- No (0)
- Yes, in parts. Please indicate in which \_\_\_\_\_ (2)
- Yes, fully. (3)

**73. Is the Learning Management System compliant with AICC?**

- No (0)
- Yes, in parts. Please indicate in which \_\_\_\_\_ (2)
- Yes, fully. (3)

**74. Does the system conform to the Learning Object Metadata standard?**

- No (0)
- Yes, in parts. Please indicate in which \_\_\_\_\_ (2)
- Yes, fully. (3)

**75. Does the system conform to IMS-QTI?**

- No (0)
- Yes, in parts. Please indicate in which \_\_\_\_\_ (2)
- Yes, fully. (3)

**76. Does the system support IMS BLearning Design?**

- Yes (2)
- No (0)

## 3 Usability

### 3.1 User documentation

**77. Is there an online help delivered with the system?**

- Yes (5)
- No (0)

**78. Is there documentation for users?**

- Yes, multilingual. Please indicate \_\_\_\_\_ (2)
- Yes in English (1)
- No (0)

**79. Please indicate the quality of the user documentation.**

- Very good / Good (2)
- OK (1)
- Bad quality / non existent (0)

**80. Is there documentation for authors?**

- Yes, multilingual. Please indicate \_\_\_\_\_ (2)
- Yes in English (1)
- No (0)

**81. Please indicate the quality of the documentation for authors.**

- Very good / Good (2)

- OK (1)
- Bad quality / non existent (0)

**82. Is there documentation for system administrators?**

- Yes, multilingual. Please indicate \_\_\_\_\_ (2)
- Yes in English (1)
- No (0)

**83. Please indicate the quality of the administrator documentation.**

- Very good / Good (2)
- OK (1)
- Bad quality / non existent (0)

### 3.2 Generating content

**84. Please rate the usability of the authoring functionality. How easy is generating and modifying learning content?**

- Learning content can be generated and modified easily. (4)
- Learning content can be generated and modified but it takes some time. (3)
- It is hard to generate and modify learning content. (2)
- No it is not possible in the system, but content can be imported (1)

**85. Please rate the ease of use of the web authoring functionality for the generation and modification of tests?**

- Tests can be generated and modified easily within the system. (3)
- Tests can be generated and modified but it takes some time. (2)
- It is hard to generate and modify a test. (1)
- You cannot generate and modify a test. (0)

### 3.3 Level of expertise needed

**86. Please indicate the level of expertise that is required for using the program as an administrator.**

- The system is easy to use, little expertise is required. (2)
- The system is complex and rich in features thus high expertise is required. (1)
- The system is hard to understand and difficult to use, you have to build high expertise to use it. (0)

**87. Please indicate the level of expertise that is required for using the program as an author.**

- The system is easy to use, little expertise is required. (2)
- The system is complex and rich in features thus high expertise is required. (1)
- The system is hard to understand and difficult to use, you have to build high expertise to use it. (0)

**88. Please indicate the level of expertise that is required for using the program as a tutor.**

- The system is easy to use, little expertise is required. (2)
- The system is complex and rich in features thus high expertise is required. (1)
- The system is hard to understand and difficult to use, you have to build high expertise to use it. (0)

**89. Please indicate the level of expertise that is required for using the program as a user.**

- The system is easy to use, little expertise is required. (2)
- The system is complex and rich in features thus high expertise is required. (1)
- The system is hard to understand and difficult to use, you have to build high expertise to use it. (0)

### 3.4 Other

**90. Can some training material be obtained? Some material besides the 'normal' help.**

- No (0)
- Yes, it can be purchased at \_\_\_\_\_ (1)
- Yes, it is free and can be obtained at \_\_\_\_\_ (2)

**91. Is the system easy to navigate?**

- Very easy / Easy (2)
- Ok (1)
- Sufficient / Not easy (0)

**92. Please rank how easy the layout of the system can be customized for any organisations look and feel?**

- Very easy / Easy (2)
- OK / It takes some time (1)
- No customization (0)

**93. Is the permission system flexible?**

- Very flexible / Good (2)
- Ok (1)
- Sufficient / Not flexible (0)

**94. Is the permission system simple and easy to understand?**

- Very easy / Easy (2)
- Ok (1)

Sufficient / Not easy (0)

**95. Can grading be done easily online?**

Very easy / Easy (2)

Ok / It takes some time (1)

No functionality is offered to grade online (0)

**96. Is it compliant with any accessibility specifications (e.g. W3C WAI)?**

Yes (2)

No (0)

**97. Is there any reporting functionality?**

Yes (2)

No (0)

#### 4 Support quality

NOTICE: All of the following questions are not quantified. Their answers provide input for the verbal description of the LMS.

**98. Can the operating institution buy some support from a business company on the basis of a contract and warranty?**

Yes

No

**99. Is there a business company for implementing, hosting etc.?**

No

Yes, recommended is \_\_\_\_\_

**100. Does the core team provide any assistance or services like installation or training on a regular basis?**

Yes, please specify \_\_\_\_\_

No

**101. Is the support from the core team responsive?**

Yes, you get your advice and fixes very promptly.

The team is kind of responsive. Usually you have to ask twice.

No, you have to squeeze advice and fixes out of the team in a trying process.

**102. How long does it take to get an answer to a request in the forum?**

Few hours

About One day

About Three days

About A week

More than a week

#### 5 Total Cost of Ownership

NOTICE: All of the following questions are not quantified. Their answers provide input for the verbal description of the LMS.

##### 5.1 Type of users

**103. What is the predominant type of user?**

Universities %

Small and medium enterprises %

Industry %

Schools %

Non-profit organisations %

Other, please indicate \_\_\_\_\_

**104. How many important and prestigious customers are enlisted amongst the users of the system?**

Just small customers (1)

Few big names (2)

A lot of big names (3)

**105. Please estimate the number of users.** \_\_\_\_\_

**106. Can we get in contact with one of the Learning Management System real world users?**

\_\_\_\_\_

##### 5.2 Financial stability

**107. How many man years of full time programming and coordination work have been done? Please indicate** \_\_\_\_\_

**108. Since when? MM/YYYY** \_\_\_\_\_

**109. Is you core team funded?**

No

Yes, until when?

### 5.3 One time cost

110. What are the hardware requirements of the Learning Management System? Please indicate \_\_\_\_\_

111. What are the software requirements of the Learning Management System? Please indicate \_\_\_\_\_

112. Are there any additional products needed? \_\_\_\_\_

113. What time does it take to get the System up and running? \_\_\_\_\_

### 5.4 Recurring costs

114. What do you think is the time that your institution takes to run your installation?  
\_\_\_\_\_

115. How many hours of training on the Learning Management System do you advise for an administrator? Please estimate in 00:00 \_\_\_\_\_

116. How many hours of training on the Learning Management System do you advise for an author? Please estimate in 00:00 \_\_\_\_\_

117. How many hours of training on the Learning Management System do you advise for a tutor? Please estimate in 00:00 \_\_\_\_\_

118. How many hours of training on the Learning Management System do you advise for a user? Please estimate in 00:00 \_\_\_\_\_

119. How many hours of administration are needed to run your Learning Management System at the server level? Please estimate in 00:00 \_\_\_\_\_

120. How many hours of administration are needed to run your Learning Management System at the program level? Please estimate in 00:00 \_\_\_\_\_



# ANNEX 6: Mid-term train-the-trainer course assessment: participant satisfaction questionnaire

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## A. Quality of adopted methodologies and contents

The adopted training model has been suitable with respect to the following:

| 1 | 2 | 3 | 4 | 5 |

Training goals as indicated in the initial phase

| 1 | 2 | 3 | 4 | 5 |

Strategies/cognitive/educational activities adopted for content delivery

| 1 | 2 | 3 | 4 | 5 |

Types of contents/topics

| 1 | 2 | 3 | 4 | 5 |

The possibility to tailor the pathway to the learning needs of the individual participant

| 1 | 2 | 3 | 4 | 5 |

Provided adequate balance between face-to-face meetings and online learning

| 1 | 2 | 3 | 4 | 5 |

Provided adequate balance between individual work and group work

As regards the items below, please state your opinion on individual modules by assigning a value from 1 to 5

<u>The contents of the course have been:</u>	Mod. 1	Mod. 2	Mod. 3	Mod. 4	Mod. 5	Mod. 6	Mod. 7	Mod. 8
• quality-based and up-to-date								
• supported by complete and effective introduction guide								
• developed in a thorough manner								
• expressed in a language suited to the topic								
• expressed with a language at the level of participants' language knowledge								
• clearly structured								
• integrated with examples facilitating the understanding of concepts								
• adequately provided with tools for the learning assessment								
<u>Assessment activities ( A2 and A3 activities) have been:</u>	Mod. 1	Mod. 2	Mod. 3	Mod. 4	Mod. 5	Mod. 6	Mod. 7	Mod. 8
• useful to assess/strengthen knowledge/skills acquired in self-learning								
• consistent and in line with contents								
• adequate to prepare participants for the final outcome								
<u>The choice of course contents has been:</u>	Mod. 1	Mod. 2	Mod. 3	Mod. 4	Mod. 5	Mod. 6	Mod. 7	Mod. 8
• adequate, with respect to learning objectives								
• adequate with respect to individual needs (other tasks etc.)								

The choice and use of collaborative learning activities (forum, virtual community) have:

| 1 | 2 | 3 | 4 | 5 |

strengthened concepts learned in the study of online materials

| 1 | 2 | 3 | 4 | 5 |

fostered group work

| 1 | 2 | 3 | 4 | 5 |

fostered the solution of common problems and the exchange of ideas/opinions/experiences

## **B. Quality of adopted technical structures and solutions**

In your opinion, during class room training:

| 1 | 2 | 3 | 4 | 5 |

spaces have been adequate with respect to the type of learning intervention

| 1 | 2 | 3 | 4 | 5 |

hardware and software equipment (PC, Internet connection, etc..) needed for activities have been adequate

The platform for online learning has been satisfactory for:

| 1 | 2 | 3 | 4 | 5 |

its pleasant graphics and surfing functionality

| 1 | 2 | 3 | 4 | 5 |

the layout of areas and elements on display

| 1 | 2 | 3 | 4 | 5 |

the possibility of interaction via diverse types of communication tools (Virtual Community, Chat, Forum, etc)

| 1 | 2 | 3 | 4 | 5 |

easy and immediate use

Learning objects have been found:

| 1 | 2 | 3 | 4 | 5 |

pleasant, with respect to the balanced and consistent use of images and animation

| 1 | 2 | 3 | 4 | 5 |

provided with readable texts, well distributed in the displays

| 1 | 2 | 3 | 4 | 5 |

developed with suitable methodologies keeping interest and attention alive

### **C. Quality of Services**

In your opinion the organisational staff has:

| 1 | 2 | 3 | 4 | 5 |

assured an effective circulation of information

| 1 | 2 | 3 | 4 | 5 |

provided a thorough and adequate response to problems

| 1 | 2 | 3 | 4 | 5 |

considered the participants' needs (in terms of time and space)

In your opinion online tutors have:

| 1 | 2 | 3 | 4 | 5 |

answered participants' requests on time

| 1 | 2 | 3 | 4 | 5 |

clarified doubts in the learning process

| 1 | 2 | 3 | 4 | 5 |

provided useful explanations on the utilisation modes of materials and platforms

| 1 | 2 | 3 | 4 | 5 |

explored topics skilfully and effectively

| 1 | 2 | 3 | 4 | 5 |

fostered learners' active participation

| 1 | 2 | 3 | 4 | 5 |

supported the learning process

**D. Overall assessment**

In your opinion the course has been:

| 1 | 2 | 3 | 4 | 5 |

compliant with your expectations

| 1 | 2 | 3 | 4 | 5 |

useful for the development of your skills

| 1 | 2 | 3 | 4 | 5 |

responding to your learning needs

In your opinion, what are the positive aspects of the learning pathway/projects and those particularly useful to your profession?

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In your opinion, what are the negative aspects that need to be addressed and possibly modified?

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Please, state freely other remarks, observations, suggestions, which have not been covered in the previous assessments.

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**D. Sustainability**

What measures do you plan at institutional level?

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Which pilot projects do you consider more relevant and to be included in the regular curriculum – how?

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What activities would you like to contribute to at regional level?

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# ANNEX 7: Mid-term train-the-trainer course assessment: guidelines for interviewing teacher training institution representatives

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## Information about the interviewee

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Country of residence (of origin):

Name of institution:

Role in the institution:

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## Duration

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20' - 30'

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## Interview Guidelines

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### 1. Learning Environment (f2f meetings)<sup>22</sup>

- How could you describe the behaviour of the instructor? Did he/she show respect for individual differences (religion, gender, etc.). Did he/she relate to the trainees in ways that promoted mutual respect?
- How could you describe the climate in the f2f sessions?
- Suggestions for an improvement of the f2f sessions

### 2. Course structure<sup>23</sup>

- What are your general impressions about the course?
- Were course objectives clearly explained?
- Were course materials presented in an organised manner?
- Has course content matched course objectives?
- Were the course topics dealt with in sufficient depth?
- Was course material sufficient? Was it overwhelming?
- Did the different activities (forums, assignments) actually prepare the students to the wrap-up activities (module outcomes)?
- How did you find the technical support offered by the team?

### 3. Evaluation<sup>24</sup>

- How do you rate the evaluation methods (appropriate/inappropriate)?
- Was the grading system clearly explained?
- Do you believe that the final grade will reflect the overall performance of the trainees?

### 4. Tutoring plan

- Did the tutors encourage students to an active participation?

- Did the tutors respond in a timely manner?
- Did they answer clearly and thoroughly to the questions?
- Were they knowledgeable about the subject matter?
- Did the trainees feel involved?

### **5. Expectations and suggestions**

- Which aspects are well done and should be kept in this way?
- Which aspects should be improved (how)?

### **6. Sustainability of the project**

- What suggestions/proposals do you have for the sustainability of the project on a national basis? And on a regional basis?

- 22 If the cognitive operation promoted by the self-assessment closed test relates to the objectives of acquiring knowledge (performance), the activities should propose paths linked with objectives of mastery (for example, comprehension) or to the competence objectives at the level of application, analysis and synthesis which would refer to the taxonomy of educational goals in the cognitive field (Bloom, 1956).
- 23 Some participants were significant representatives of institutions whose aim is to promote innovative educational methods and so these demonstrated an ample outlook.
- 24 In different contexts, questionnaires or tests are given before activity start-ups and later in the course of learning. This is a particularly effective method of defining the initial gap between the participants and to specify time required to cover this gap. It is an optimal solution especially for specialisation or advanced courses that presuppose very different initial backgrounds and broad possibilities for personalisation of the learning path. Among the objectives of the MEDA-ETE project, there was a tendency to select a common background and thus the above-mentioned choice was not so necessary.

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