

“Capacity Building and Strengthening Institutional Arrangement”

Workshop: Capacity Building for  
EEAA Training Department

Design Environmental Training Programs  
(New Approaches and Technologies)

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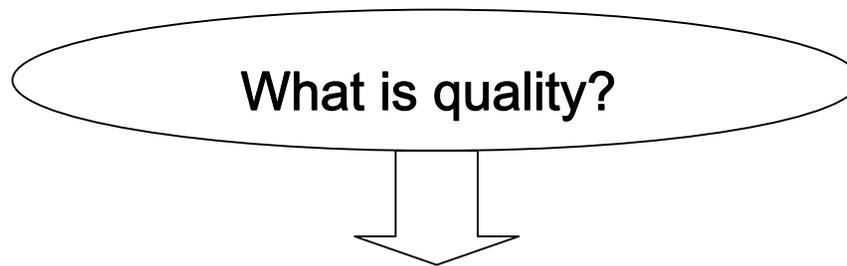


## Index

1. Introduction
2. The design phase according to quality theories
3. New Approaches and Technologies
4. How to design rational, consistent and effective environmental training programs

## 1. Introduction (I)

People requests quality services and products that can be supplied adopting specific models and procedures, as for environmental capacity building programs' design



Quality is

“all the proprieties and characteristics of a product, process or service to satisfy the customers’ requirements”, that means to provide what customers expect and desire (Customer Satisfaction)

## 1. Introduction (II)

According to quality theories, quality is also related with different aspects and there are various perceptions of quality, such as :

Quality based on measurable values : this approach implies that quality can be exactly and objectively measured

Quality as requirements' conformity : services and products are those carried out in conformance to specific customers' requirements

Quality as satisfaction of the aim : in this case quality is related to the level of customers satisfaction

Quality as relation performance/price: quality as a performance or service offered at an acceptable cost for the customers

## 1. Introduction (III)

Following quality theories, quality means the consideration and provision of some specific aspects, such as:

1. A clear definition of responsibilities (who does what)

2. Detailed procedures of all the activities

3. The adoption of a Self-Control System

4. Independent verification of the system

Following these items it is possible to think about a quality management system for environmental capacity building according to quality standards, (as for example ISO 9001 or ISO 17025)

## 1. Introduction (IV)

During this workshop, some quality aspects of environmental capacity building and training activities are considered, as:

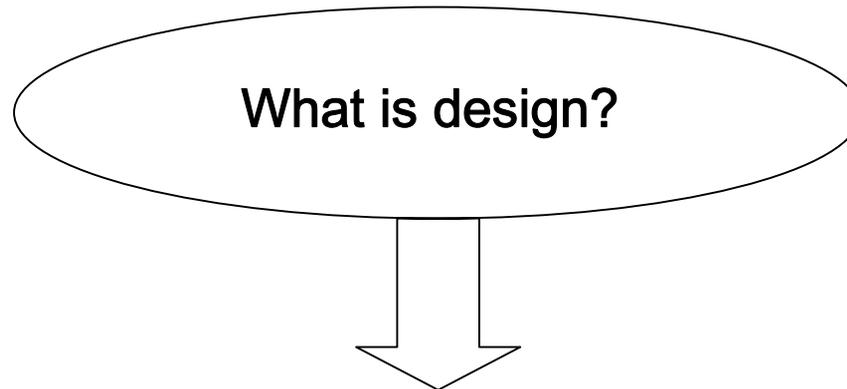
1. Design environmental training programs
2. Training needs' assessments
3. Follow up of training program and evaluation
4. Training kits (tools)

Others possible items are:

5. Training of environmental trainers
6. Training management for training centres
7. Implement training program
8. Others items

## 2. The design phase according to quality theories (I)

According to quality theories,



Design is

“to study, to define, to develop and to verify a product, process, service autonomously following data and requirements specifications for customer satisfaction”

## 2. The design phase according to quality theories (II)

In order to design effective environmental training programs some preliminary elements are:

- A deep knowledge of process design to define the main input parameters and the critical points of the environmental training activities
- The recycle of working experiences useful for the environmental training activities
- The socio-territorial interaction analysis, concerning the impacts of the design on the environment and work situations
- The guarantee of continuity, availability, validation of the training activities

## 2. The design phase according to quality theories (III)

Other important design phases concerning environmental training programs, are for example:

- 1) To fit general objective of the environmental training programs (for organization and for participants)
- 2) To define what kind of methodological approaches (lessons, case-study, role-playing, working-group, etc..) will be adopted to achieve the general objectives
- 3) To develop the different objective in environmental training modules, defining the numbers of the modules needed according to participants' requirements
- 4) To choose expert trainers able to develop and manage the environmental training activities and to assist the participants
- 5) To prepare materials and documents for each environmental training module
- 6) To define the resources and the audio-visual equipments to carry out the training activities (computers, printers, projectors, video, etc.)
- 7) To define appropriate evaluation methods to assess fulfilment of the prefixed training goals/levels

## 2. The design phase according to quality theories (IV)

It's a good practice in the design phase to select and to adopt appropriate formats, such as the following example:

**Course A**

**Thematic Area : AIR**

<b>APAT EXPERT "REFEREE"</b>	<b>EEAA EXPERT "REFEREE"</b>

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<b>EEAA REQUIREMENTS</b>	<b>TECHNICAL DETAILS</b>	<b>APAT EXPERTS</b>
1) Modernization and updating of the equipment (software e hardware) needed for the monitoring of air emissions; 2) Mobile system for the air monitoring; 3) Training of experts for the adoption and use of the new instruments and tools; 4) Integrated system of information concerning the emissions of pollutant substances into the air; 5) Identification of the sources of pollutant substances emissions; 6) Studies about obsolete vehicles impacts (> 20 years); 7) Environmental impacts of hydrocarbons (oil and gas); 8) Environmental impacts of elettromagnetic waves equipment; 9) Studies about environmental, social and economic impacts of transport. (Also in Energy)		

### 3. New Approaches and Technologies (I)

According to quality theories, new technological tools and new didactical approaches can be applied in the design of environmental capacity building activities.

That means a more effective environmental training programs and processes, particularly to promote scientific and technical knowledge and capacity building improvements.

These new training technologies, in fact, can facilitate collaborative learning activities, strengthening communication and sharing experiences, both in presence or in a virtual environment through Internet, creating technical and scientific networks between trainees, trainers and experts.

### 3. New Approaches and Technologies (II)

**Case study** is a method of learning, applied to working group or individual activities, in which are explained all aspects of a specific and complex situation in relation to specific technical issues or problems.



The main aim of this methodology is to allow trainees to formulate hypothesis and find solutions to the specific issues proposed, assisting trainees in understanding and assessing all the technical variables and in achieving specific learning outcomes.

### 3. New Approaches and Technologies (III)

**Storytelling** is a mean of sharing, working experiences developed in specific technical fields within a training group. The main aim of this methodology is



the possibility to re-create specific situations and to analyse them from different points of view and to compare different professional and technical ways to deal with specific environmental protection issues and problems.

### 3. New Approaches and Technologies (IV)

The **Working group** is composed by trainees with different skills and competencies in order to form an effective team able to analyse specific and complex situations and to reach defined objectives such as creation of documents and resolution of problems, promoting:

- exchange of ideas and experiences
- discussion between trainees
- involvement of all participants
- sharing of results
- professional skills enhancement



The presentation of working group activities results can stimulate self-assessment capabilities and useful comparisons among trainees

### 3. New Approaches and Technologies (V)

The **Role playing** is a learning process in which trainees act out the roles of other individuals recreating specific situations, in order to practice particular skills and competencies and to meet scientific and technical tasks.



Trainees are stimulated to collect information and knowledge related to the specific situation proposed from the role-playing of specific characters

This methodology is finalised to:

- to train participants to problem facing playing a specific role
- to strengthen technical patterns adopted and to acquire new further patterns

### 3. New Approaches and Technologies (VI)

**Brainstorming** is a highly structured process of a working group aimed to generate, refine and develop ideas about specific problems, using the different skills and competencies of the group's participants. The general rule of a brainstorming foreseen

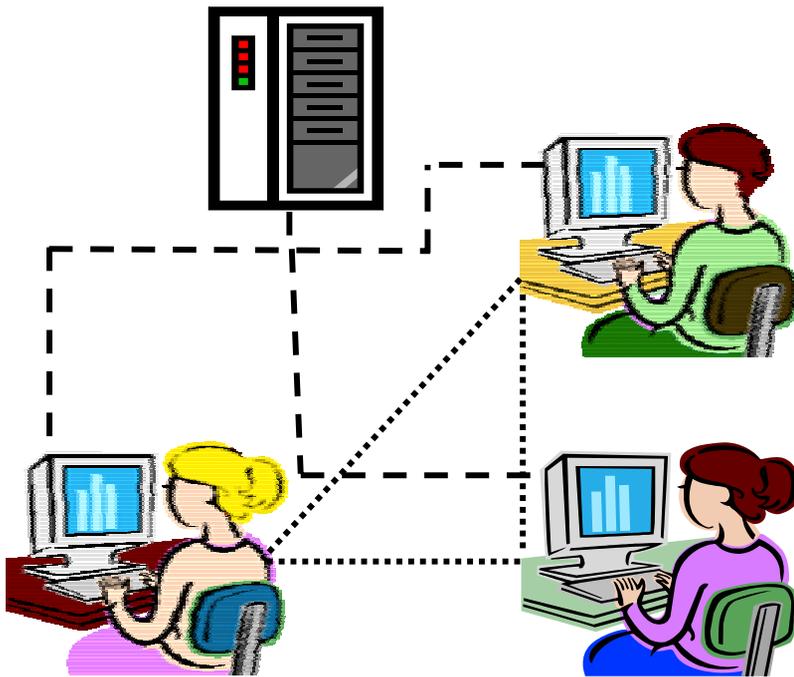
that any idea can be rejected until all the ideas has been thoroughly evaluated. Only at the end of

brainstorming it is possible to syntetyze all the ideas proposed and choose one agreed solution.



### 3. New Approaches and Technologies (VII)

**E-learning** is a didactical methodology based on the disjunction between learners and teachers in which training materials are provided to trainees through Internet.



It is based on a high level of flexibility of learning, according to the user's training features and time availability, therefore it is an effective alternative to the traditional training (indoor and outdoor) and is a suitable tool

to answer to the enhancing needs of environmental vocational training.

## 4. How to design rational and effective environmental training programs

1. Following the statements and quality criteria presented before, it's possible to improve the design of environmental training programs, to ensure appropriate and suitable quality levels in the products and services developed
2. It's also important to underline that design phase is carried out every time according to customer's requirements and available resources (human and economic)
3. In the second part of this module will be also presented some APAT experiences in design environmental training programs, at national and international level
4. All these aspects will also faced by a specific working-group in order to discuss and debate "how to design an environmental training program"