Distance learning: general overview

Centre International de Hautes Études Agronomiques Méditerranéennes

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Learning Objectives

Share knowledge in order to, on completion of this module, participants will be able to:

- Explain the meaning of the common terms and principles used in educational process and to describe the changes occurred in;
- Identify the main characteristics of learning models and the related concepts of interactivity and community;
- Define the basic principles of learning evaluation and to distinguish the main related tools;
- Describe the main characteristics of e-learning and the related tools and technologies.

What Learning is?

Learning is an active process in which the learner relates new information to the existing knowledge in order to accommodate and assimilate new ideas.

It doesn’t refer only to the changes in cognitive area, to know for instance more mathematics, science or humanism, but also it involves other characteristics of the learner such as behaviors, representation of the context and life, social relationships, etc.

What is changed in the learning approach?

Traditional (the past)	Innovative (today)
• The teacher at the centre of process; • Same times and places; • One direction of knowledge from the teacher to the students (transmissive approach) .	• The student is at the centre of process; • the learning times and places are flexible; • Multidirection of knowledge among teacher and students (Peer learning).

Main Learning models

Face to Face (F2F) is the traditional learning model where the process develops in the same place in presence of the teacher and students in a classroom with pedagogical means (library, data show, etc.) in the same time (synchronous mode).

Distance learning is a model adopted for students living far from the school and concerns a wide range of learning methods. Nowadays Distance learning is synonymous with E-Learning .

Difference between “F2F” and “DL”

F2F advantages:

A)Direct phisical relationship among the learning actors (Students, Teacher, Tutor, etc.) allowing a good psycological reaction;

B) Easy social relatioship development.

F2F disadvages:

A) Need to be present;

B) Low time flexibility;

C) Expensive

Difference between “F2F” and “DL”

DL advantages:

A) High time flexibility;

B) Wide range of methods and tools;

C) Suitable in emergency situations and problematic context where F2F is not easy or possible;

D) Cheap

DL disadvantages:

A) Physical distance;

B) Risk of low social relationships and low interactions;

C) Risk of loneliness feeling.

Self Learning

It refers to independent and solitary study carried out at distance, sometimes with the support of a tutor. It's different from the individual study always inserted in the presence or distance interactive learning. In the **self learning,** even if supported by a tutoring, the responsibility for the final quality of learning is almost exclusively of the student.

The more the self student will be able to well direct the study, to plan his/her time, to understand his/her personal cognitive style, to analyse continuously his/her reactions and weakness (self evaluation) the more the learning will be successful.

Difference among learning models

A perfect model of learning does not exist in absolute terms.

The effectiveness of learning depends on the quality of method adopted and to communication/interaction capability.

It is recommended to adopt the most adequate learning model depending on specific cultural, social, economic and technological conditions (context).

Historical Distance Learning Trend

First Generation: At the end of XIX century ; Mail currier; Printed materials; Radio programmes; Very low interaction

Second Generation: At the beginning of 60s; TV programmes; Printed materials; Interaction by telephone/Fax

Third Generation: At the end of XX century-; Computer; Online technologies (Internet); Multimedia; Good interaction.

Interaction

THE INTERACTION IS THE MEANS FOR LEARNING BY ACTIVATING THE MENTAL CAPACITIES AND RESOURCES.

IN DISTANCE LEARNING, THE INTERACTION IS THE WAY FOR:
A) CONSTRUCTING NEW KNOWLEDGE;
B) BUILDING THE GROUP RELATIONSHIPS;
C) CREATING A CRITIC ATTITUDE AND MOTIVATING THE STUDENTS.

Interaction

By working in a group the students are actively involved and stimulated for an effective participation.
The work is usually planned by the teacher and actively supported by a tutor.
The efforts for organising the work, solving the problem put forward by other members, negotiating the relationship among the members are overall opportunities for learning.
The modern interactive technologies allow working in group at distance using new and powerful tools.

Interaction

According to William Glasser theory (1986)

we learn 10% of what we read;
20% of what we listen;
30% of what we see;
50 % of what we both listen to and see;
70% of what is discussed with others;
80% of what we experience personally;
and 95 % of what we teach.

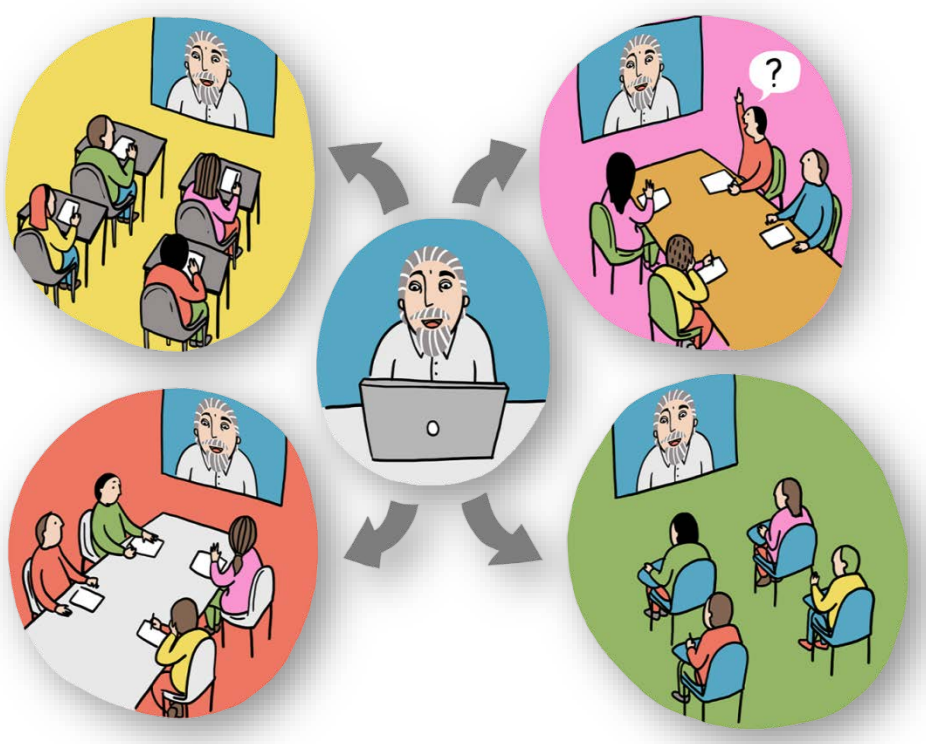
Interaction

A critical aspect and one of the main psychological difficulty for a distance learning student is the loneliness feeling (to be alone in front of the computer).

An effective shift to the distance learning has to rely on a mental representation of reality by defining a virtual classroom as a metaphor of a real classroom.

The realization of this virtual classroom is possible by a very good interaction among all the actors of the learning process using the appropriate technological tools.

Interaction



A Virtual Classroom is a sort of “Virtual Community”.
In such a Community the participants (the students) work together for selecting and constructing the new knowledge in a friendly environment, in which they freely communicate establishing methods and techniques, creating their individualities, negotiating diversities, and collaborating for problem solutions.

Different types of virtual communities

Learning Community	**Students interact in constructing their skills and knowledge by a problem solving approach. The objective is learning and the group members are 8 – 12. A tutor acts as facilitator / mediator.**
Community of Practice	**Members work together on the basis of the professional interest for developing apprenticeship and sharing new solutions. A peer animator could be present and the members (about tens) are variable in some research activities.**
Community of Interest	**A large amount of people participate in a forum for exchange information on topics of common interest. The members can be 100/ 200 and the objective is to share news and information. Usually a tutor is not present.**

E- Learning

E-Learning (Electronic-Learning) is 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, communication and collaboration.

THE MAIN CHARACTERISTICS OF E-LEARNING

Positive aspects and opportunities

It breaks the space barriers and allows the student to work from anywhere, such as at home or workplace.

It increases the flexibility for attending a training course scheduling time according to personal needs and availability (asynchronous model);

The student can better apply his/her learning style because of the many available means (hard materials, video, pictures, audio, etc);

The use of new information and communication technologies facilitates the interaction among the learning process actors and with the immense Internet resources.

THE MAIN CHARACTERISTICS OF E-LEARNING

Weakness and risks

Expecially in the cases of self-learning the student feels “alone” in front of the screen of the computer and implies a good knowledge of one’s own learning style and character to be able to organize the time and optimize the efforts;

Studying always requires care and engagement and distance learning is not an exception.

The use of technological tools and equipments requires a good functioning of them not always assured (blackout of Internet or e-learning platform, modem / satellite routers not working, etc.).

Remote Technical Assistance

The Remote Technical Assistance (RTA) consists in targeted interventions (usually short) that try to respond to “on demand” specific problems.

These are info-training sessions delivered from a web-meeting platform (on-air) and then implemented on the e-learning platform (on-line).

Learning Evaluation

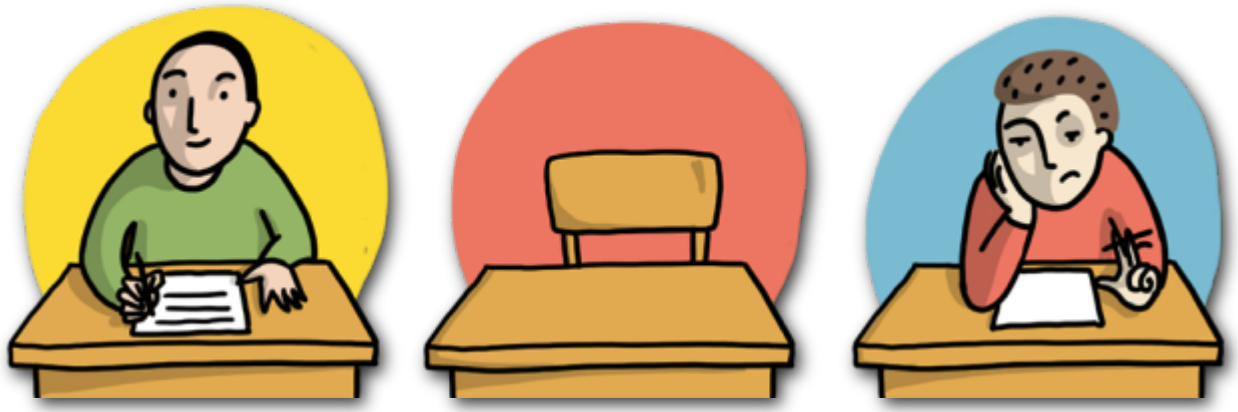
Evaluation is not an extemporaneous activity, but an intentional and well planned action taking place in specific phases of the educational cycle, aiming to give information to the actors about the learning performance and their outcomes, in order to improve its quality and to empower its prosecution.

The starting point, in distance or in presence course, are the learning objectives, that describe what and how the learners have been learnt and their nature and specification, defining the methods and the tools of the evaluation.

Learning objectives as evaluation basis

A good definition of learning objectives helps to:

- Identify specifically what should be learned;
- Serve as guidelines for content, instruction and evaluation;
- Focus on the learner's behaviour that is to be changed;
- Convey to learner exactly what is to be accomplished.



Examples of learning objectives definition

On completion of this course /module, students will be able to:

Identify .....

Explain .....

Describe .....

Detail .....

Define .....

Demonstrate .....

Distinguish .....

Articulate .....

WHY DO WE EVALUATE?

- Institutions and sponsors could know about the efficient use of resources in order to justify their investments and policy choices;
- Management staff could understand the effects of the organization and methodologies put in place.
- Planners and course developers could have a feedback about the appropriateness of the course design.
- Students and teachers would know their performances and outcomes.
- Finally, the students would know what they have learnt, what are their weaknesses, the potential to be developed and what they have to do for improving their knowledge.

HOW DO WE EVALUATE?

In the past but even today the didactic evaluation was the judgment by the teacher about the level of knowledge and work of a student, based on some outputs but frequently on his/her intuition, subjectivity and discretionary power.

In the modern approach the evaluation is based on the measurement of how much has the student achieved the learning objectives intended as means to recover the study and statements that specify what students will be able to do as a result of a learning activity.

Evaluation terminology

Evaluation is a very general term, with different meanings according to the nature of learning objectives, the teaching phase considered and the local culture and history of education.
The main terms comprise as well:
Assessment
Judgement
Measurement
Mark
Monitoring

There is not an absolute consensus about their meaning changing according each context.

The Evaluation Cycle

There is a distinction among three different types of evaluation according to the phase of the education cycle:

Type of evaluation	Description	Phase of the education cycle
• Diagnostic	Prerequisite for learning, backgrounds, previous experience and life context	Before the start of the course
• Formative	Data collected during the development of educational process	During the course activities
• Summative	Results and evidence of the educational experience	At the end of the course

Diagnostic Evaluation

Survey of entry characteristics of the students through a questionnaire aimed to describe their previous experiences, motivations, interests and expectations.

With the same tools it is possible to know available technologies (PCs or working station availability, printers, Internet access, etc.) and time for attending the course.

Formative Evaluation

It concerns three different aspects:

1. Quantitative monitoring of course progress;

2. Qualitative analysis of participation;

3. Evaluation of individual outputs (by teacher).

The overall information arising from formative evaluation allow to understand the direction of the process and, if necessary, to recover activities and to insert the inputs for reorienting and improving it.

Summative Evaluation

The summative evaluation collects all the materials produced along the course by the students such as research outcomes, projects and test results.

The data are not simply added up but analyzed by a qualitative approach that mainly considers the overall progress made by the student.

One common tool for summative evaluation is the **“portfolio”.**

MAIN EVALUATION TOOLS

OBJECTIVE TESTS

It is very useful in examine the knowledge and questions that require short text or numerical responses. If well managed, an objective test can assess higher levels of learning.

The use of computer in the delivery of objective tests enables the provision of automatic feedback (in terms of scores, hints, praise and guidance) to the student.

THE MOST COMMON OBJECTIVE TEST

Type of test	Description
Multiple choice	Traditional 'choose one from a list' of possible answers.
True/False	Assessing whether a statements are true or not.
Ranking	Relating items in a column to another one testing the knowledge of sequences, order of events or level of gradation.
Fill the blanks	Completing some sentences by selecting the appropriate words and expressions from a list containing also other terms.
Field simulation	Choosing solutions to the simulation of a real problem or experiment.

MAIN EVALUATION TOOLS

WRITTEN ESSAY TEST

Written essay is one of the powerful tool for assessing the higher level abilities and skills of a student, because it implies a specific description of the requested aspect of learning contents and frequently a creative and critic elaboration.

Generally the written essays are requested at the end of a module or a course.

CONTENT ELABORATION

The transformation of didactic contents from the traditional materials, generally used in face-to-face teaching (ex. ppt presentation), into contents for E-learning necessitates a instructional designing an authoring software.
Instructional designing is the elaboration of teching materials in order to produce “self-consistent” contents useful for self-learning (by Instructional Designer).

By the authoring software it is possible to transform the elaborated contents in useful files for E-learning platform (LMS). This activity is carried out by a Multimedia Expert.

Tools and technologies for E-learning and RTA

The technological choice adopted for E-learning and RTA involves many solutions of the “business” and “open source” type, and is based on the initial analysis of technological requirements (technological platforms, communication systems, etc.) as related to the typology, frequency, number of courses to deliver and number of participants.

The solutions have to be adopted taking into account the existing technological conditions in the context where courses will be delivered in order to reduce “digital divide” situations.

Tools and technologies for E-learning and RTA

The technology applied to E-learning and RTA is composed by a set of systems and applications specifically designed for that use.

For ex. Learning Management Systems (Moodle, Docebo, Claroline,etc.) or Web Meeting Apps (Skype, Zoom, WebEx,etc.)

Learning Management System

The Learning Management System (LMS) is a software that enables creating a virtual learning environment within which it is possible to deliver training courses, manage and monitor users' training paths and access different communication tools and related services, such as forums and tutoring.

Learning Management System

By an LMS it is possible to:

- Host the instructional multimedia contents;
- Offer pedagogical activities related to communication and socialization (for instance forum, chat, announcements, etc...);
- Enable tutoring activities;
- Facilitate teaching activities;
- Manage users' community;
- Evaluate the learning process (Monitoring);
- Implement documents associated with training

(for example readings and documents for complementary and in- depth analyses).

CLAROLINE

The “Claroline” platform has been identified as an ideal LMS solution for the delivery of CIHEAM Bari E- Learning courses, as it can fully meet its methodological, technological, economic, language and didactic needs.

Claroline is an E-Learning “collaborative” platform used in over 100 countries and available in about 40 languages.

Web meetings systems

WebEx, (© Cisco) and Zoom (©zoom communication) , are a web-meeting platforms allowing the recording of video lectures delivered on a real-time basis from the transmitting station to one or more receiving stations (e.g. offices, consortia, workers' associations).

The platform allows for the active participation via the teacher/learner interaction during the live session (on-air activity).

If missing these lectures at the set time, it is possible to get the recorded broadcast (on line activity) from the E-learning platform (Claroline).

Thank you for your attention!!

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