

Process of e-Learning Design

Topics

- Computer-Based Training (CBT) and Web-Based Training (WBT): benefits and disadvantages
- Building an e-learning course
- Video-lessons
- Audio-lessons
- Green Screen

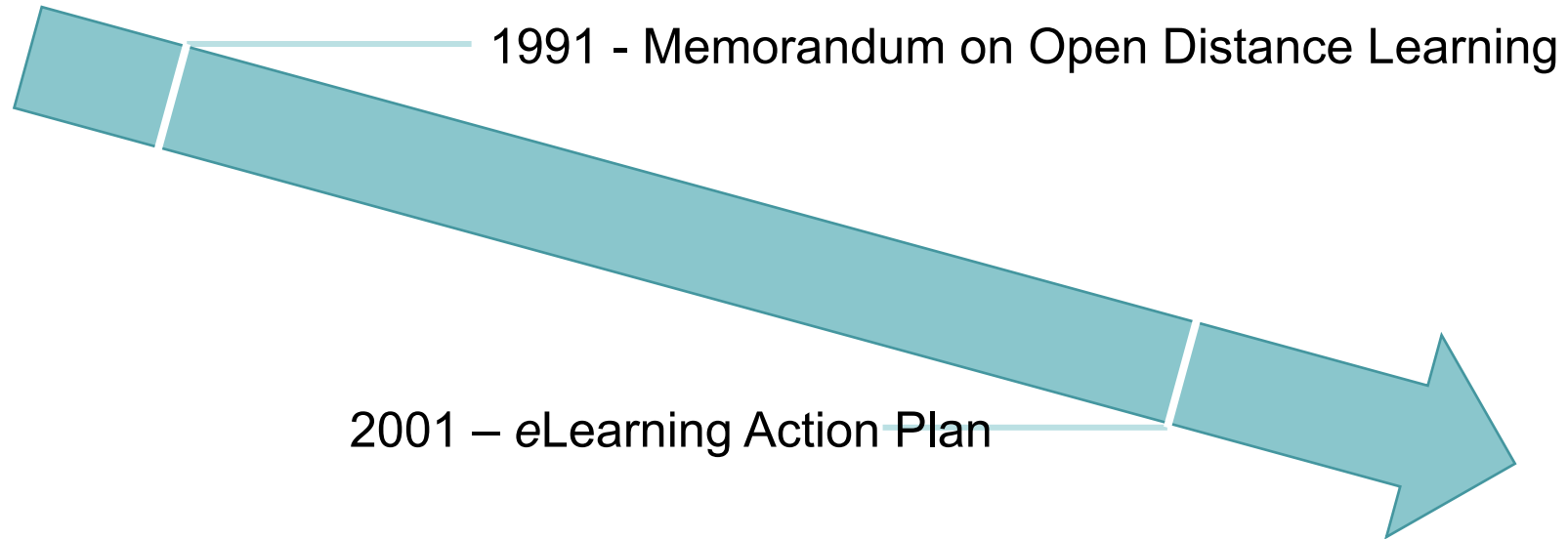
Objectives

- The objectives of the lesson are:
 - Understand the main historical phases of the e-learning development
 - Understand the main tools for designing and building quality e-learning
 - Understand important aspects (and limitations) of different solutions for e-lessons
 - Know potentialities offered by internet and other professional solution to develop e-courses

Three generations of distance education

- The medium for the first generation was written and printed material. The introduction of new printing techniques enabled low cost production of text books;
- The beginning of the second generation was marked by the setting up of the Open University of the UK in 1969. Two-way communication, between tutors and students, was through correspondence tutoring, face-to-face tutorials and short residential schools;
- The third generation of distance education uses ICT as its basis, offering two-way communication in various forms (text, graphics, sound, moving pictures) either synchronous or asynchronous.

A major change in EU policies



eLearning is defined as «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.»

EC, 2001

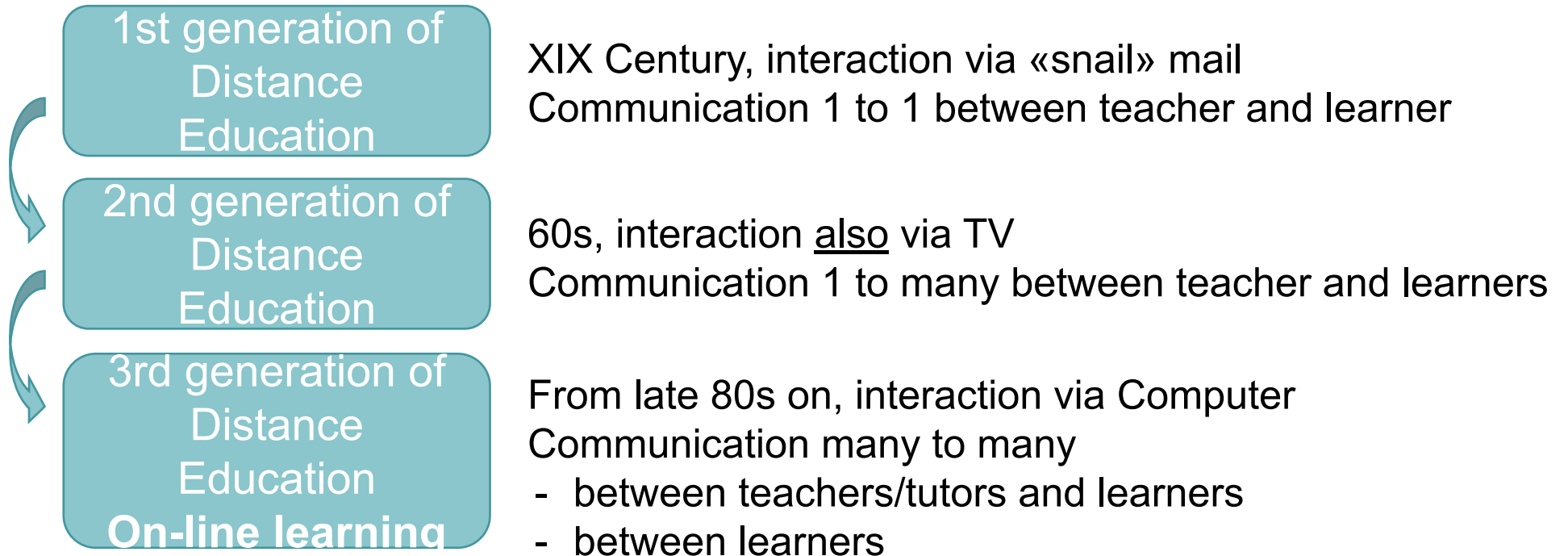
ODL and E-L: a synthesis

Open Distance Learning	E-Learning
<ul style="list-style-type: none">- Educational device- <i>Any time, any place, any pace</i>- Taking into account learner's singularity<ul style="list-style-type: none">⇒ Learner centration- Flexibility	<ul style="list-style-type: none">- Business device- A «wider tent»- Improving quality of learning<ul style="list-style-type: none">⇒ Customer satisfaction- Sustainability

Two other phrases: 1) On-line learning

- **On-line learning** (aka the third generation of Distance Education)
 - It has been introduced in the late 80s (before World Wide Web was created by Sir Tim Berners-Lee in the early 90s)
 - People may interact via computer (Computer-Mediated Communication – CMC)

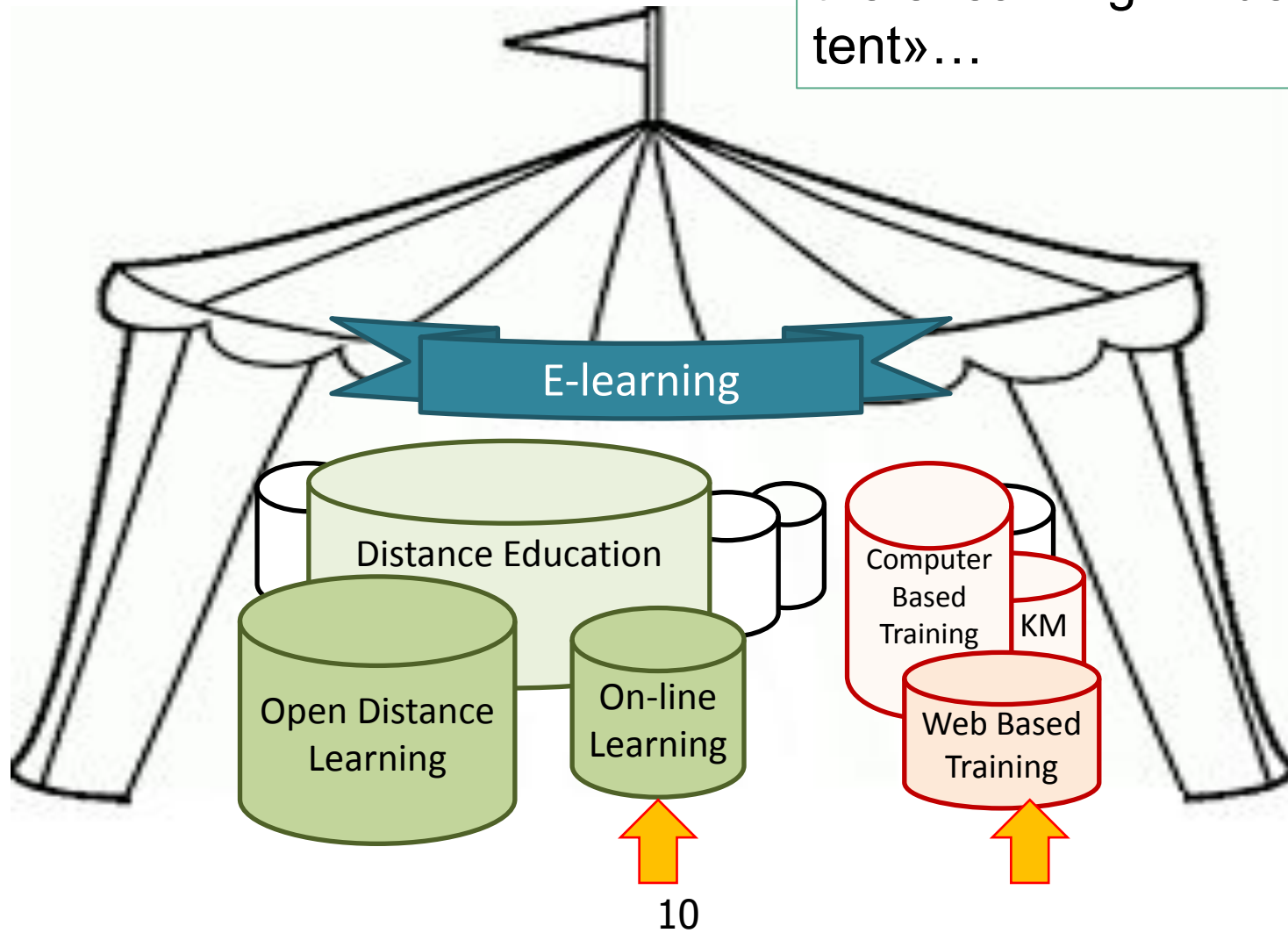
Two other phrases: 1) On-line learning



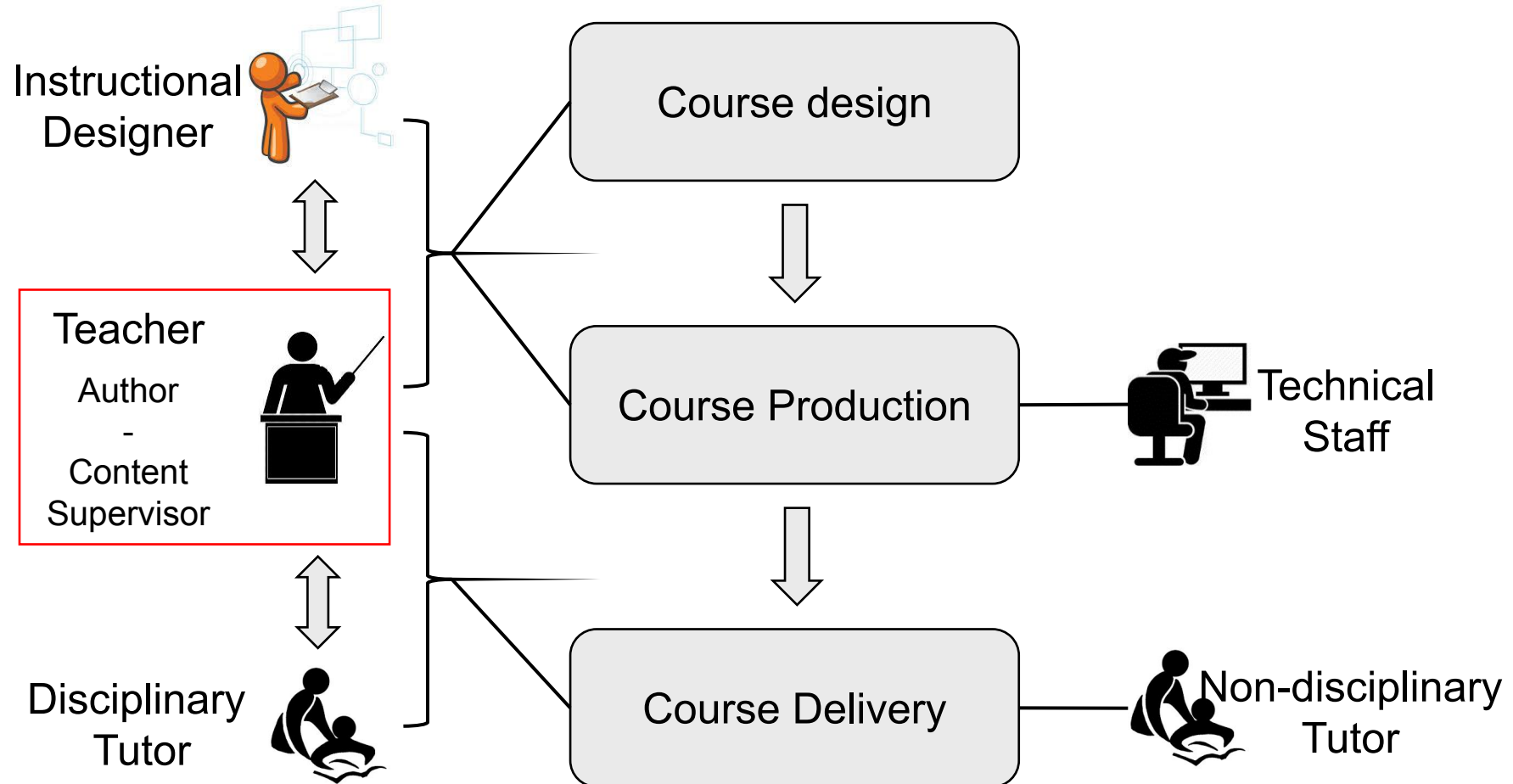
Two other phrases: 2) Computer/Web based training

- **Computer-Based Training (CBT)** and then **Web-Based Training (WBT)** are linked to another branch, dealing with the use of computer and IT resources to improve learning
 - Mainly based on interaction Human-Machine rather than Human-Human Ex: delivery of formative assessment tests, or hypermedia content delivery
 - Started from stand-alone computers, then went on thanks to CD-ROM supports, and finally evolved to a web-based delivery (content can be frequently updated)

We have both inside the e-learning «wider tent»...



Building an e-learning course



Video-lessons

There are two possible solutions to prepare e- lessons:

- Audio-lessons
- Video-lessons

The first solution is surely cheaper but the second offers most effective learning

Audio-lessons

- In the modern e-learning, audio lessons are considered outdated but this solution can be used for specific aim
- Audio lesson can be used to realize guitar course? Surely NO!
- Audio lessons can be used to this course? Surely YES But video is surely more effective!

Video-lessons

- Distance lessons passed through different steps during years
- The most simple solution to provide e-courses is to record traditional lessons and then upload them in a dedicated server



Video-lessons

What were the main problems of this solution?

- E-students cannot interact with teacher
- The timing of the lesson is based on (real) students reaction
- As known, these courses are mainly used today as MOOCs

Video-lessons

- An e-course must be based on lessons specifically prepared for distance learning
- This is not a trivial observation because only in this way we have an effective learning
- This assumption is not only related to lessons but to all learning objects we want to insert into our course

Video-lessons

- The most important factor for an effective e-learning is the teacher
- Teacher has to learn how to do lessons without audience (students)
- Students are somewhere but not in front of you ... you have to anticipate their reactions!

Video-lessons

Concentrating on video lessons, we can distinguish between two solutions:

- Webcam recorded lessons
- Professional lessons

As for audio vs video lessons, these solutions have completely different cost and quality.

Video-lessons

- The webcam recorded lessons can be realized using different software (most of them free) to:
 - Record audio and video
 - Share whiteboard
 - Share screen, documents, links, etc.



Video-lessons

Normally, to produce webcam recorded lessons we only need a computer

Some important tricks:

- Use a soundproof environment
- Use a USB microphone (digital input) for better quality

Video-lessons

Which software can be used?

A Large number of software are already present in our OS

For better quality and post-production manipulation use an Authoring software like:

- Articulate storyline
- Camtasia Studio
- UDUTU
- ... **and OBS!**

Video-lessons

Always remember the most important instructions of this course:

- Internet is an enormous source where find software, tricks and solutions
- Who produce learning objects determines the quality of the object
- Bigger investment gives better quality but if the previous item fails ... investments do not buy quality



Expensive fashion suit

Professional Video-lessons

A most professional result can be obtained recording in a dedicated studio where:

- Multiple cameras are available
- Interactive whiteboard is used (with additional learning objects)
- A dedicated video mixer is used switch views and slide

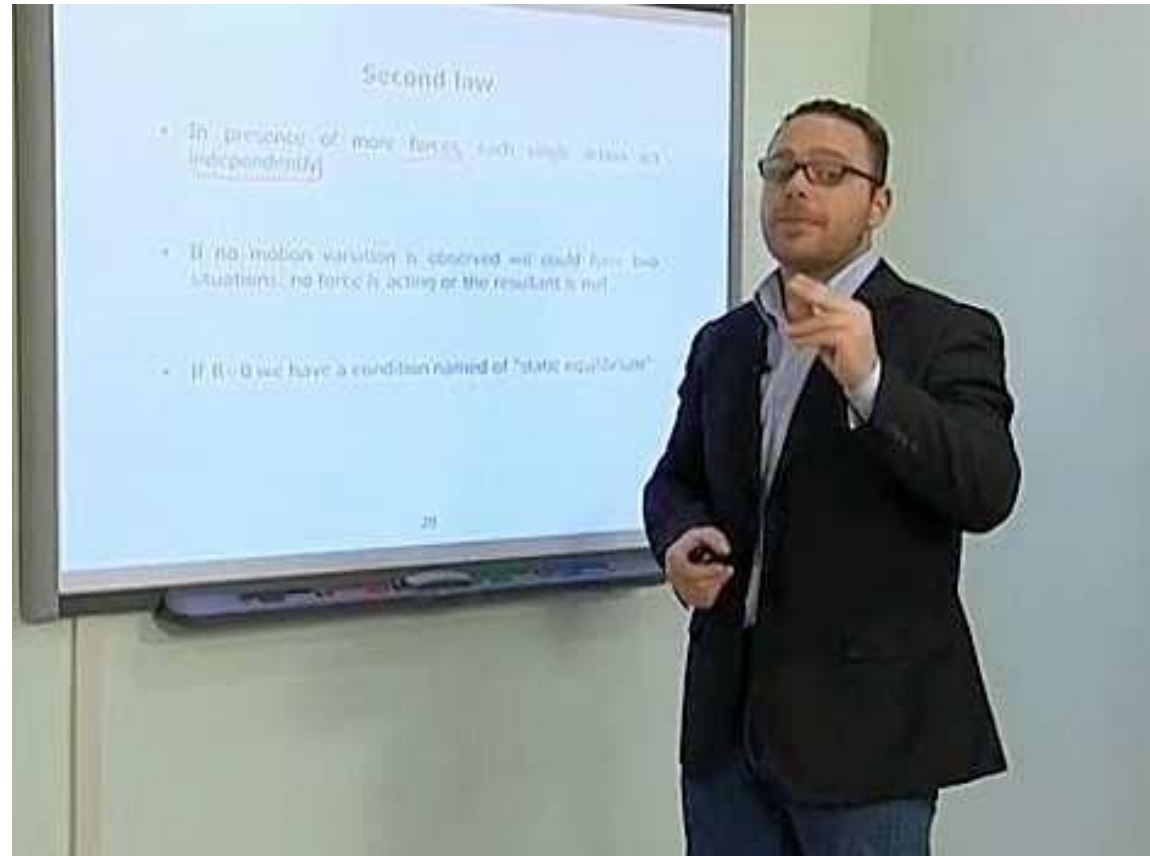
Professional Video-lessons

MARCONI Studios



Professional Video-lessons

MARCONI Lesson



Professional Video-lessons

Summarizing:

- An effective e-learning can be obtained only creating specifically developed products
- There are different solutions with different cost
- The starting price to have a distance course is absolutely sustainable

The most important key factor for success is not technology, is teacher!

Green-Screen

- A most advanced solution for video lesson is represented by green screen (often called Chroma Key).
- A green screen is an empty environment that is used to virtually build 3D scenario.
- The name “green” indicates the color of the wall since the green background permits a lower interference during virtual realization.

Green-Screen



**Green Screen at
Guglielmo Marconi
University**

Green-Screen

- The realization of the environment is also called “Keying”
- This technique is largely used for TV program e.g. weather forecast
- Famous example in filmmaking: The Hobbit, 300, Alice in wonderland, Sin City, Harry Potter, etc.

Green-Screen n



Green-Screen

- How green screen can help distance learning?
- Using this technique we can virtually build expensive environment, laboratories, museum, buildings, ancient cities, etc.



Green-Screen n

- For the green screen we are talking about a not cheap technology
- This solutions can be used to create a most effective learning not only for lesson but also for laboratories and other learning objects
- **Also in this case, create something that is not only “fancy” but increases learning process!**

Conclusions

- The evolution of e-learning passed through different phases and solutions
- To prepare an e-lessons we can simply exploit free solutions already present in our OS or computer
- A good e-lesson has to be prepared specifically for distance students
- There are various professional solutions that can be used to develop additional learning objects or to improve the quality of our e-course