eLearning

Teramo, 5 July 2017

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What is distance learning?

The history of distance learning

Isaac Pitman, the «Father»

In **1840**, began teaching and **offering correspondence courses in England** for people to learn shorthand

University of London

In **1858**, allowed students to take course examinations without taking the class

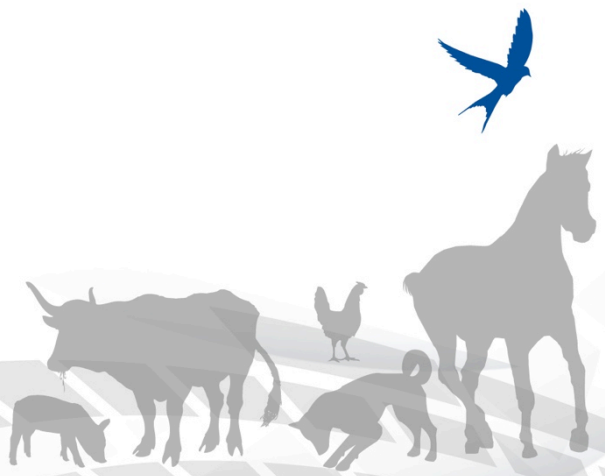
William Rainey Harper

In **1892** became President of the University of Chicago and insituted **correspondence courses** there as well

Other early forms of distance education

1910 to **1920** several universities attempted distance education through **radio** (none suceeded)

In **1948** 5 universities began using **television**



The history of distance learning

The «flying classroom»

Purdue University **flew an airplane** over several central US states transmitting educational programmes targeted to middle and elementary school students

This preceded Internet)

Educational media

School began to offer instruction of **audio tapes** followed soon by

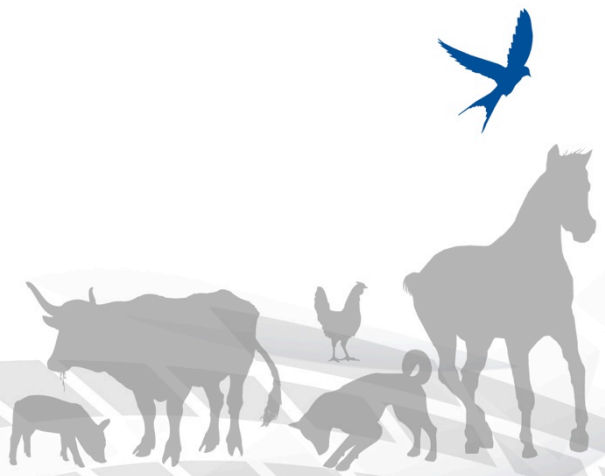
VHS and DVDs

The first demonstration telecasts began in April 1961; coplete programming started in September 1961. The system provided seventy-two half-hour television lessons in a five-hour day by broadcasting five separate programs simultaneously, four days a week, during the school year.

Preamble for innovation

Learning theories are conceptual frameworks that describe how information is absorbed, processed, and retained during learning. **Cognitive**, **emotional**, and **environmental** influences, as well as **prior experience**, all play a part in **how understanding**, or a world view, **is acquired or changed**, and **knowledge and skills retained**

(*Illeris, Knud (2004) The three dimensions of learning*).



Scenario

The easy access to **asynchronous** and **synchronous communication** based on the **New Information & Communication Technologies** (NICTs) is rapidly affecting an increasing number of aspects of the **human life.**

We now currently talk about:

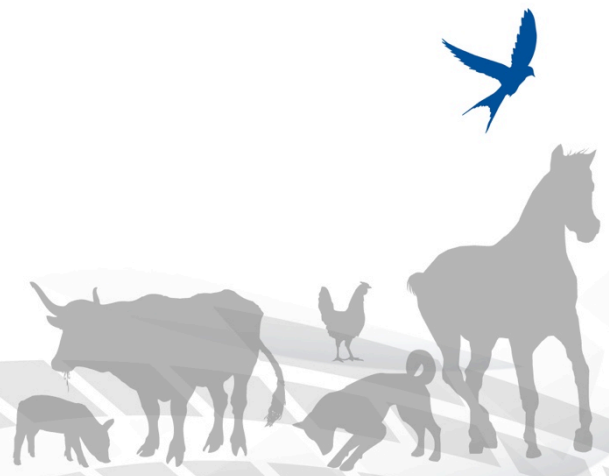
e-commerce, B2B, e-government, **e-learning** and **social networks**, playing active roles (at individual or collective level).

Connectivism: 21st Century's Learning Theory

Connectivism is the thesis that **knowledge is distributed across a network of connections**, and therefore that learning consists of the ability to construct and traverse those networks.

The central aspect of connectivism is the metaphor of a network with **nodes** and **connections**. In this metaphor, **a node is anything that can be connected to another node** such as people, information, data, feelings, and images. Connectivism sees **learning** as the **process of creating connections** and expanding or increasing network complexity.

The network metaphor introduce a new notion: "**know-where**" (**the understanding of where to find the knowledge when it is needed**) to supplement to the ones of "know-how" and "know-what" that make the cornerstones of many learning theories



Principles of Connectivism

Learning and knowledge rests in **diversity of opinions.**

Learning is a process of connecting **specialised nodes** or **information sources.**

Learning may reside in **non-human appliances.**

Capacity to **know more** is more critical than what is currently known.

Nurturing and **maintaining connections is needed to facilitate continual learning**.

Ability to see connections between fields, ideas, and concepts **is a core skill.**

Decision-making is itself a learning process (choosing what to learn and the meaning of incoming information is seen through the lens of a shifting reality).

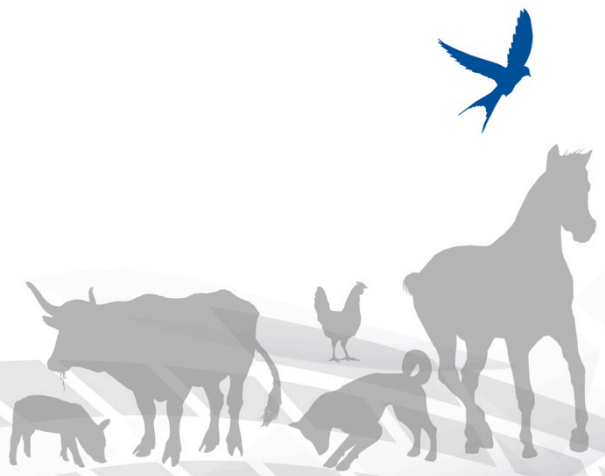
E-Learning: an inclusive definition

E-learning is an **approach** to teaching and learning, representing **all or part of the educational model** applied, that is based on the use of **electronic media and devices** as tools for improving access to training, communication and interaction and that facilitates the adoption of new ways of understanding and developing learning.

The International Review of Research in Open and Distributed Learning
Vol 13, No 2 (2012)

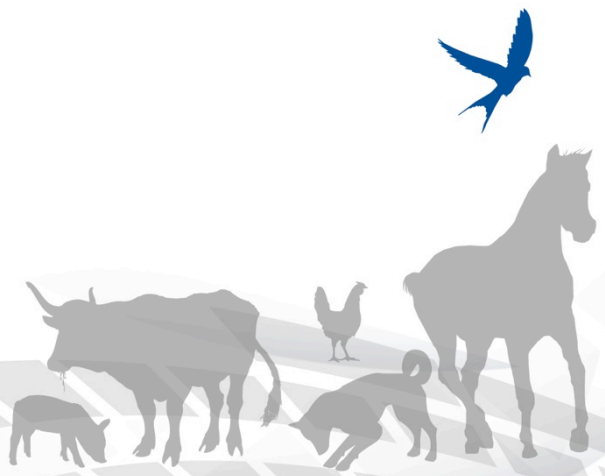
eLearning: advantages

- Satisfy the **high level** of training demand
- **Enlarge** the **number** of **participants** per single event
- **Decrease** training **costs**, because of the repeatability principles of eLearning
- **Disseminate flexibility** in training, with clear advantages for experts and beneficiaries
- **Let focus workshops** on **practical activities**, increasing the level of improved technical skills.



eLearning: advantages

- **Allows** the standardisation of knowledge
- Can be **localised** in different languages
- Can be **blended** and used for specific needs (e.g. only for the entry test and the final test, and consequent automatic generation of the certificate of competence)



Facts and figures

- **Basic parameter: Number of words in a minute**
- For text, time is calculated on the basis of the parameter "**50 words per minute**"
- 1 Page in Word = about 500 words = **10 minutes**
- **Example: 1 course made of 4 documents of 6 pages each will last 4 hours**
- For multimedia resources (**videos and 2/3 D animations) it is taken into account the actual duration**
- **For exercises** (e.g. drag and drop) **from 60 sec. to 120 sec.** each

The proposed paradigm

Effective knowledge building is determined by the **successful triangulation** of the key-factors influencing **interactions** within **learning communities**

Factor 1: learning scope

Definition**: in knowledge building, the learning scope is the expected benefit for all the «nodes» of a learning community**

(from the Greek «skopeo» = to look at)

metaphorically

«a mark on which to fix the eye»

Main features:

it has to be…

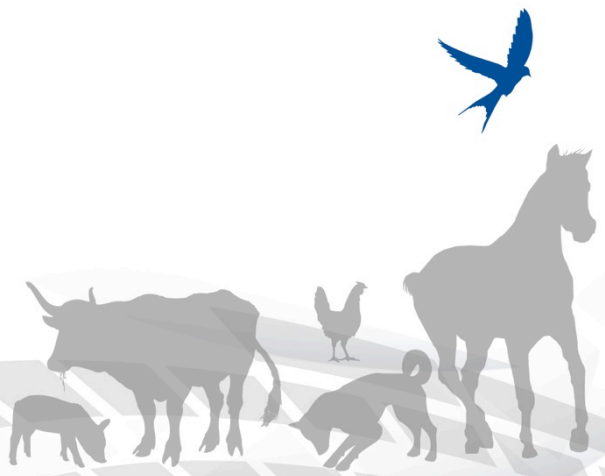
one and one only

common

shared

agreed

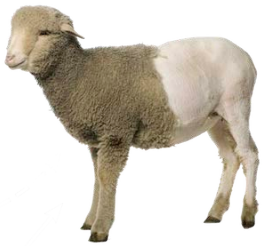
accepted



Factor 1: learning scope (example)

The learning scope of this programme is:

To design and develop a basic level training programme on Animal Welfare at slaughter and killing for disease control for staff of EU Member States' competent authorities involved in official control activities with the aim to keep them up-to-date with all aspects of the EU legislation in this area.



A special focus will be given to the following animal species: cattle, pigs, sheep and goat, poultry. The programme will be developed for the web and mobile devices and will consist of an entry-test, training units, serious games and a final test. Specific content to be addressed, learning outcomes, instructional strategies, assessments, and multimedia elements will be reviewed in a thorough and timely manner by the EU Commission.

Factor 2: dynamic resources

Definition**: everything that, in constant moving, let the achievement of the learning scope**

(from the Latin «resurgere» = to rise again)

metaphorically

«spring water from the ground»

Main features:

they have to be…

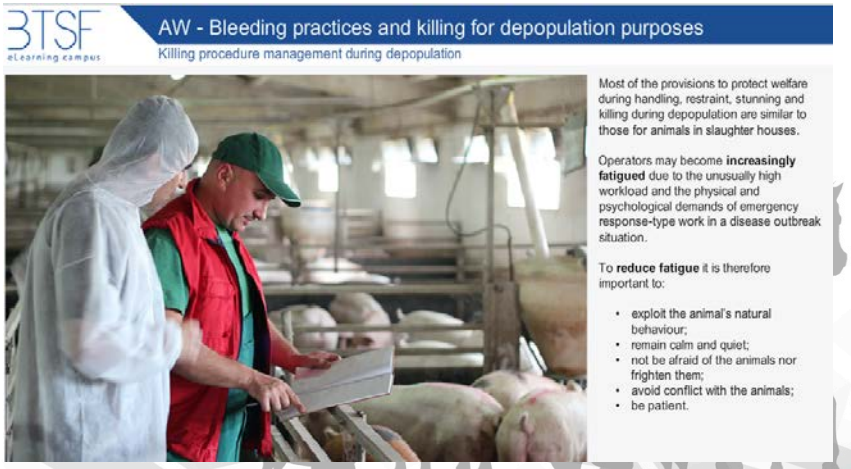
fresh

flexible

accessible

Factor 2: dynamic resources (examples)

- **Learning Content Management Systems** (or Learning Management Systems)
- **Templates** for content authoring
- **Storyboards** for multimedia production
- **Texts, pictures, videos, more in depth contents, linkography, bibliography, exercises, tests**



Factor 3: actors

Definition: **everyone who is allowed to perform a part in the knowledge building process using the dynamic resources of the learning community**

(from the Latin «agire» = to act, to behave or to have an effect on)

metaphorically

«deus ex machina»

Main features:

they have to be…

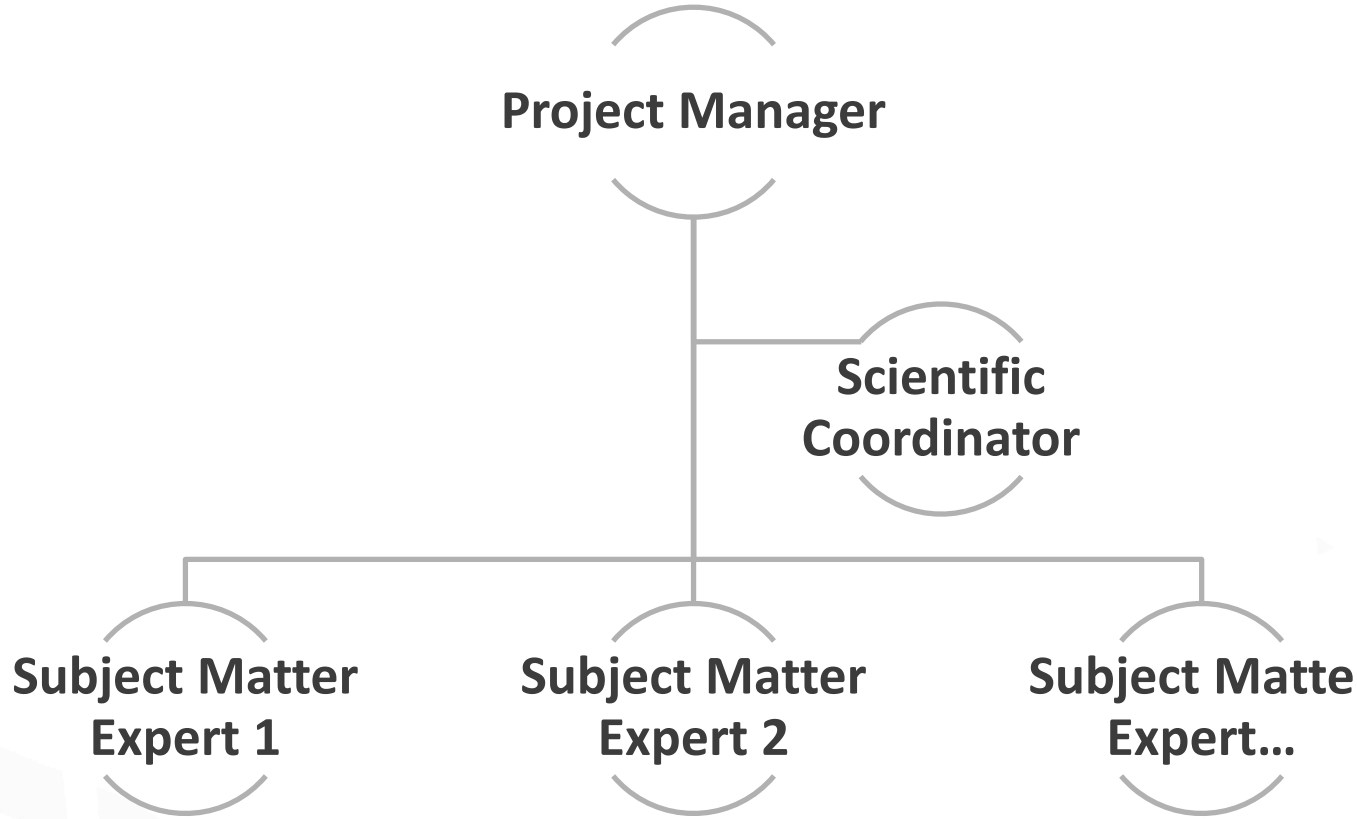
interested

motivated

capable

available

Factor 3: actors (key-profiles)



Factor 3: actors (key-profiles)

- IT Project Manager
- Virtual System Administrator
- Network Administrator
- System Administrator UNIX/LINUX
- Database Administrator MySQL
- eLearning Platform Administrator
- Application Developer (php)
- Database Developer MySQL
- Service Desk Operator

- Instructional designer
- 2D illustrator and animator
- 3D modelers and animators
- Audio production and editing operator

eLearning content production process

Raw Materials

Storyboard

Storyboard check and revision

Multimedia developer

Multimedia version check and revision

Subject Matter Expert (SME)

Instructional Designer (ID)

Multimedia Developer (MD)

Team description

Project Leader

eLearning Production Manager

+

Lead SME

Course 1

SME Coordinator

SME's

Instructional Designer
Multimedia Developer

Course 2

SME Coordinator

SME

Instructional Designer

Multimedia Developer

Course…

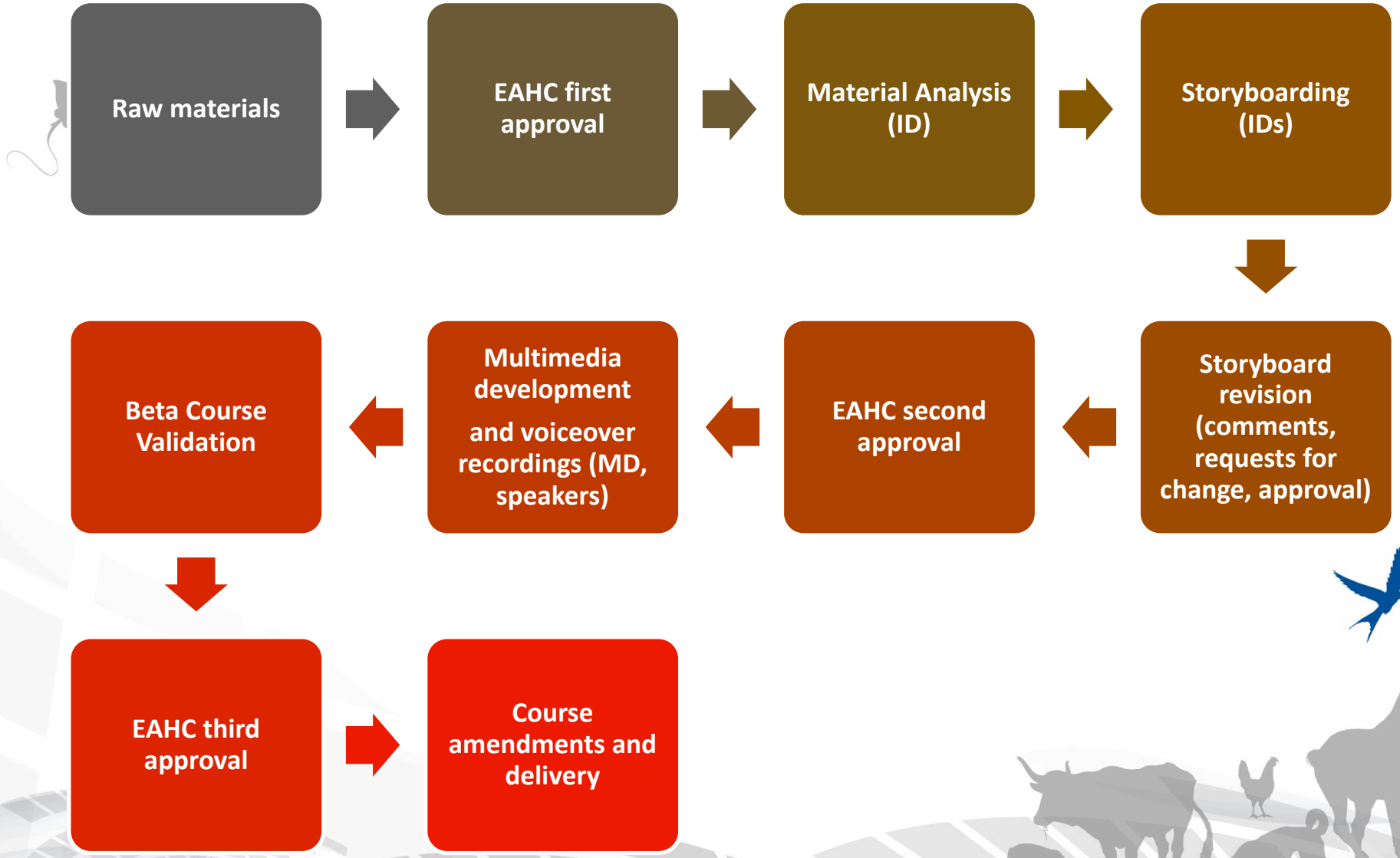
SME Coordinator

SME

Instructional Designer

Multimedia Developer

Production process



Course structure

- Pre-test
- Welcome into the module (mascotte)
- Module introduction (mascotte)
- Unit 1
- Unit 2
- Unit… n
- Module Summary (mascotte)
- Post-test

Unit structure

Unit Introduction (mascotte)

Core content (interactive screens)

Serious Game (mascotte)

Unit Summary

Additional materials

- In depth contents
- Bibliography
- Links
- Reading materials
- Glossary
- Credits