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Campus Bruges

Application of Innovative ICT Based Teaching Methods & Electronic Environments (related to **WP3**)

Erasmus⁺ Project "PHYSICS"
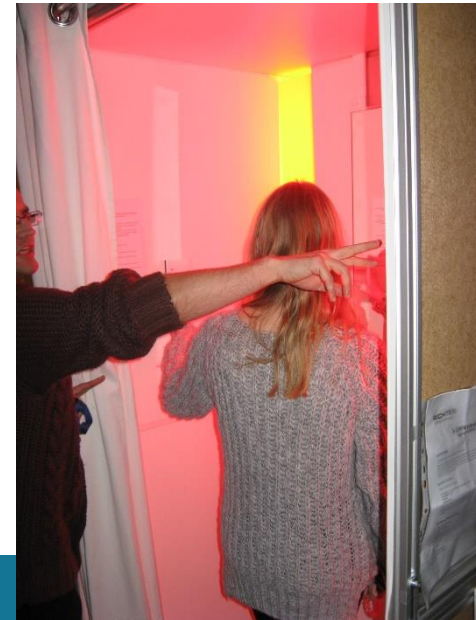
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University of Cyprus

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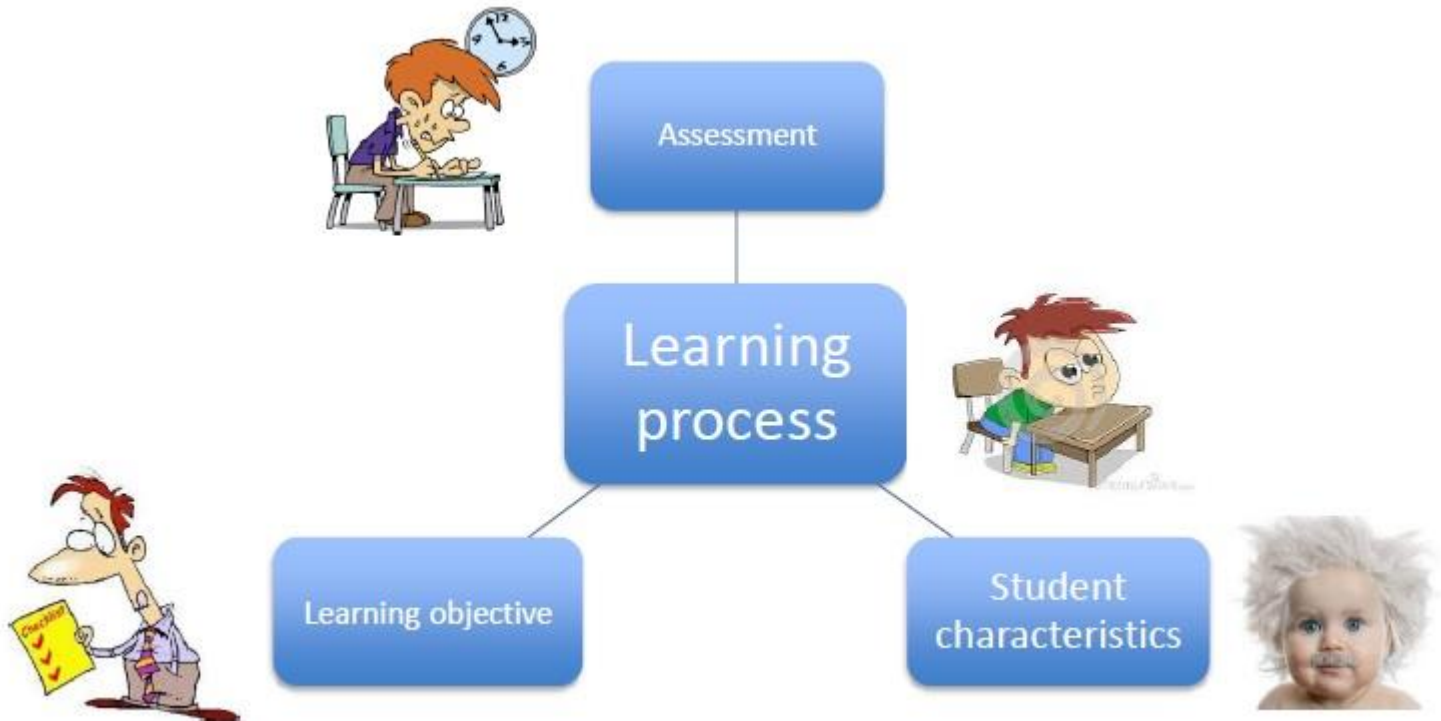
Main goal

- Teaching and preparing students:
  - ✓ *To think and act as an academic skilled person*
  - ✓ *Preparing students, both for:*
    - *An academic and **research oriented** career*
    - *An **industry oriented** career*
  - ✓ *Preparing students and teaching staff to gain (ICT)-**communication skills***

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Main goal

Realizing a **learning process**:

→ Model:

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Main goal

- The **learning objectives** for each course need to be formulated:
  - ✓ knowledge, attitudes, skills, … to be reached
    - ➢ the teacher as well as the student need *a clear objective, a clear reference*
- The **student characteristics** are important:
  - ✓ prior knowledge, learning level, motivation, interests, age, …
    - ➢ the teacher as well as the student need to know *where to start from…*
- The student needs to be **evaluated (assessment)**:
  - ✓ formative and summative, … when, what, how,…
    - ➢ The assessment needs to be representative in relation to the learning objectives

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Practical realization

- Realizing a learning process was a challenge in the past.

- Realizing a learning process remains a challenge, also today.
- **ICT tools are useful to support modern learning processes.**

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Practical realization

- ICT tools are useful to support modern learning processes.
- Remember the **TECOL project**:

Practical realization

- Remember the **TECOL project**:
  - Realizing a remote classroom.
  - Realizing contact between the teacher and the remote students: interaction is possible.

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Practical realization

- The **TECOL project** uses dedicated hardware and software and it is a result of a collaboration between:

  - KU Leuven + KULAK
  - Private companies: Barco + Televic Education

  But …

  also with more moderate tools, there are possibilities.

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Practical realization

- Traditional 'ex cathedra' teaching will not disappear:
  - It is an efficient way to transmit **knowledge** and academic insights.
  - **Learning objectives** can be formulated in a clear way.

But there are number of important **restrictions**:
  - It is very hard to deal with **different student characteristics** (differences in prior knowledge, learning level, interests, motivation, …)

Practical realization

Traditional 'ex cathedra' courses will not disappear.


But, technological evolutions allow **new opportunities**.

Digitizing the content of courses is useful. Using a **Digital Learning Platform** like **Blackboard** or **Moodle** is an important option.

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Digital Learning Platform

Digitizing the content of courses *makes it possible* to apply a digital learning platform, such as Moodle, in a dynamic way, i.e. to:

- ✓ Frequently re-use the digital content
- ✓ Adjust and elaborate the course content
- ✓ Structure and re-structure the content, while adapting to
  - ➢ The learning outcomes
  - ➢ The students needs
  - ➢ The students' learning process

On the other hand, a learning platform remains only a tool,

... to be used by the student… and the teacher/tutor.

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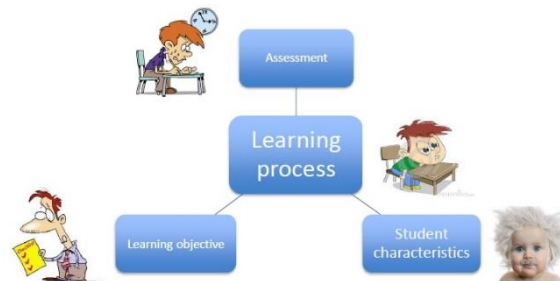
Digital Learning Platform

- A **Digital Learning Environment** allows to:
    - o provide students with study material of different types (for example e-books, downloadable video recordings)
    - o follow the evolution of the learning process
    - o observe the performance of a student in specific tasks
    - o give (individual) feedback to the students

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Digital Learning Platform

- A Digital Learning Environment is known to be useful when teaching '**science**' and '**physics**'.

- Objects of many kinds can be used:
  - Text documents
  - Videos & Images
  - Links to websites
  - Animations
  - Simulations
  - …

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The use of Moodle

- In **the Moodle system**, an online course "Applied Physics" has been made.

- Other courses of the Physics project are available.

- Let's have a look… :
    - → MOODLE: See http://dl.bsu.by/
    - → Hands-on "presentation"

The Moodle course "applied physics" contains several **downloadable video recordings**.

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Questions?

Erasmus+ Project "PHYSICS"

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