Assessing skills in digital learning and validation of competences

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Digital World

• Knowledge and skills are possible to acquire
• Verifying related competences is necessary
• Progression in a LLL path
• Enhance qualification
• Recognize professional development
• Proposal for assessment professional organizations and research
Proposal – why?

• Work based learning – Provider, employer, individual, learning contract

• LLL and Elearning – EUCEN vs EDEN, Imperial College, Aalto, Stanford

• VET – Expert DGEMPL, Expert providers group

• Accreditation and validation – NFIF and competence assessment, badges

• SME – Thematic networks, observatory, Eportfolios
Employers

• Little or No time for external training
• Needs are Just in time
• Diversity of training
• None or small funds
What should be assessed?

LEARNING OUTCOMES
What do we hope learners will learn?

ALIGNMENT

ASSESSMENT
How do we know that they have learned?
Why?...

- Qualification - **skills and competences** (new?)
- Mobility and **recognition**
- **Quality** approach and accreditation

THE FOCUS IS ON THE LEARNERS!
Learning Outcomes

Learning outcomes are statements of what a learner is expected to know, understand and/or be able to demonstrate after completion of learning.

(AHELO - Assessment of Higher Education Learning Outcomes by OECD)

A common language, building blocks, genetic code
Assessment is the use of ICT and the Internet in particular for the assessment of learning, including design, delivery and/or recording of responses. (JISC)

Assessment: Any procedure used to estimate learning for whatever purpose.

(Brown et al)
Categories of assessment

- Multiple choice questions
- Short Answer Questions
- Problems
- Essays
- Practical work
- Reflective practice
Alignment

Alignment: The level of correspondence between objectives, instruction and assessment.

(Anderson et al)
Simple problem...?
The learner should be able to describe the main components of a personal computer.
Select the option “Ask for assessment Advice”

About TALOE Webtool

Welcome to the TALOE webtool that will help you decide which e-assessment strategies to use in your online courses. The tool can be used in two ways:

- Check if the existing assessment methods in existing course are in line with the stated learning outcomes
- Help you make decisions on the most appropriate assessment method for the new course or module

The webtool consists of the matrix that aligns the six categories of the cognitive process dimension and relative cognitive processes with the six categories of the general assessment (based on the ALOA model) each with subcategories.

How to use the webtool

The TALOE webtool will guide you through two steps that will help you to better define your learning outcomes and to decide adequate assessment strategies for each learning outcome.

Step 1
During this stage you will be asked to describe the Learning Outcomes you want your students to achieve. Please keep in mind that the Learning Outcomes should be described in a clear way and kept simple. If you have difficulties with this stage, or you wish to learn more about how you can better write learning outcomes please go to the section Writing Learning Outcomes.

Step 2
After defining your learning outcome you will be asked to choose the verb/verbs that best describe it.

Go through the process and receive the assessment advice for your course!
Write the description of the Learning Outcome/Competence

Ask for Assessment Advice

Step 1: Choose the learning outcome you want your students to achieve. You can write the learning outcome in the box below.

Students will be able to explain the function, structure and components of the musculoskeletal system

Step 2: Please select from one or more of the tabs below the verb or the verbs (maximum 3) that better describes the Learning Outcome:

- Remember
- Understand
- Apply
- Analyze
- Evaluate
- Create

☐ Remembering - Locating knowledge in long-term memory that is consistent with presented material
☐ Retrieving relevant knowledge from long-term memory

Check assessment methods
The second step is selecting the category(ies) of cognitive process(es)
Ask for Assessment Advice

**Step 1:** Choose the learning outcome you want your students to achieve. You can write the learning outcome in the box below.

Students will be able to explain the function, structure and components of the musculoskeletal system

**Step 2:** Please select one or more of the tabs below the verb or the verbs (maximum 3) that better describes the Learning Outcome.

<table>
<thead>
<tr>
<th>Remember</th>
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<th>Apply</th>
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</thead>
<tbody>
<tr>
<td>Interpreting – Changing from one form of representation to another</td>
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<tr>
<td>Exemplifying – Finding a specific example or illustration of a concept or principle</td>
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<tr>
<td>Classifying – Determining that something belongs to a category</td>
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<tr>
<td>Summarizing – Abstracting a general theme or a major point</td>
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<tr>
<td>Inferring – Drawing a logical conclusion from presented information</td>
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<td>Comparing – Detecting correspondences between two ideas, objects or the like</td>
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<tr>
<td>Explaining – Constructing a cause-and-effect model of a system</td>
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</tbody>
</table>
The results page lists and describes the assessment methods that are suggested for your type of Learning Outcome.

Results

This is your learning outcome:

Students will be able to explain the function, structure and components of the musculoskeletal system

You consider that the verbs that better describe the Learning Outcome are: Summarizing, Explaining, Organizing

Based on the information provided, we suggest the following e-assessment methods:

1. Essay – Describe/Explain
   The students are asked to describe and give a rationale for a certain issue. It is expect that the student will recall knowledge related with the topic and will select and organize it to provide an explanation for the issue.

2. Essay – Speculative
   The student is asked to construct an alternative reality and to provide a rationale for his view. The student will start creating the alternative scenario based on what is asked, his own ideas and integrating his previous knowledge related with the topic. It is expected that the student organizes his ideas while describing them and also that he provides an explanation for what he describes. The type of knowledge involved is mostly likely conceptual knowledge but it might integrate factual and procedural knowledge.

3. Essay – Discuss
   The students are asked to describe and give a rationale for a certain issue. It is expect that the student will recall knowledge related with the topic and will select and organize it to provide an explanation for the issue.

For more information regarding the recommended methods please check the section Assessment methods.
For each assessment category, you can find specific assessment methods and e-assessment strategies of implementation.
Examples of Application for Learning Outcome/Competence Verification

- Started with project VIRQUAL – Virtual Qualifications
  [http://virqual.up.pt](http://virqual.up.pt)

- Continued with PhD Thesis of Rita Falcao – UPoro and UTexas joint doctoral program: ALOA Model

- Used by the ISHCCO Qualification Framework of Construction Safety Coordinators [www.ishcco.org](http://www.ishcco.org)

- Used in the TUNING Assessment Framework of Subject Area Group in Civil Engineering of CALOHEE (Comparing Achievements of Learning Outcomes in Higher Education in Europe – [www.calohee.eu](http://www.calohee.eu))
### Dimension 6: Decision making

<table>
<thead>
<tr>
<th>Level descriptor</th>
<th>Knowledge</th>
<th>Skills</th>
<th>Wider Competences (Responsibility and Autonomy)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level descriptor</strong></td>
<td>Demonstrate awareness of the key aspects of professional, ethical and social responsibilities linked to management of civil engineering activities, decision making and judgment formulation.</td>
<td>Manage work contexts in civil engineering subject area, take decisions and formulate judgments.</td>
<td>Identify appropriate and relevant approaches to manage work contexts in civil engineering subject area and reflect on professional, ethical and social responsibilities in taking decisions and formulating judgments.</td>
</tr>
<tr>
<td><strong>Assessment approaches</strong></td>
<td>Essays, Problem Solving, Practical Work</td>
<td>Essays, Problem Solving, Practical Work</td>
<td>Problem Solving, Practical Work, Reflective Practice, Assignments</td>
</tr>
</tbody>
</table>
Proposal – 1

✔ Profiling – Individual

• Needs analysis – Past, current, future
• Recording – Valorie, eportfolio
• Qualification Frameworks – EQF, CALOHEE, EUSAFAE
• Personal Development Plan – Engineering, LLL
Proposal – 2

✓ Tools and methods
  • Database – case studies and modules
  • MOOCs – search engine or guidance
  • Thematic networks – platforms for sectors
  • Cluster – networks
Proposal - 3

✓ Added value

• Learning – when and where necessary
• Contract – commitment
• Recording – eportfolio and Europass
• Assessment – self evaluation and peer review
Proposal – 4

✓ Potential benefits
  • External – professional and academic
  • Validation – recognition and self development
  • Employer qualification – productivity and image
  • Transparency – clear and available
THANK YOU!

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