Assessing online learning: the TALOE project

Tona Radobolja, Srce
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TALOE project

LLP international project

The specific goals of TALOE:

- Research and select innovative e-assessment practices that take advantage of the use of technology;
- Develop a web-based tool that is easy to use by the stakeholders;
- To test the implementation of the tool with real case studies;
- To distribute and disseminate the TALOE tool among the communities of stakeholders.
Project Coordinator
- Universidade do Porto (UPORTO)

Project Partners:
- Gábor Dénes Főiskola (DGC)
- Sveučilišni računski centar Sveučilišta u Zagrebu (SRCE)
- Innovate4Future – Center for Advanced Educational Solutions (I4F)
- Università degli Studi di Padova (UniPD)
- European Distance and E-Learning Network (EDEN)
- European University Continuing Education Network (EUCEN)
- Hariduse Infotehnoloogia Sihtasutus (HITSA)
- Universidad Nacional de Educación a Distancia (UNED)
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)
Students will be able to

Recognize
Classify
Summarize
Compare
Implement
Organize
Critique
Produce
What should be assessed?

**LEARNING OUTCOMES**

What do we hope students will learn?

**ALIGNMENT**

**ASSESSMENT**

How do we know that they have learned?
Assessment

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

(Brown et al)

e-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)
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!
The first step is to **describe** your Learning Outcome.

**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.

Insert the description of Learning Outcome here

**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

- Recognizing – Locating knowledge in long-term memory that is consistent with presented material
- Recalling – Retrieving relevant knowledge from long-term memory

Check assessment methods
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.

Student 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:

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Check assessment methods
The second step is selecting the category(ies) of cognitive process(es).
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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:

- Interpreting – Changing from one form of representation to another
- Exemplifying – Finding a specific example or illustration of a concept or principle
- Classifying – Determining that something belongs to a category
- Summarizing – Abstracting a general theme or a major point
- Inferring – Drawing a logical conclusion from presented information
- Comparing – Detecting correspondences between two ideas, objects an the like
- Explaining – Constructing a cause-and-effect model of a system
Ask for Assessment Advice

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

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

- Differentiating – Distinguishing relevant from irrelevant parts or important from unimportant parts of presented material
- [Organizing – Determining how elements fit or function within a structure]
- [Attributing – Determining a point of view, bias, values, or intent underlying presented material]

Check assessment methods

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- Attributing – Determining a point of view, bias, values, or intent underlying presented material

Check assessment methods
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 expected 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 expected 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.
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Essays

In an essay the student is expected to produce a structured text that responds to the question or challenge posed by the teacher. The nature of an essay may vary, determining different Learning Outcomes. Essays allow for assessing deep learning instead of rote learning. Essays promote understanding, analysis and evaluation as well as the integration of different types of knowledge and skills. Depending on how essays are designed, they may contribute to the acquisition and assessment of transversal skills like communication, working in teams, lifelong learning.

- Speculative essay
- Quote to discuss
- Assertion
- Write on
- Describe/explain
- Discuss
- Compare
- Evaluate
- Problem

E-assessment implementation of essays

File Upload

Assessment using essays is a traditional method that may be implemented online in a straightforward manner. Any tool that allows the student to send a single text file to the teacher may be used. This includes e-mail, assignment tools in LMS that allow the uploading of files. Using a LMS has advantages since it allows the automated control of the submission processes in an organized manner: number of submissions per student, size of the file, deadlines, etc.

Essay Question in online exam

Most LMS or online testing software includes a type of question that is “Essay” that allows the writing of text or the submission of a file.

Specific assessment methods

E-assessment strategies
Writing Learning Outcomes


The main structure of a learning outcome is a verb and an object. The verb is related with the cognitive process that the students will have to achieve and demonstrate. The noun is generally related with the knowledge students are expected to acquire or construct or use.

Writing a good Learning Outcome means writing a clear Learning Outcome. The Learning Outcomes should help the teacher define what they will teach and how they will structure the pedagogic activities, including assessment. But, the Learning Outcomes should also be clear to students and for the institutions.

One fundamental part of writing a clear Learning Outcome is that it should be focused on the student and what he/she should be able to do after a learning event, instead of the content that he/she should know.

Another important feature of a good Learning Outcome is that the verb it uses should be specific and measurable. Verbs like Understand or Apply can be too general for learning Outcomes. Instead, using verbs like comparing or explaining make the teaching and learning process more transparent. Using clear and measurable verbs is very important when defining learning outcomes at the level of the lesson or module.

You can find more ideas on how to write Learning outcomes in the following links:

- A MODEL OF LEARNING OBJECTIVES based on A Taxonomy for Learning, Teaching, and assessing: A Revision of Bloom’s Taxonomy of Educational Objectives
  - http://www车企.lastate.edu/teaching-resources/effective-practice/revised-blooms-taxonomy/
- A Guide to Developing Measurable Student Learning Outcomes
  - https://www.canadacollege.edu/inside/research/slos/documents/STUDENT%20SERVICES%20SLO%20GUIDE%20BOOK
- Teaching for Quality Learning at University, John Biggs
Cognitive processes (adapted from Anderson et al)

### Remember category

<table>
<thead>
<tr>
<th>Categories and cognitive processes</th>
<th>Alternative names</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Remember</td>
<td></td>
<td>Retrieve relevant knowledge from long-term memory</td>
</tr>
<tr>
<td>1.1 Recognizing</td>
<td>Identifying</td>
<td>Locating knowledge in long-term memory that is consistent with presented material</td>
</tr>
<tr>
<td>1.2 Recalling</td>
<td>Retrieving</td>
<td>Retrieving relevant knowledge from long-term memory</td>
</tr>
</tbody>
</table>

### Understand category

<table>
<thead>
<tr>
<th>Categories and cognitive processes</th>
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<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Understand</td>
<td></td>
<td>Construct meaning from instructional messages, including oral, written, and graphic communication</td>
</tr>
<tr>
<td>2.1 Interpreting</td>
<td>Clarifying, paraphrasing, representing, translating</td>
<td>Changing from one form of representation to another</td>
</tr>
<tr>
<td>2.2 Exemplifying</td>
<td>Illustrating, instantiating</td>
<td>Finding a specific example or illustration of a concept or principle</td>
</tr>
<tr>
<td>2.3 Classifying</td>
<td>Categorizing, subsuming</td>
<td>Determining that something belongs to a category</td>
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This section includes a description of the cognitive processes in Bloom’s taxonomy and a list of action verbs that may be used in Learning Outcomes.
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**Step 2**
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If you want to know more about the ALOA model, that was used as theoretical framework for the TALOE webtool, click the option on the menu.

http://taloe.up.pt
Taloe webinar:

**Title:** Composing assessment for the multimodal classroom

**Date and time:** Monday, June 15, 2015, starting at 11 o’clock CET

**Speaker:** James Lamb, Assistant Director of Lothians Equal Access Programme for Schools (LEAPS), University of Edinburgh, United Kingdom

Taloe webinars recordings:

http://taloe.up.pt/