

Assessing online learning: the TALOE project

Tona Radobolja, Srce
EUNIS ELTF Workshop, Dundee,
09 June 2015



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

VERB

SUBJECT

*Recognize
Classify
Summarize
Compare
Implement
Organize
Critique
Produce*



What should be assessed?



*What do we
hope students will learn?*

*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)





TALOE
TIME TO ASSESS
LEARNING
OUTCOMES
IN E-LEARNING

[About TALOE Webtool](#) [Ask for Assessment Advice](#) [Writing Learning Outcomes](#) [Assessment Methods](#) [Case Studies](#) [Help](#)

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!

Select the
option
**“Ask for
Assessment
Advice”**





[About TALOE Webtool](#) [Ask for Assessment Advice](#) [Writing Learning Outcomes](#) [Assessment Methods](#) [Case Studies](#) [Help](#)

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](#)

The first step is to **describe** your Learning Outcome





[About TALOE Webtool](#) [Ask for Assessment Advice](#) [Writing Learning Outcomes](#) [Assessment Methods](#) [Case Studies](#) [Help](#)

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

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

[Check assessment methods](#)

Write the **description** of the Learning Outcome of your course or module



Ask for Assessment Advice

Step 1: Choose the learning outcome you want your students to achieve. You can paste 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

- ☐ 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 and the like
- ☐ Explaining – Constructing a cause-and-effect model of a system

The second step is **selecting the category(ies)** of cognitive process(es)

Category selected

Categories

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

- ☐ 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

Select up to 3 cognitive processes that best 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.

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

☐ 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

You can
**select
cognitive
processes**
that belong
to different
categories



TALOE
TIME TO ASSESS
LEARNING
OUTCOMES
IN E-LEARNING

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

- ☐ 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

When you finish, click the button “**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](#).

The results page lists and describes the **assessment methods** that are **suggested** for your type of Learning Outcome



TALOE
TIME TO ASSESS
LEARNING
OUTCOMES
IN E-LEARNING

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](#).

You can find more information about each assessment method by clicking on the link or on the menu



Essays

[back](#)

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](#)

Specific assessment methods

E-assessment implementation of essays

E-assessment strategies

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 a 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.

For each assessment category, you can find specific **assessment methods and e-assessment strategies** of implementation



Writing Learning Outcomes

The ALOA model is based on the book **A taxonomy for learning, teaching, and assessing: a revision of Bloom's taxonomy of educational objectives** (Anderson, L.W., D.R. Krathwohl, and B.S.T.o.e.o. Complete ed. 2001, New York ; London: Longman. xxix, 352 p). This book provides information on how to write clear 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.celt.iastate.edu/teaching-resources/effective-practice/revised-blooms-taxonomy/>
- **Writing and Using Learning Outcomes: a Practical Guide**, Declan Kennedy, Áine Hyland, Norma Ryan
 - http://www.tcd.ie/teaching-learning/academic-development/assets/pdf/Kennedy_Writing_and_Using_Learning_Outcomes.pdf
- **A Guide to Developing Measurable Student Learning Outcomes**
 - <https://www.canadacollege.edu/inside/research/slos/documents/STUDENT%20SERVICES%20SLO%20GUIDE%20BOOK.pdf>
- **Teaching for Quality Learning at University**, John Biggs
 - http://docencia.etsit.urjc.es/moodle/pluginfile.php/18073/mod_resource/content/0/49657968-Teaching-for-Quality-Learning-at-University.pdf

If you want to learn more about **writing Learning Outcomes** using the revised Bloom's Taxonomy, choose the option on the menu



TALOE
TIME TO ASSESS
LEARNING
OUTCOMES
IN E-LEARNING

Cognitive processes (adapted from Anderson et al)

Remember category

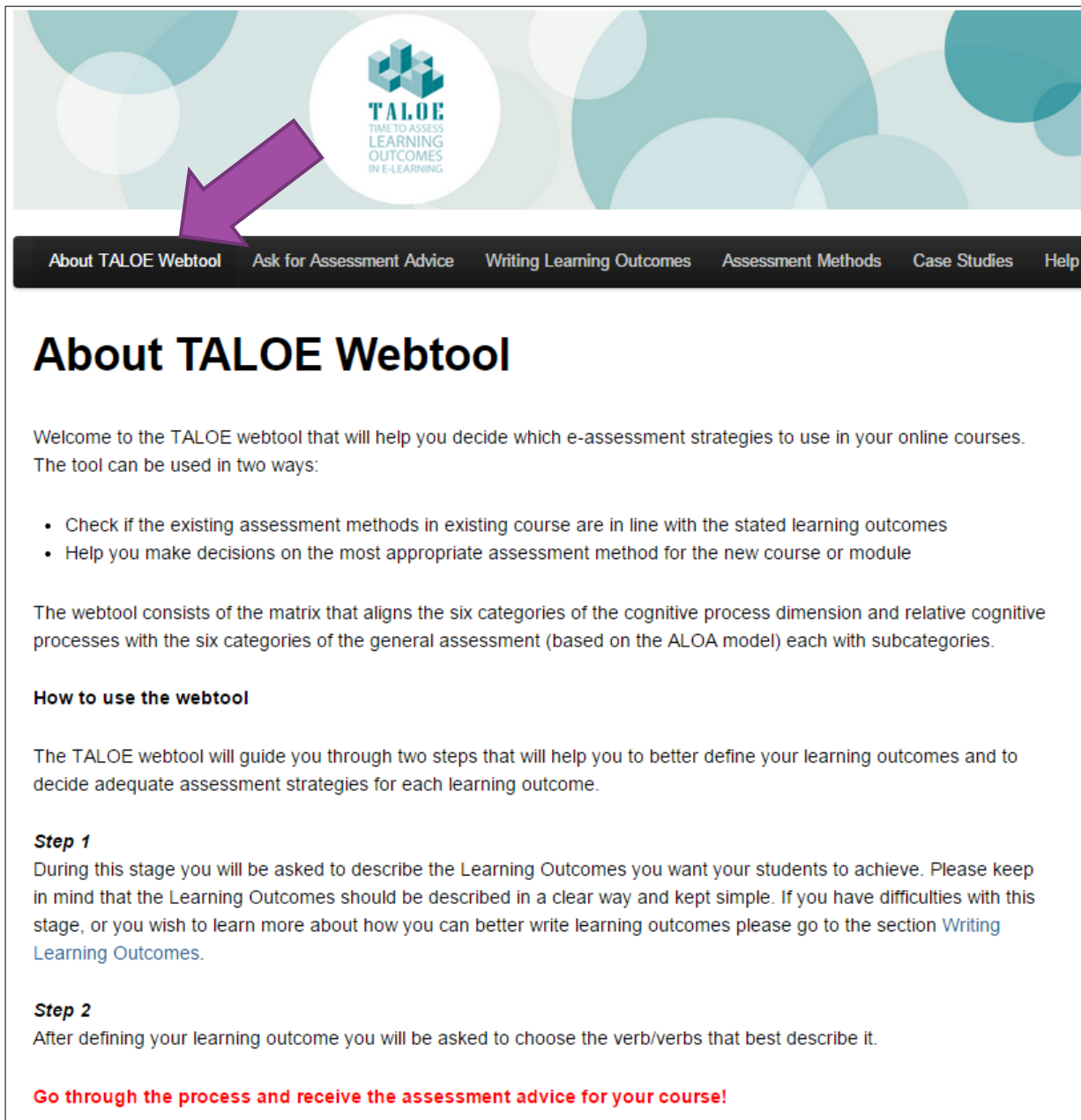
Categories and cognitive processes	Alternative names	Definition
1. Remember		Retrieve relevant knowledge from long-term memory
1.1 Recognizing	Identifying	Locating knowledge in long-term memory that is consistent with presented material
1.2 Recalling	Retrieving	Retrieving relevant knowledge from long-term memory

Understand category

Categories and cognitive processes	Alternative names	Definition
2. Understand		Construct meaning from instructional messages, including oral, written, and graphic communication
2.1 Interpreting	Clarifying, paraphrasing, representing, translating	Changing from one form of representation to another
2.2 Exemplifying	Illustrating, instantiating	Finding a specific example or illustration of a concept or principle
2.3 Classifying	Categorizing, subsuming	Determining that something belongs to a category

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





TALOE
TIME TO ASSESS
LEARNING
OUTCOMES
IN E-LEARNING

About TALOE Webtool Ask for Assessment Advice Writing Learning Outcomes Assessment Methods Case Studies Help

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!

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



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/>



<http://taloe.up.pt>

taloe@up.pt

E-learning Centre

ceu@srce.hr

