



Executive Agency, Education, Audiovisual and Culture



TALOE

TIME TO ASSESS LEARNING OUTCOMES IN E-LEARNING

Final Report

Public Part

Project information

Project acronym: TALOE
Project title: Time to Assess Learning Outcomes in E-learning
Project number: 543097-LLP-1-2013-1-PT-KA3-KA3MP
Sub-programme or KA: KA3- Multilateral Projects
Project website: <http://taloe.up.pt>

Reporting period: From 01/01/2014
To 31/12/2015

Report version: One
Date of preparation: 08/02/2016

Beneficiary organisation: Universidade do Porto

Project coordinator: Alfredo Soeiro
Project coordinator organisation: Universidade do Porto
Project coordinator telephone number: +351225081938
Project coordinator email address: avsoeiro@fe.up.pt

This project has been funded with support from the European Commission.

This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

© 2008 Copyright Education, Audiovisual & Culture Executive Agency.
The document may be freely copied and distributed provided that no modifications are made, that the source is acknowledged and that this copyright notice is included.

Executive Summary

The world has been experiencing rapid transformation in Education area and on the actual scenario mobility, cooperation and development of quality relating to methods of assessment are crucial subjects that raise many questions. Effective assessment drives learning efficiency as the growth of e-learning technologies drives e-assessment. This growth reinforce the need to improve learning and support the idea that is important to define a strategy to ensure that our selection of assessment methods respond positively to the objectives and outcomes of our course programme allowing a clear evaluation of competencies, skills and knowledge.

Facing this scenario the TALOE project intended to promote the internal consistency of online courses by using an existing tool, the ALOA model (Aligning Learning Outcomes and Assessment), to highlight the connection between the intended learning outcomes and the assessment strategy used during a course. Because not every assessment method is valid the ALOA model provides tools for linking learning outcomes and assessment tasks and methods. What the TALOE project intended during the two years was to apply those tools to the specific context of e-learning. It turned out during the testing and improvement phases that the method and web-tool are also applicable to other forms of learning and teaching. In fact it was aiming at e-learning but was applied in other learning contexts.

The main goal of TALOE was to develop a web-based platform to help teachers and trainers decide on the e-assessment strategies to use in their online courses. The main idea is that a teacher will describe the learning outcomes of their course or module and the TALOE platform will analyze them and provide a proposal for assessment methods that are consistent with the intended learning outcomes. The teacher still needs to define a strategy in terms of teaching since that is not considered in the ALOA model and in the web-tool.

To be able to develop the practical web-tool, the consortium achieved the following specific goals:

- Research and select innovative e-assessment practices that can be used as examples and case studies;
- Development of a web-based tool that is easy to use by the stakeholders;

- Test the implementation of the web-tool with real case studies and with users outside the partnership to validate and improve the web-tool;
- Distribute and disseminate the TALOE web-tool among the communities of stakeholders.

Table of Contents

1. PROJECT OBJECTIVES.....	6
2. PROJECT APPROACH.....	8
3. PROJECT OUTCOMES & RESULTS.....	10
4. PARTNERSHIPS.....	17
5. PLANS FOR THE FUTURE.....	19
6. CONTRIBUTION TO EU POLICIES.....	20

1. Project Objectives

The main goal of TALOE was to develop a web-based platform to help teachers and trainers decide on the e-assessment methods to use in their online courses. The main idea is that a teacher will describe the learning outcomes of their course or module and the TALOE platform will analyse them and provide a proposal for assessment methods that is consistent with the intended learning outcomes. During the project implementation, in the phases of testing and of improvement, it was acknowledged that web-tool could be used in other educational contexts and modes. It is in fact a web-tool that can be used globally.

The objectives of the TALOE project were:

- a. Research and select innovative e-assessment practices that take can be used as case studies and examples;
- b. Develop a web-based tool that is easy to use by the stakeholders;
- c. Test the implementation of the tool with real case studies and outside the partnership for validation and improvement;
- d. Distribute and disseminate the TALOE web-tool among the communities of stakeholders.

The project development was based on a pedagogical framework sustained by the ALOA (Aligning Learning Outcomes with Assessment – Rita Falcão, PhD Thesis, U. Porto and U. Austin) model. This framework was created for the use of e-assessment and for linking specific e-assessment tasks with the learning outcomes statements of the courses or modules. The method was based on existing research on assessment and findings were extended for different areas of application like e-learning.

It was planned since the beginning that the TALOE web-tool would be available in an open mode to different stakeholders. These stake holders included Higher and Continuing Education institutions as well as vocational training organizations. It is also available for stakeholders associated with processes of recognition and accreditation. The main target groups of TALOE project were teachers and trainers from all levels of education. The TALOE web-tool was created to help teachers and trainers to define e-assessment strategies for their courses or modules. It is curious that in one of the dissemination sessions a director of quality in teaching suggested

that learners should use the web-tool to verify the quality of the assessment methods of the courses they would attend. In fact it is another possible objective that was not included in the partnership plans.

Other target groups include:

- ✓ Researchers of learning outcomes (LO) and assessment.
- ✓ Recognition and accreditation staff, to verify the validity of assessment methods for VNIL (Validation of Non-formal and Informal Learning) or to provide evidence for accreditation.
- ✓ Programme developers, to define assessment strategies recommendations for new programmes.
- ✓ Decision makers and quality evaluators, to define valid assessment strategies for their institutions.
- ✓ Networks and initiatives operating in the fields of LO, assessment, vocational training, higher education, continuing education, recognition and accreditation.

To reach these objectives the TALOE partnership worked closely with groups of teachers and trainers that have actively contributed to the outcomes of the project. The partnership invested in dissemination of the project activities and has reached stakeholders through online communication, participation in conferences, seminars, workshops, direct contacts and different types of publications.

2. Project Approach

TALOE project partnership developed and implemented a web-based platform for assessment of learning outcomes. The major goal was to help teachers and trainers of Europe decide on the assessment methods that can be used to match their courses or modules intended learning outcomes. The tasks of the TALOE project aimed at developing and implementing a web-tool that could be global in terms of scope and easy to apply in the alignment of learning outcomes with assessment methods. TALOE platform is ready to be used by other stakeholders in the educational system, to verify the validity and appropriateness of assessment methods used in different learning contexts and in processes of recognition and accreditation of the competences defined in the learning outcomes. The project was structured around three main phases: research, development, and implementation/testing. The work packages were defined, assigned to partners and planned taking into account the three phases of the project. The activities of TALOE project were distributed in seven work packages that are intrinsically related with the tasks arising from the project goals.

During the first year of the project, TALOE focused on research about e-assessment methods, on existing case studies and on the development of the web-tool. Concerning research, TALOE was focused on a theoretical model for the alignment of assessment and learning outcomes named as ALOA model. However, TALOE has pushed the model forward to incorporate a component of assessment methods considered adequate and common. The project used a diversity of case-studies to analyse and to collect e-assessment practices that could be used as examples of implementation of assessment methods online. In terms of development of the web-tool, TALOE used the ALOA model to define the structure of the web-tool in terms of functionality and of interface with users. The web-tool was developed collaboratively, involving a team of developers from the partnership and the author of the ALOA model.

During the first part of the second year the existing deliverables were reviewed as a function of the evolution of the testing of the web-tool. Following the testing of the web-tool by the partnership web-tool was adapted as a result of the findings. It is relevant to consider the increase of the accuracy of the tool, the interface with users,

the cultural diversity, the language issues and the scope of users. After that adaptation and improvement the web-tool was tested on a wider scale using the networking and the partnerships established. Some organizations and experts were directly contacted and invited to cooperate in this testing. The final phase during the last semester of 2015 was dedicated to reach a larger audience in terms of dissemination and of exploitation of results.

The second year was indeed focused on the implementation with pilot case studies and with interaction with stakeholders. These stakeholders were invited to participate during the presentations, the seminars, the workshops, the webinars and the online discussions. The reaction from participants in these presentations and in ensuing debates was always positive and useful. The reactions and participations not only allowed a validation and an improvement of the web-tool but were also an encouragement to continue the pursuit of the project objectives. In the end the partnership is convinced that the web-tool is useful for teachers and trainers of all levels of education.

The research and development components had the collaboration and inputs of several partners of the consortium. There was also a great effort in dissemination of the results by the partnership. This effort is justified by the number of publications, presentations, workshops in educational conferences and in other events. The partnership is convinced that an adequate dissemination strategy and exploration plans helped the promotion of the web-tool among a community of users even after the end of the project. The members of TALOE partnership have produced papers and other materials that are available for researchers at the project website. The website of the project and social network activities have operated online with a large number of participations and hits. The involvement of all partners was achieved with an effective and regular communication strategy among the partnership. The numerous virtual meetings and the online collaboration platform (Moodle learning management system) were important to achieve this interaction among partners.

3. Project Outcomes & Results

The TALOE project proposal and partnership identified the following specific objectives:

- 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.

Globally and the end of the project it can be stated that the specific objectives were accomplished:

- The researched and collected assessment practices are valid and interesting.
- The web-tool is online and ready to use.
- The web-tool was extensively tested by the end-users, in different stages, and the results of the evaluation process contributed to improve the web-tool.
- The partners made an impressive effort in the dissemination of the results of the projects, nationally and internationally.

In the first year of project, TALOE partnership focused on the first two objectives related with the web-tool that represents the major outcome:

- 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 stakeholders.

Besides these two content oriented deliverables activities other tasks were performed in terms of project management, of quality control of the project, of dissemination of project and of some initial exploitation actions.

In the second year the TALOE partnership concentrated in the testing and tuning of the web-tool using case studies and contributions from other stakeholders:

- Implement the web-tool features and functions;
- Test and improve the web-tool for public use and wider audience.

The project outcomes also included a wide dissemination and exploration outcomes due to the interested involvement of the partnership and of other stakeholders.

Research and selection based outcomes

TALOE has produced two deliverables, WP3.01 and WP3.02, concerning the first research objective.

WP3.01 “E-Assessment practices” consisted in the collection of 18 cases of assessment of online courses from different institutions around Europe, mostly from the project partners. These case studies were analyzed by the partnership in terms of classification under two perspectives: these were classified in terms of learning outcomes definition and in terms of the assessment modes used to verify these learning outcomes. The case studies classifications were also revised by the partnership during a second round. The goals of this work were to obtain examples of case studies that can be used as a showcase of current practice and also as testing material during the second year of the project. Since these case studies are available to the partnership these can be scrutinized during the tuning of the web-tool. WP3.02 “ALOA model with integration of E-Assessment practices” was developed on a second stage of the research component where the consortium developed an extension of the ALOA model to include the e-assessment practices described in the case-studies. This outcome generated the list of e-assessment methods to be considered in the web-tool. The relationship of these methods with the different types of learning outcomes was defined based on the revised Bloom Taxonomy and on the alignment theory of Anderson et al.

Development based outcomes

WP4.01 “Web-based e-assessment platform” addressed the second main objective of the project. The partnership has produced a first version of the web-tool that is ready to test the first functionalities of the intended platform. Due to the complexity of the ALOA model it was decided to simplify the tool procedures during a first phase of testing it. The first phase addresses only the simplest forms of knowledge. The partnership tested the web-tool until the next project meeting in February 2015. The development and consequent testing was done in phases of complexity of the

definition of the procedures relating learning outcomes and assessment methods. This was an extra effort to achieve consistency of the web-tool performance and simplicity of procedures by the potential users. The second deliverable WP4.02 “User guides of the e-assessment platform” was developed for partners to test the web-tool until the public phase of development was initiated.

Web-tool outcomes

WP5.01 and WP5.02 “Global Report Implementation” is related with case studies implementation. Within this activity the web-tool was tested and evaluated and especially its usability and the quality of the results on selected case studies and by users outside the partnership active members. In order to verify if the produced TALOE web-tool had succeeded in achieving the set goals the testing phase was a necessary and important step in the life cycle of application development. It was planned that the cases chosen were diverse and representative of various learning contexts, including higher education, vocational training, online modules etc. In the end, testing was done on many more case studies than planned and with four invited stakeholders by each project partner. This increase of case studies enabled a better feedback and quality of testing results. The present version of the TALOE web-tool does not discriminate between knowledge types, as suggested by the theoretical model. After initial testing of the set up matrix it has been confirmed that the matrix is working properly. The best (most appropriate) assessment methods are selected on the base of the absolute matches between input (learning outcome) and the six assessment methods considered. First phase testing was done with eighteen case studies and performed by the project partners to see if the suggested assessment methods were closely related to the defined learning outcomes. Second phase of testing was done with invited stakeholders. There were thirty one participants (stakeholders) that evaluated the web-tool. The analysis of received feedback showed a positive evaluation regarding the usability of the tool and the quality of the output/results, i.e. the e-assessment method suggestions. Invited users found this tool easy to use and useful. It also increases the accuracy of assessment methods used by the tool and the alignment between learning outcomes, assessment techniques and teaching methods. Final evaluation on the satisfaction with the web tool was done with random users. Received feedback confirms a positive attitude

towards the tool, describing it as a valuable tool that can be used to improve learning outcomes and align them with specific assessment methods. Participants in the survey found the tool easy to use and expressed an intention to use it in future as well.

Project management outcomes and results

The management of the project has taken into account the project planned tasks and the administrative and financial activities and responsibilities. Four face to face meetings were held. The first was dedicated to the project presentation and discussion, approval of work packages plans, debate about future tasks and financial and administrative establishment of guidelines. The second meeting was dedicated to the analysis and classification methods of the case studies and preparation of the specifications for the development of the web-tool. The third meeting was dedicated to analyze the web-tool performance and decide improvements and characteristics of the functions and of the layout. The fourth meeting was composed by the analysis of the web-tool testing and the preparation of the dissemination and the exploration in last period of the project. Possible ideas for the continuation of the project ideas development were also discussed. Eighteen virtual audio meetings within an interval of about one month were held to keep contact between partners about arising issues and reporting of actions undertaken. It was produced an intermediate report from partners at the end of the first semester to measure progress and make an internal report to the project officer. This internal report was also produced at the end of the first year with the same goal. In terms of internal processes the aspects that deserved attention were project coordination, proper management, effective information processes to achieve the goals, promotion of dedicated involvement of partners, harmonization of ideas, practical collaboration processes, creation of an innovative tool, shared information, ideas and responsibilities and advantages of the expertise of the project partnership.

Quality control of the project outcomes

According to the Quality Plan approved in the first project meeting partners have produced an internal evaluation report every six months. A compilation and analysis

of these quality reports was performed by the work package leader. Four quality reports were also produced by an external evaluator every six months taking into account the progress of the project and the quality of deliverables. These two types of quality evaluation were disseminated among the partners and taken into account in terms of project management and implementation. The motivation behind these reports was the reports would result in the improvement of the project implementation and achievements.

Project dissemination and exploration outcomes

According to the project proposal and with the dissemination and exploration plans approved several actions were undertaken that tried to disseminate the TALOE project among stakeholders. These tasks had several perspectives and levels that comprised a website, presentations in conferences, publications, leaflets, newsletters, social networks, workshop and webinars. A dissemination graph registering the dissemination activities has been maintained in the dedicated Moodle platform by the work package leader for supporting the planning, reporting and monitoring of the dissemination activities. This tool was used as a collaborative Google spreadsheet with a detailed overview on the dissemination activities, their timing and means provided to record impact indicators. The document was shared amongst and was continuously updated by the entire partnership.

Website – It was produced right at the beginning of the project. It has a description of the project, the partnership composition and contacts, news related with the topics of the project, description of the work packages, presentation of project results and a list of resources that constitute support for the project development and implementation. It has also the links to the social networks where the project is present. It has a dedicated email address for contacts and the possibility of choosing, by a stakeholder, a permanent subscription of updated project news.

Presentations and publications – There have been several presentations by partners in conferences with related topics or potential interested stakeholders. There were reviewed paper presentations at EDULEARN 2014, at WCCEE2014 at U. Stanford, USA, at 15th AEA Annual Conference, at EDULEARN 2015 and the RUSC journal where it was accepted for publication in 2016. Presentations (poster, paper or other)

were done in EDEN 2014, EIF/LINQ 2014, EUCEN Autumn Seminar 2014, Media and Learning 2014, EUCEN Conference 2015 and EUNIS E-learning Task Force Workshop 2015. Most of these publications make part of the proceedings of the events.

Workshops – Two project workshops were held during the EDEN 2014 and the EDEN 2015 conferences at the European level. These were opportunities to discuss the selection criteria for the assessments practices with other educators and e-learning experts and the performance of the web-tool. The workshops results were considered in the project implementation and tasks planning.

Leaflets – There were five editions with a total of six and a half thousand being printed. These five different leaflets were distributed by partners. According to the needs of the partners these were distributed within organizations, in events and in conferences where partners participated.

Newsletters – The project produced four electronic newsletters with related news, significant past and future events, webinars interesting projects, assessment conferences, web-tool developments and related news. In the distribution of the newsletter there was a strategic decision of combining direct mailing of the newsletters with website content and with social media coverage.

Social networks – The project has a presence in Facebook and in LinkedIn. In Facebook there is a dedicated TALOE page and in LinkedIn a TALOE Group. Both presences were created by the work package leader with participation by the partnership and by other stakeholders.

Webinars – Eight webinars were produced and delivered to disseminate the relevant issues about the assessment of learning outcomes related with the project TALOE. The seminars were recorded and are available for viewing at the project website.

Exploration actions – There were two main goals in the plan: mainstreaming the results of TALOE project to decision makers and multiplying effects of results by adoption of the TALOE tools by the end-users. For that purpose there were European workshops, national workshops and institutional workshops. Some exploitation activities have taken place in terms of engaging stakeholders and other organizations. In terms of stakeholders the partnership has been contacted by the University of Athabasca (Canada), by the Medical Navy Center BUMED (USA), by

ATIT (Belgium) and by Ioncudos (USA). In one of the cases a case study provided by one of these organizations was included in the set analysed in work package 3. All these contacts had in mind cooperation and possible interest in using the results and tools of the project. The exploitation plan has included in the planned activities the correspondent follow-up of these contacts to explore possible cooperation and joint developments. One of the exploitation tasks was the application done with the Wise Accelerator program of the Qatar Foundation. The application was not successful but several recommendations were obtained that may be useful for the future of the project. Two workshops were used for exploration at the EUCEN Autumn seminar in 2015. The first was dedicated to the presentation of the model ALOA and its role in the TALOE web-tool and the second was a hands-on session. Partners have also managed national and institutional workshops to present the web-tool. The project also applied for the My Vita Award and has won the prize in 2015 for its significant contribution to innovative practice and initiatives on validating competences in informal and non-formal learning in Europe.

4. Partnerships

Education and learning are contextualized processes and the fact that there is the contribution of teachers from different countries and backgrounds adds value to the project. TALOE project has benefited from being developed collaboratively among nine European partners. One of the most important contributions of the project is the collection and analysis of the different e-assessment practices. TALOE has collected case studies from educational institutions across Europe and Canada that were studied and classified as part of the Work Package 3 of the project. The TALOE web-tool is dedicated to be used by a vast community of teachers and of trainers. It is important that it reflects the views of a diverse community. This could only be achieved with the collaboration of partners from different countries and cultural contexts.

The project partnership has established good communication with the general public and with specific target groups. There has been a strong dissemination of the projects and of the events promoted by TALOE partnership. Towards the end of the project, there was a visible commitment to engage the target users in actually using the tool and collecting feed-back. The project partnership has been involved in dissemination activities at national and international levels. Therefore the respective activities and deliverables have reached a vast community of stakeholders. This is relevant to achieve the goal of the project of having a web-tool available to stakeholders that are teaching and are managing teaching activities and policies. Partners are active in education and e-learning and have formal and informal contact networks that were involved in the different stages of the project. This motivated the increase of the number of case studies that is in the end larger and richer than initially expected.

Partnerships have taken place already as explained in the previous point. One of the direct outcomes was a table available at the Media and Learning Conference 2014 to present the project. These partnerships added to those planned in the exploitation plan will bring the visibility of the project to a large community of possible users. This community of users had an important role in the second year of project. The project has been presented in many events, with different formats and different audiences.

Informal conversations have resulted in verbal agreements to cooperate in the testing and tuning of the web-tool during the second year of the project.

Two partnerships deserve presentation in this report. The first is with the ENAEE EUR-ACE Label Committee with which it is planned a workshop in the autumn of 2016 dedicated to the presentation of web-tool. This workshop will allow the exploration of the web-tool by the label committee and other stakeholders to help the verification of the competences of engineering graduates of programs with the label EUR-ACE. It is envisaged a half-day session with presentation, exploration and debate. The second partnership is the cooperation with ISHCCO (International Safety and Health Construction Coordinators Organization). It is an European group that has decided, through its Certification Groups, to verify the professional competences of construction safety coordinators at the European level. The association has a sectoral qualification framework with different types of competences and the TALOE web-tool was adopted to verify the professional competences. This interaction with a professional sector is also beneficial being outside the academic area.

5. Plans for the Future

The website, web-tool and related documents will be kept for the next five years. The partnership intends to keep the promotion and use of the project web-tool among the respective organizations. One of the partners has requested a copy of the web-tool to be translated in the native language. Another partner is already improving the web-tool enlarging the use of the verbs used actually in the web-tool. Another partner intends to use the web-tool as an auxiliary instrument of quality evaluation of e-learning. Other stakeholders have already used the web-tool within their own organizations for their own specific audiences. These facts reveal that the web-tool and the project may have a beneficial impact within the assessment activities of learning outcomes.

Concerning the partnership the plans for the future were debated during the last project meeting. Four lines of possible future actions were accepted by the partners.

These are:

- a) Improvement of the tool in terms of scope and complexity of analysis.
- b) Inclusion of cultural diversity in assessment and in LOs (including language issues).
- c) Exploitation of possible applications in sectors like primary and secondary education.
- d) Connection and liaison with accreditation and quality stakeholders.

It was discussed among the partnership possible proposals of financing from H2020 and Erasmus+ programs. Other improvements considered were more dimensions of the relationship between types of learning outcomes and assessment methods, improving the decision procedure to propose assessment methods and upgrading of the graphical interface and of the platform functionalities.

6. Contribution to EU policies

The project may have several types of contribution to the EU policies listed as priorities in the funded programs. For instance it can bring a significant addition to the training of teachers. The fact that there is a web-tool available to teachers that can enhance the evaluation of students may improve the performance of teachers and of trainers. These can learn more about writing learning outcomes and about proper assessment. This may be a valuable development to Lifelong Learning in Higher Education. It will also be a supporting mechanism to improve excellence in teaching and training when providing proper assessment methods for the initial education and for continuing education.

The fact that there are new jobs being created constantly, with different profiles and requirements for new competences, creates a need to validate and to verify the new correspondent skills. This new type of skills needs other types of assessment that require an alignment between training and learning outcomes and the evaluation methods.

Concerning recognition of qualifications and competences the project tool can provide an adequate procedure to evaluate the capacities of each learner using the proper assessment method. Knowledge, skills and attitudes are the types of competences of the European Qualification Framework. Since the learning outcomes of the case studies are in one of these categories the web-tool may help building confidence in the evaluations and, therefore, may facilitate recognition.

In terms of the transparency in Higher Education and Vocational Education and Training a proper set of assessment methods for the different types of competences will help the expression of competences across the countries. It will be clear for all stakeholders in Higher Education which type of assessments are acceptable for the various levels and different nature of the learning outcomes.

The project web-tool may remove barriers for mobility of learners and of professionals since all learning outcomes can have a common benchmarking framework. In fact it will be easier for accreditation and qualification bodies and professional organizations to accept competences acquired in other countries if the recommendations to find proper assessment methods are common to all those

involved. This will contribute directly also to employability since informal and non-formal learning can be recognized and validated.

Finally, the web-tool may contribute significantly to the quality assurance of courses offered since the verification of the competences or learning outcomes acquired is done using the same strategy. This is particularly relevant for e-learning and for distance education where the quality assurance across countries and educational systems has been an obstacle for the development of these environments.