

# RECOGNITION OF PROFESSIONAL QUALIFICATIONS FROM LEARNING ONLINE

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## Abstract

A methodology is proposed to address the recognition of competences acquired online. It is derived from the project VIRQUAL (<http://virqual.up.pt>) outputs. It addresses current issues of the working world like Virtual Mobility, Learning Outcomes, e-Assessment, Qualification Frameworks and Recognition of Prior Learning. The approach is based on the application of proper methods of assessment for each type of learning outcomes. A matrix is proposed to align the different types of competences (based on revised Bloom's taxonomy) with the different types of assessment online. The involvement of professional stakeholders derives from the inclusion of the professional qualification frameworks in the choice of learning outcomes.

The method proposed is based on the definition of competences in terms of knowledge, skills and attitudes using the approach proposed by the European Qualification Framework (EQF - <http://ec.europa.eu/eqf>). Knowledge means the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In this context knowledge is described as theoretical and/or factual. Skill is defined as the ability to apply knowledge and use know-how to complete tasks and solve problems. In this context skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments). Attitude means the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. In this framework attitude is described in terms of responsibility and autonomy.

Competences are distributed in the three groups described. Each group of competences needs adequate forms of assessment due to the intrinsic differences. There are several forms of assessment of competences acquired online. Some examples of possible assessment modes that exist in online course practice are adaptive test, chat room, closed question, collaborative assignments and discussion group. Of course the relevance of choosing proper assessment modes to evaluate the different types of competences is created by the quality and reliability of the verification of acquisition of learning outcomes proposed in the training online. The proper integrated set of intended learning outcomes and related assessment modes will ensure the employers and professional organizations that the competences were acquired in the specific training and learning. This is particularly relevant in online courses that have a large component of individual effort. The method, described in the paper, related the different types of competences with the adequate assessment methods based on the revised Bloom's taxonomy. The research created matrix based relationships that allow course designers and training quality evaluators to verify and guarantee the proper choice of assessment methods for each learning outcome. Several case studies were analyzed and conclusions are presented in terms of procedures and guidelines.

Keywords: assessment, qualifications, online training, competences, recognition

## 1 MOTIVATION AND RATIONALE

The tool defined in project Virqual - Network for integrating Virtual Mobility and European Qualification Framework in HE (Higher Education) and CE (Continuing Education) institutions (<http://virqual.up.pt>) was researched and developed in a European funded project to facilitate virtual mobility in Higher and Continuing Education. The tool allows the choice of adequate type of assessment of learning outcomes (LOs) of courses offered in virtual environments. The LOs are related with the European

Qualification Framework (EQF - <http://ec.europa.eu/eqf>), allowing for recognition of qualifications obtained in courses based on e-learning or distance courses.

The tool has three components: a step-by-step manual for different stakeholders, to guide the implementation of Virtual Mobility at different levels; a comparative tool that provides information about the legal framework about EQF, e-learning and LOs in thirty two European countries, facilitating mobility; finally, a portal focusing on the Learning Outcome approach that defines a template for describing and assessing each type of LOs.

Concerning the evaluation of the impact for society, in general, and for stakeholders, in particular, there are repercussions in access, in quality, in organizational learning and in innovation. The tool provides greater access to proven quality learning approaches. The tool allows the harmonization of adequate assessment related with the intended LOs. It is important for the quality of learning since it relates the different types of competences with the qualifications expected by employers and professionals. This tool defines a model that matches LOs of virtual courses to e-assessment methods, improving the confidence in virtual learning. There is a significant innovation in the assurance of quality of the training while providing proper assessment. That fact also enables serving more learners from currently unserved populations that were reluctant to use virtual modes of learning due to a lack of trust.

A clear example, in terms of mobility, is of a student or learner from one country can have the virtual training or education obtained in a second country with the competences acquired recognized in a third country. It improves access to courses in a global choice to be accepted locally or in foreign country. Therefore the tool offers a systematic procedure to serving new populations of learners coming from undeveloped regions, from new requirements of professions or from workforce needs.

The tool is based on LOs and its classification according to revised Blooms taxonomy and can be used in any part of the world. The tool can also be used in face to face education and training although the assessment methods were chosen from the virtual environment of education and training. The tool allows learners to choose with confidence any virtual course anywhere in the world. It increases the scope of choices and promotes the use of virtual learning with possible time and cost benefits. The legislation in each country needs to be verified to ensure that it is in accordance with the recommendations of the tool.

## **2 POSSIBLE ADVANTAGES**

There is a facilitation of lifelong learning since the widened possible choices of virtual learning can be recognized and accredited by employers, government agencies, accrediting organizations or educational institutions. This recognition and accreditation increases the possibilities of pursuing lifelong learning more actively from everyone that can use virtual courses and open education resources. Virtual learning is the most important environment for lifelong learning and can be fostered using the guarantee of proper and recognized assessment of the learning.

The tool can also enable an improvement of the learner efficiency. The adaptation of the assessment types to the required LOs is a guarantee that the learner has effectively acquired the knowledge, skills or attitudes required for a certain qualification. Proper assessment is fundamental to assure effective acquisition of intended LOs in terms of other interested stakeholders. The tool can also facilitate improved instructor efficiency. In fact the instructor, that uses the Virqual tool, can adopt the proper assessment types for the LOs chosen in the course or training. The instructor will be guided by the tool to the possible types of assessment in accordance with the different LOs. It may also help the accreditation procedures in professional or academic terms.

The method can achieve cost reduction that is passed on to learners since the costs may be lower if the virtual learning and training gains more users and providers. The economy of scale that results from larger numbers can increase competition and choice of options. In fact the recent event of MOOCs (Massive Open Online Courses) is a major step in that direction. The fact that quality assurance methods and recognition tools have not been associated with this development may be an obstacle that will hinder the consolidation and expansion of the MOOCs.

Another possible benefit of the tool is the provision of education and training to a significant number of disadvantaged learners. The quality assurance brought by the recognition of the qualifications obtained may promote the use of the virtual learning. That is a known advantage of the disadvantaged learners due to the possibilities it offers in terms of access, of time and of cost. Of course the tool may save substantial travel time and cost for learners and for trainees. If the virtual mobility increases, due to the added confidence of its effectiveness, the savings are significant in terms of travel and of costs. One of the advantages of the tool is to guarantee the quality of the type of training and learning in virtual (distance) environments.

The increase in quality of the process of learning may be also be fostered by the clarity of learning outcomes (LOs) envisaged and obtained by individuals. The tool aims at allowing proper assessment of the LOs. It will help the definition of LOs that can be verified in the virtual training and education. The LOs can also be mapped into a competence framework like the European Qualification Framework (EQF) or similar structure. The EQF has the definition of competences for eight levels distributed by skills, knowledge and attitudes. For each of the twenty four cells of EQF there are descriptors that harmonize the interpretation of the competences in the workforce for all levels of education and professions. That framework is a reference in Europe for the definition of learning outcomes.

The tool also helps the improvement of results as measured by formative or summative assessments. The research done during the project to obtain the type of assessment adequate to each form of LOs was tested and evaluated. The assessment methods adopted were chosen since these were better suited for formative or summative assessments. To do this evaluation of the matching between the different types of LOs and forms of e-assessment the researchers used the revised Bloom's taxonomy. It was applied in accordance with the requisites created by the different types of LOs.

Another possible benefit was the enhancement of the effectiveness of learner engagement. In fact the learner engagement is probably more effective since the relationship between the LOs and the assessment methods is clear and assures recognition. The pedagogy used may improve since the assessment methods may guide the techniques adopted either by the instructor or by the learner. Also the explicit connection between the LOs and the assessment types may guide the learner through the learning process. It may increase the debate about the relationship and motivate critical thinking by the learner or by the instructor.

The major possible benefit is the provision of integrated assessment or better assessment of student learning by the teacher or by trainer. This is the main consequence in terms of quality enhancement. Assessment of learning or training has generally not well studied either by the instructors or by the learners. The tool provides options for the proper assessment related with the LOs but it will certainly improve the assessment quality either by the learner or by the instructor.

### **3 ANALYSIS OF IMPLEMENTATION AND TESTING STAGES**

The tool was tested with dozens of case studies in seven countries. The case studies proved that the tool was ready to be implemented. Some of the parts of the method were tested like the portal to register and classify the LOs. The tool was also tested to verify the correct matching of the different types of assessment versus LOs. The verification of the possibilities of the accreditation of the LOs was done together with the quality evaluation of the e-assessment methods. Several workshops and a conference in Vienna were held to verify the possible adoption by stakeholders: teachers, learners, companies and institutions of education and training.

In terms of acceptance of supports by stakeholders was that one of the perspectives is that institutions should use it as guidance for the design of the courses and for the accreditation of the qualifications acquired in other organizations. For the first one all teachers and academic directors can use it to guarantee proper assessments in the courses. For the second a student can present its portfolio and, therefore, have the recognition of qualifications through the analysis of the assessment and LOs of the previous training. That can also happen with employers that may require information about compliance of the training with the procedures of the tool.

In terms of support for global usage the tool promotes mobility in terms of acquisition of training and in terms of recognition of qualifications. It is intended to become a global tool although being funded by the European Commission and being tested in Europe. The method guidelines and procedures can be used worldwide since these are independent of local or national procedures. In fact the recognition of qualifications is established independently of the legislation of the countries involved.

The method may have a large deployment in terms of learners served. This is possibly true since it has no boundaries from kindergarten to continuing education in a perspective of lifelong learning. There are not many research projects or programs that integrate LOs, assessment and qualifications under the organizational, teacher and learner perspectives. This tool has accomplished that goal and may be used by all interested in the issue of having its competences recognized and valued in all types of contexts. The teaching and training offered will benefit in terms of transparency of the explicit assessment procedures related with the diverse LOs.

During the testing another consequence was that it may achieve improvement in retention or graduation rates. In fact the adequate assessment of each type of LO may imply proper evaluation of the learning and training acquired. Then the use of proper assessments in the LOs may improve and facilitate the accreditation procedures. The verification of the competences acquired by learners may be improved due to the use of the Virqual tool. This enables comparison across institutions/organizations as long as the assessment procedures follow the proposed Virqual guide. Then the recognition of the qualifications may be easier also in terms of companies or professional bodies.

In terms of supporting the assessment of key competencies the tool was designed to support the assurance that the key competencies were obtained by learners and by trainees. It is a tool easy to use by learners, teachers and organizations when analyzing if the learning was effectively acquired. That awareness is probably the most important consequence of the Virqual tool. It facilitates planning or management of competency development since assessment is fundamental for the quality of the learning and training. The tool is designed to help the design of the courses, the management of the course and the quality evaluation of the course. The competency development of the learners is verified only with the adequate assessment.

Another consequence of the tool implementation was facilitating a more efficient sharing of best practices. In fact the case studies and other related events showed that the repository of LOs and of e-assessment methods was useful to disseminate the tool and to develop improvements. An organization that uses the Virqual tool may have its courses recognized by others and have the learners with their competencies accredited in terms of professional qualifications. The courses will probably have a better acceptance from learners since the competencies will be easier to recognize and to accredit.

The tool was produced with public financing support tools and with documents and therefore used different available sources like qualification frameworks and pedagogical theories. The tool has had a wide acceptance and the connection with other research related projects and educational networks have created a large number of active and passive partners. It is an innovative approach since combines LOs, assessment and qualifications under the perspectives of organizations/providers, employers, teachers, academic authorities and learners. There are not many projects that address virtual mobility in such a global attitude and open approach. It has clear potential to establish a much needed new category of learning application or tool. It is expected that it will become a reference in virtual mobility to guarantee that a learner can choose anywhere its training and to have it recognized anywhere and with any type of employer or accreditation body.

#### **4 CONCLUSIONS**

The tool incorporates a scientific breakthrough promising enhanced learning based on learning theory. The tool constitutes a progression in learning theory since it combines the different types of LOs of the different qualification frameworks with the different modes of assessment used in virtual learning environments. It is not probably a scientific breakthrough but it is a compatible structure of different phases of the learning process. It represents an improvement in access, affordability, or quality of education. It is a proposal to facilitate use of virtual learning and training, it may decrease costs due to a economy of scale and is a serious attempt to increase quality of assessment. The tool provides a

seamless way to incorporate advanced functionality requiring little or no faculty, teacher, or learner training to use. The tool is designed to be used by all stakeholders without specific training. It is a ready to use tool with practical advices and guidance. It has a theoretical and experiential background that can be used for further and deeper understanding. Other initiatives can, in the future, produce practical tools based on the web that may facilitate a wider use of the tool and the creation of repositories that could increase transparency in assessing training for all.

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