
RECOGNITION OF VALID OPEN AND ONLINE LEARNING

Airina Volungevičienė, Marius Šadauskas, Danutė Pranckutė, Vytautas Magnus University, Lithuania; Sandra Kucina Softic, SRCE, University of Zagreb, Croatia, Ferenc Tatrai, European Distance and eLearning Network, United Kingdom, Matthias Murawski, Markus Bick, ESCP Europe Business School Berlin, Germany, Julia Busche, Q21, Germany

Introduction

It has been a while since recognition of prior and non-formal learning was addressed by education providers and policy makers in Europe. Quite a number of universities in Europe established instruments and procedures properly addressing strategic goals to recognize prior and non-formal learning in the form of results in formal curricula. However, this practice has been challenged by two main factors and innovations in themselves.

The first challenge, continuously changing the form and transforming traditional education is digital education and online learning. Since the advent of distance education, the question that generates the greatest concern when it comes to recognition is assessment: for example, it is difficult to be sure that the learner who completes an online assessment is the learner who enrolled, and also the possible forms of assessment are limited in online education. Validation of learner and learning results therefore continues to be questioned and researched.

The second challenge for traditional higher education, strengthened by new forms of open learning was open education itself. Questions and concerns generated were similar to online learning concerns, but often misled – instead of focusing on learning results, research questions focused on recognition of open learning itself.

Open and Online Learning

Open learning is a fundamental part of the overarching topic area of open education. The word *open* is of inflationary use in today's world while *rights*, *access*, *use*, *transparent*, and *participatory* are only some of the meanings related to it. In the context of learning, particularly the meanings *use* and *access* play an essential but not the only role (Pomerantz & Peek, 2016). While there is no agreed-upon, comprehensive definition of open learning, central focus is commonly placed on the 'needs of the learner as perceived by the learner' (Coffey, 1988).

Following Fischer (2013), open learning consists of two aspects, open online courses (e.g., MOOCs, Open University, open courseware) and open educational resources (OER) (e.g., Wikipedia, TED talks, YouTube, specific OER repositories). Instead of a definition, a set of specific characteristics which are typical for open learning exists. Examples are learners accessing freely available online content, learners enrolling on free open/distance learning

courses, learners collaborating on open knowledge-building projects, or learners sharing outcomes with one another. Thus, there is no explicit concept of open learning but the opportunity to design open learning approaches built on the principles mentioned above.

The complexity of research in open and online learning (OOL), open learning, open and online learning environments, (Hannafin et al., 1999), open and online curriculum, students' behaviour's analysis and recognition of OOL achievements and other. While there are many publications on the topics since 1986, there are still research evidences missing, especially with regards to:

Learning analytics (LA) method as metacognitive tool (Gasevic et al. 2015; Ferguson & Buckingham Shum, 2012), to understand how learners learn in today's open and networked learning environments and how learners, educators, institutions, and researchers can best support this process (Muslim, Chatti, Mughal, & Schroeder, 2017).

Assessment and recognition of OOL (Schmidt et al., 2009; Camilleri et al., 2012). Witthaus et al. (2016) analyse assessment and recognition practices in Europe and particularly MOOC-based learning pointed out the need of further research into the Member States' regulations and practices enabling the setting up of specific strategies for advancing the recognition of open education in Europe. With the mentioned possibilities open and digital badges have a potential to become an alternative credentialing system, providing visible recognition using digital symbols in public displays.

Validation of Open Online Learning

Measuring Learning Progress

One of the ways to measure learning progress is through competences. Using specific digital tools which can be integrated in the learning management system (LMS) it is possible to depict competencies for learner in real-time. One of the powerful tools is Moodle LMS. From Moodle v.3.1 (2016) there is the possibility to provide a list of competencies in courses and associate them with activities. Using the Moodle competence tool the learner can monitor his/her success of competence acquisition. In the frame of a course completion, it can be measured using conditions for activities, enrolment duration, total course grade, etc. The learner can check which activities are already completed or the system can do it automatically after the set conditions are met. The learner has special information just about his/her progress in the course. Progress visualization is possible using additional extension of the Moodle LMS (for example: Completion Progress bar).

Searching for learner identity solutions to facilitate recognition of learning achievements

Taking a course on an open online learning platform has different requirements than auditorium lectures. One of the main requirements and challenges is learner identity verification. In open online learning, all teaching and learning happens online and, usually, the teacher doesn't meet learners face to face.

All institutions providing online learning courses should consider this issue and think of possible solutions for learner identification taking into account the pre-conditions established in their country. E-Citizenship program e-Government and other national solutions for digital identification of a person can be immediately applied to identify and authenticate users using mobile signature, bank account, and other tools.

There are solutions for user authentication, the most common ones use biometric parameters, such as fingerprint, face, voice recognition (Rabuzin et al., 2006). However, all these solutions require special devices to be used to verify user identity. Solutions have concerns about data security and privacy issues, as such data are very sensitive. Furthermore, this solution is valid only for the initial login process. For open online learning this solution would be too complex to achieve.

Another solution for learner identity would be continuous authentication. This solution could be used during exams or other assignments performed by the learner. Apampa et al. (2010) mentions video monitoring/recording solution via webcam. However, such solutions also require special software to make video recordings of physical work or sophisticated software that would analyse recorded video and alert the teacher if that was not the actual learner who attempted to perform the exam. Also, the learner would have to have a webcam - but recently most devices already have webcams.

A more advanced solution for learner identification is proctoring, such as remote proctoring (remoteproctor.com) which proctors the user while she is taking an exam. Such solutions are usually third-party and are commercial, meaning that the institution has to pay a sum annually or for every exam taken. In remote proctoring the learner should download a special software to be installed on his computer. The software tests the microphone, camera and computer (also, what other software is currently running), the learner must take a picture of his/her personal/student ID and should make a selfie. Then the system verifies the learner identity. Before taking an exam, the learner should move the camera around the environment in which he is performing the exam to show that there is no reading or other materials which could be used while taking exam. All exam process is being recorded and stored. The software continuously records the desktop, the additional software running and learner itself.

Freely available international solutions (open source software, etc.) are not established yet for unanimous use. Therefore, there is no single solution for each and every European country. Some learner identity methods which work in one country might not work in another. As analysis of different methods is currently in progress we have highlight the most effective methods that might be used so far:

Social networks authentication: Facebook, Google+, Twitter, LinkedIn are among the most popular social networks. Most people have at least one account in these networks. According to the rules of social networks, users should use their real names and photos. Using social networks for user authentication could be a solution to user authentication on open online learning

platforms in case we all are meeting social network regulations continuously. But what if we do not?

Using social network authentication might work with video conferencing solutions. If the user logs in with his Facebook or other social network account, the profile picture is passed on to the learning management system (LMS). If the exam is performed in the agreed specific time via a video conferencing tool, the teacher could compare the user profile photo with the actual learner in the video conference to make sure that it is the same person.

Recognition of Open and Online Learning

Competence – based open and online learning

Competence – based open and online learning – organized and may or may not be guided by a formal curriculum. This type of education may be led by a qualified teacher or by a leader with more experience. Though it doesn't result in a formal degree or diploma, non-formal education is highly enriching and builds the individual's knowledge, skills and competences. Learner's interest and motivation are driving forces behind her participation. Because of this reason, it is often considered more engaging in comparison to formal learning.

Open non-formal learning programs provide a lot more flexibility in the way content is both created and consumed. By removing the formalities educational institutions and companies are usually able to create more content quicker and deliver it to their audiences in a way that makes the most sense for professional and competence development.

Recognizing intermediate achievements through digital badging

The learning progress and achievement of the individual learner can be indicated using the (open) digital badging option of Moodle. These badges are bound to certain, well defined stages of the learning process or to the completion of the course as a whole. Digital badges can be awarded in different ways: either automatically, when the learner proved that he reached the requirements of the non-formal course, or manually, awarded by the mentor/supervisor/administrator of the course.

The automatic awarding process can be triggered either by the learner herself/himself, just by clicking to the completion box of certain building blocks of the course, or by the Moodle system once the learner has reached the pre-defined minimum score in the assignments. These options are communicated in advance in each course material.

Digital badges help to maintain the motivation of the learner to complete the course and to continue her/his learning in the relevant field of study.

Matching learning offer with formal curricula

The ReOPEN platform (<http://reopen.eu>) features respond to relevant preconditions for the recognition of non-formal open learning. Learner verification is guaranteed through the

registration process before being able to access the material, and the platform analytics allows for close learner-teacher interaction and guidance.

Another feature related to recognition of non-formal open learning is the option to receive a digital credential upon completion of the course, i.e. a digital badge. A quality framework for non-formal open curriculum is the basis for the development of the course. The material thus includes clear descriptions of the proposed learning pathway, is clearly structured into units and topics and states learning outcomes for each section.

Respectively tailored assignments allowing for robust assessment are included. The material for non-formal and open learning using the platform therefore fulfils relevant preconditions to become recognised through formal education institutions, especially when links and references to formal curricula matching the non-formal one are provided in the course description.

ReOPEN Solutions

The ReOPEN – Recognition of Valid and Open Learning – project aims to create instruments to develop validated open and online learning (OOL) for recognition of non-formal learning. The project addresses recommendations stated in the EC JRC research study on “Validation of Non-formal MOOC – based Learning” (published in 2016) by establishing validated open learning practices, including learner identification and learning credentials, learning recognition forms, and establishing collaboration among institutions fostering recognition of OOL.

To recognise non-formal open learning results/achievements/outcomes, education institutions and employers need validated Open Online Learning curriculum examples and digitally smart learning environments leading to the recognition of open online learning results.

The ReOPEN project followed the OpenCred recommendations with the vision into the future: what and how smart digital learning environments / technology enhanced learning environments should be established, maintaining validated open learning practices, with a particular focus on validation of learners’ results. To enable this, the platform for learning should offer learner credentials embedded and designed in the curriculum, so that learners identification is verified, their learning path and achievements are traced and validated, and consequently approved for credentialization and certification.

During the project, the ICT platform for non-formal open learning curriculum (e.g. MOOC) development with learning validation and recognition instruments in place has been established (including learner credentials, digital badges, learning path recognition and assessment tools, see Figure 1):

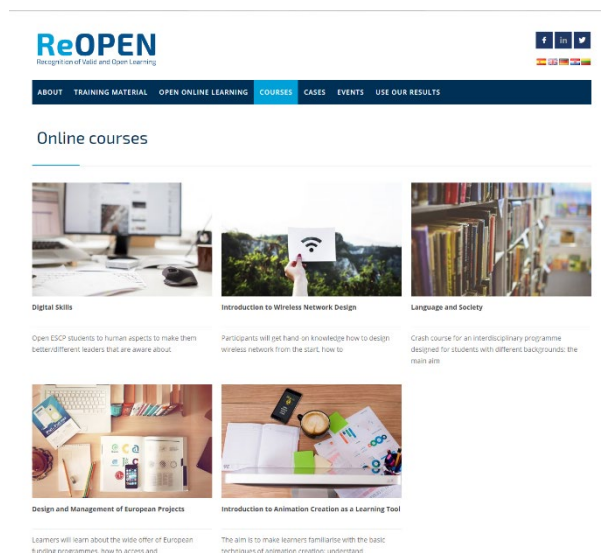


Figure 1. ReOPEN ICT platform at <http://reopen.eu>

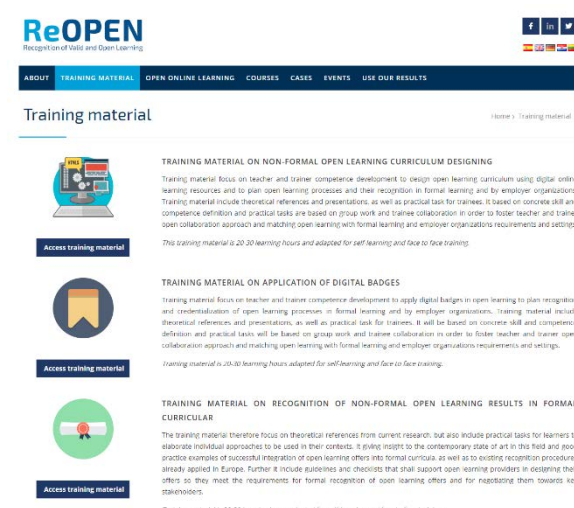


Figure 2. ReOPEN training material at <http://reopen.eu/training-material/>

Along with the three types of training material, developed to train teachers and trainers at CVET organizations, companies, HE institutions and adult learning organizations (a) to design validated non-formal open learning curriculum (e.g. MOOC or other), (b) to apply digital badges as a new form of digital credentialisation and (c) tracking one's learning path in non-formal open learning, and (d) to recognize non-formal open learning results in formal curricula, the platform became the perfect tool itself to educate education organizations, and to create new service for all society members – non-formal open learning for recognition.

The new platform allows all education providers to design non-formal open learning courses for continuous professional staff development applying learning recognition instruments for validated non-formal open learning. However, the key added value of ReOPEN solutions is the new way to establish partnership for future collaboration for non-formal open learning recognition (reviewing curriculum in partner institutions and preparing information on potential recognition of open learning).

ReOPEN is positioning itself as an example for possible solutions for the validation of open online learning results/outcomes/achievements which could be recognised in HE institutions and by companies. The REOPEN project focuses on the competency – based curriculum design, that may be the right link between HE and other training providers or employers. Non-formal open learning is also a look into the future in terms of new educational offers by HE, dividing the qualification – based curriculum into smaller units of learning, to establish formal possibilities to fulfil the societal mission of HE and to allow larger groups of learners to access HE through non-formal education. In this context, the ReOPEN project results can have a much broader impact for the development of the concept of Open Education, which is to prepare HE to provide open and non-formal education for large society groups.

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