OPEN LEARNING RECOGNITION

Taking Open Educational Resources a Step Further

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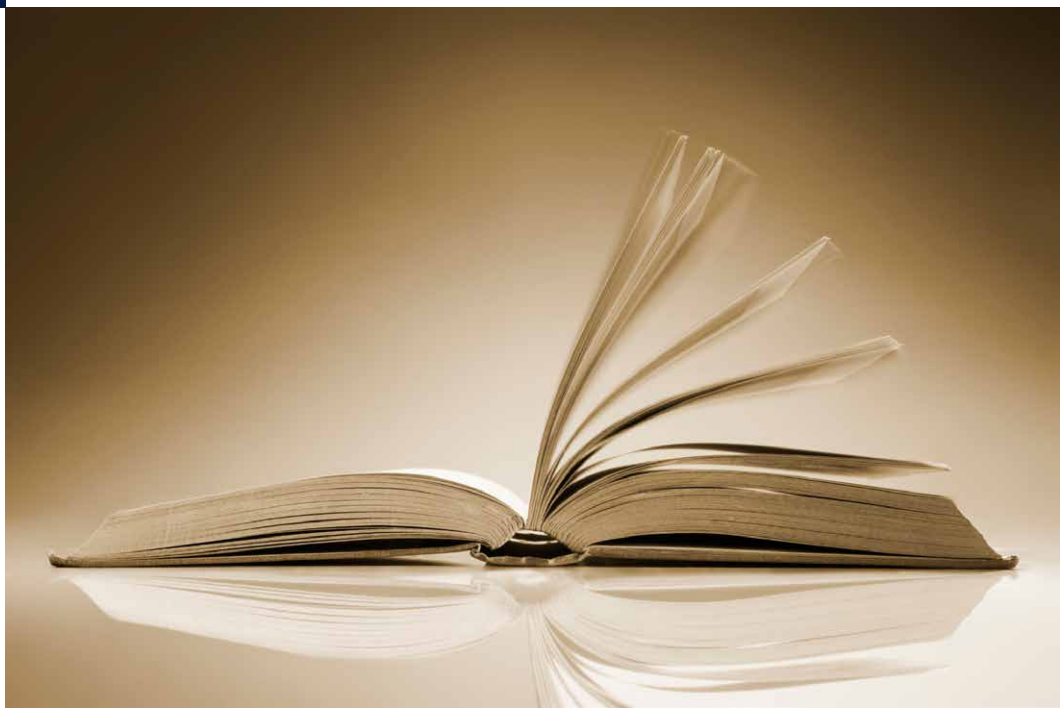
1
INTRODUCTION TO THE OERTEST PROJECT



The term Open Educational resources (OER) was coined at a UNESCO's Forum 2002 as "teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions."(UNESCO, 2002) OER have first emerged in open and distance learning and during the last years a worldwide trend can be observed towards an Open Movement with OER "belong[ing] to a digital openness family, which also includes Open Source and Open Access" (p.7, Jabobi, van der Woert, 2012). We can observe a dynamic growth of open content for learners. More and more higher education institutions worldwide are making their courses and other educational resources openly available to students, instructors, and other interested parties via websites and online repositories. Promoting the creation and use of OER is high on the agenda of international organizations, e.g. the OECD, the UNESCO and Commonwealth of Learning (COL).[1] Some governments have started to make large investments in developing Open Educational Resources (Jabobi, van der Woert, 2012). Hopes and expectations are high regarding the benefits of OER for education:

- Educators from around the world can collaboratively improve materials and curricula with less duplication of effort
- The increased availability of high quality learning material makes students and educators more productive. OER makes them more active in the educational process by allowing them to working with resources that specifically allow adaptation and re-mix (summarized from Butcher, 2011).
- Low or no cost access to quality learning and teaching material positively impact education in the developing world and help to equalize access for disadvantaged learner groups

1.1 THE OERTEST PROJECT

Despite the predicted large potential of OER „their use in higher education has not yet reached a critical threshold" (Ehlers, 2011). A barrier is not the lack of access to openly available resources for teaching and learning, but rather the absence - or comparatively slow emergence - of open educational practices[2], i.e. practices which systematically use OER "to improve learning experiences and develop innovate educational scenarios" (ibidem p. 3). One of these innovative practices has been explored by a consortium of European universities

[1] COL is an intergovernmental organisation created by Commonwealth Heads of Government

[2] Open Educational Practices (OEP) are defined as practices which support the production, use and reuse of high quality open educational resources (OER) through institutional policies, which promote innovative pedagogical models, and respect and empower learners as co-producers on their lifelong learning path. OEP address the whole OER governance community: policy makers, managers and administrators of organizations, educational professionals and learners. (OPAL Consortium, 2011)

and associations and become the topic of this book: Recognition of learning based on OER in Higher Education.

While OER and Open Courseware have become useful supplementary materials for HEI students and informal learners, up until now, the vast majority of course materials published as OER online has specifically excluded the option of recognising such learning. The needs of learners who wish to have formal, quality controlled, transferable recognition of their knowledge and skills for a use within formal education or the employment market has not much been addressed. The UNESCO Paris Declaration in 2012 stressed the need to "encourage the development of mechanisms for the assessment and certification of learning outcomes achieved through OER. Already two years prior to the declaration, the OERtest project (acronym for Testing an Open Education Resource Framework for Europe) was set up with the aim of putting into place a framework by which the assessment and recognition of learning using Open Educational Resources (OER) could take place in a systemised and quality-controlled manner. This publication is a synthesis of the main outcomes of the OERtest project, which ran throughout 2011 and 2012, and presents the insights, benefits, drawbacks, proposals and issues for further consideration.

Through consultation with a multi-disciplinary, cross-institutional team of experts the initiative developed a set of supporting tools and guidelines for assessment, recognition and portability of credit based on OER. In particular, our team of researchers developed a proposal for a 'learning passport', which would act as an instrument for credit portability between institutions and would allow the description of learning using existing conventions set out by the European Credit Transfer System (ECTS) and the Council of Europe model diploma supplement.

The feasibility of this model and tools was investigated from administrative and financial point of view, as well as from the view point of institutional positioning and strategy through a series of interviews and discussions with higher education management. By involving five higher education institutions (United Nations University, University of Granada, Open University of Catalonia, University of Edinburgh) our methodology allowed not only to predict the usefulness of the above toolset, but also to make projections for the further development of the field as a whole. Based on the results we present, the authors are confident to say that the developed tools will increase the utility of OER-modules as an educational tool, while at the same time encouraging the creation of more resources.

OERtest researchers did not pretend to have impact upon the entire

[3] This also means that the guidelines require an education system based on a system of credits to be properly applied.

[4] The guidelines were drafted within Europe, and as such have been designed to take full advantage of the harmonisation and recognition tools provided within the EHEA thanks to the Bologna Process. Thus, the guideline design should work in any system where some level of recognition / harmonisation procedures are in place.

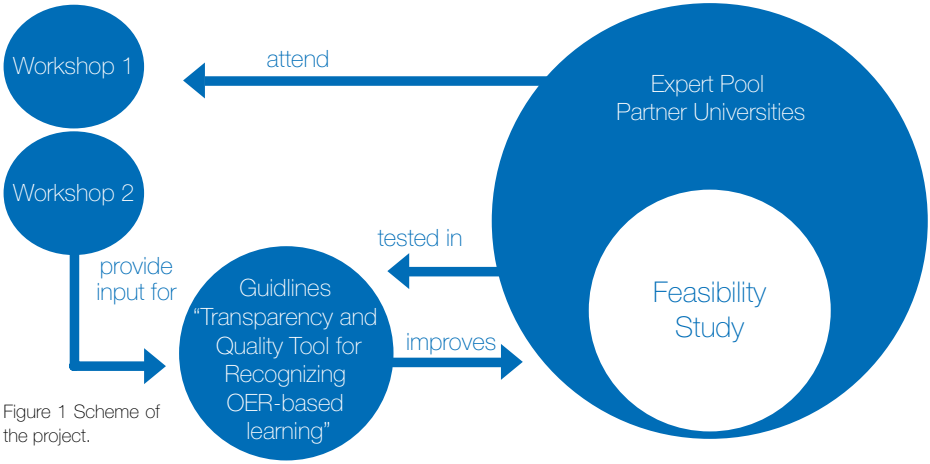


Figure 1 Scheme of the project.

field of OER, but rather made the following assumptions in dealing with its subject matter:

- It focused on a sub-set of OER, namely those which have been organized into entire course units/modules[3], suitable for self-study and not necessarily tutor-supported.
- It assumed the possibility of unbundling course design, teaching and assessment, both within an institution and between institutions.
- It pre-supposed some level of cooperation on recognition institutions between participating institutions[4].

1.2 ABOUT THIS PUBLICATION

This document presents the main outcomes of the OERtest projects in six chapters. The next, chapter provides the reader with the foundation for the development of envisaged framework, organised into the four topics: assessment methods; requirements and standards of resources; credentialisation, certification and recognition and inter-institutional collaboration. The third chapter is devoted to different scenarios of open learning which can be envisaged when unbundling the process of learning provision: Learning design, assessment and awarding of certification.

These scenarios served as groundwork for the development of the OERTest guidelines and the OERTest Learning passport; both are presented in the following chapter. This part of the publication essentially brings to the fore transparency and portability concepts. The fifth chapter lays out the extent to which the assessment and certification of learning outcomes achieved through OER is feasible for Higher Education Institutions with different profiles. The knowledge have been obtained by means of the feasibility study briefly described above. This publication concludes with a chapter on projections of possible impacts that open learning recognition through an approach similar to the one of OERtest could have on higher education institutions and learners.

2

MAPPING THE FIELD: FOUR KEY ELEMENTS FOR FUTURE OPEN LEARNING RECOGNITION

This chapter sets the scene with the review of the four inter-related topics that are pivotal when looking into the recognition of learning solely based on Open Educational Resources. The first topic that the chapter explores refers to assessment concepts, as this is one of the essential steps in the recognition process. The requirements and standards for open learning resources are considered within the second topic due to the fact that the quality of learning resources greatly impacts the quality of a learning experience and hence also recognition process. This is followed by a deeper discussion of the wider context of quality assurance systems and practice in recognising ECTS and prior learning at five partner institutions. The third section also studies the extent to which traditional quality assurance can be applied for assuring distance learning. Chapter concludes with an overview of various collaboration models between HEIs, because institutional cooperation is necessary when recognising OER based students' learning.

2.1 THE ASSESSMENT PROCESSES

Authors: Marcelo Maina, Maria Pérez-Mateo, Albert Sangrà

In order to explore assessment processes for learning based on open educational resources/ Open Courseware, the first step is to understand the way assessment concepts have developed through time and to identify those that were found to be effective for learning in the 21st century. As this sub-chapter continues, the focus of assessment is narrowed to the assessment of the competence development and afterwards to assessment of Open Courseware.

2.1.1 THE FOCUS OF ASSESSMENT UNDER REVISION

According to Mateo & Sangrà (2007), the traditional approach to educational assessment appeared at the beginning of the 20th century, based on the principles of psychometric research. According to this approach, assessment aimed at measuring the quantity of knowledge acquired by the learner. That is, an objective process carried out by the teacher. Measurement was understood as "the prerequisite in order to apply the scientific method to whichever area specific to knowledge that pretended to gain scientific status" (idem, 2007).

Since the beginning of the 21st century we are witnessing, in the educational contexts, a period of substantial and deep changes due to the pervasiveness of information and communication technologies and its impact in the teaching and learning processes (Pérez-Mateo, Maina, Romero, & Guitert, 2011). We are facing the modification of roles in the agents involved in the educational process: learners and teachers, but also the institutions and the environments in which learning takes place. Lippincott (2007) notes that, "as students become active participants in the information society, they need to develop an understanding of the factors that will assist them in acting responsibly in this environment".

This change is not yet fully reflected in the ways learning is assessed. There is a contradiction between the demands of the system and the traditional approaches to assessment (Mateo & Sangrà, 2007). Bryan & Clegg (2006) affirm that even if recent research advocates "a more sophisticated and aligned use of assessment to support high-level learning, much of our assessment still focuses on testing knowledge and comprehension and ignores the challenge of developing and assessing judgments. It is time we recognized the changing nature of society and acknowledged that quality is a more complex concept than traditional assessment criteria suggest – quality cannot be reduced to a set of easily quantified learning outcomes". Indeed, "learning and succeeding in a complex and dynamic works is not easily measured by the well-worn, multiple-choice response formats on simple knowledge tests" (Shute & Becker, 2010).

Mateo & Sangrà (2007) highlight a set of limitations to prevalent assessment as follows:

- Conceptual, because of the dynamism of measurement in education (Mateo, 2006), universality and uni-dimensionality (Berklac, H. et al., 1992; Goldstein, 1992; 1993).
- Instrumental, because applying the strategies and instruments of the traditional approach, we are unable to determine in scientific terms to what extent and how our students are learning.
- Methodological, because several controversial arguments have been discussed about validity and reliability (Messick, 1996; Mateo, 2006; Gipps, 2000).

2.1.2 RETHINKING ASSESSMENT PROCESSES WITHIN AN OPEN SCENARIO

Research in the area has pointed out some relevant elements in order to rethink assessment processes. In this section we list those relevant to our interest.

- While assessment methods traditionally focused on concepts, newer approaches concern focusing on the assessment of competence development. According to Mateo & Sangrà (2007), "The quality of learning or education is no longer based upon knowing the most about a concrete item or subject but rather upon the ability to use our skills and knowledge in a holistic way in order to solve specific tasks in an active and efficient manner". Shute & Becker (2010) point to two kinds of competences as the basis for new assessments: cognitive variables (e.g., critical thinking, reasoning skills) and non-cognitive variables (e.g., teamwork, tolerance, tenacity).
- Assessment is no longer seen as a teacher' responsibility solely; the student should be involved in this process. Assessment is not considered as a mere technical process applied according to linear guidelines but as a metrical and interactive activity that implies subjects and contexts from a cultural point of view (Mateo & Martinez, 2007). As Mateo & Sangrà (2007) stress, there is a clear trend in engaging students in significant assessment experiences; "these experiences should be rooted in openness and flexibility, as according with the kind of learning activities. This also means to provide alternative ways of assessment, in which the students

should engage by their choice and in a flexible way, taking into consideration any personal need or process" (Morgan & O'Reilly, 1999).

- Assessment is a process included in the pedagogical offer (formative assessment), not only a result. Although the educational assessment traditionally focused on the control of results (summative assessment), more recently it has shifted its concern towards the processes of accountability which adds to the previous principal the implication of the whole teaching community regarding its responsibility for the achievement of the educational processes and results (Mateo & Sangrà, 2007). Following Mateo & Sangrà (2007) it is important to "emphasize the use of methods that facilitate the direct observation of the students work and of their abilities in situations close to the ones that could be expected in real contexts as for example in case based learning" (Guàrdia, Sangrà & Maina, 2007). This new approach is generally known as genuine or authentic. In Mueller's (2005) words: "acquiring a body of knowledge and skills is not sufficient. (…) Authentic assessment is a form of assessment in which students are asked to perform real-world tasks that demonstrate meaningful application of essential knowledge and skills".

- According to McDonald, Francis, & Gonczi (2000), assessment is the most important encouragement for learning. Every act of assessment gives a message to students about what they should be learning and how they should do. Assessment tasks need to be developed with this in mind.

Figure 2 illustrates the changes in the focus of assessment needed to support educational reform for the 21st century (Shute & Becker, 2010):

Less focus on assessing	More focus on assessing
Learning outcomes	Learning processes
What is easily measured	What is most highly valued
Discrete, declarative knowledge	Rich, authentic knowledge and skills
Content knowledge	Understanding and reasoning, within and across content areas
What learners do not know	What learners understand and can do
By teachers alone	By learners engaged in on-going assessment of their work and that of others

Figure 2 Changes assessment foci (Shute & Becker, 2010)

2.1.3 ASSESSMENT PROCESSES FOR EVALUATION AND VALIDATION OF COMPETENCE DEVELOPMENT

Now the literature suggests three different types of assessment for different pedagogical purposes: initial or diagnostic, final or summative and formative.

a) Initial or diagnostic assessment allows educators to determine of the students' prior student's knowledge and competences before instruction takes place.

b) Final or summative assessment focuses on educational outcomes. It is used to take decisions on the learner passing or failing an educational offer as well as on possible improvements of the respective programme and the involved teaching processes. High-stake testing typically is summative only and can have a punitive nature for learners as well as teachers and administrators. It may be used by as a student for purposes of self-improvement. It also has an ancillary role in allowing course providers to evaluate the efficacy of their instruction.

c) Formative assessment supports teaching and learning (Shute & Becker, 2010) and has a guiding nature (Scriven, 1967, quoted by Fernandez & Fernandez, 2007). Formative assessment helps students interpret feedback as a means of learning rather than as punishment or reward (Tunstall, 1996, quoted by Kaftan, Buck & Haack, 2006).

There are different methods or techniques used for evaluation and validation of competence development. Souto Otero, McCoshan, & Junge (2005) identify the following ones: observation, tests and examinations, interviews, simulation and evidences extracted from work, portfolios,[5] etc.

2.1.4 ASSESSMENT AND EVALUATION OF OPEN LEARNING COURSEWARE

We assumed that learning within module would need to take place without tutor intervention in a self-guided manner. Nevertheless, different types of assessment can support the learning process and build the basis for open learning certification by two different means:

[5] The method is based on learners' own identification and recording of their competences through self-assessment, in some cases against given criteria. Normally a third party counter-signs the declaration, which may take the form of a so-called "competence handbook", in order to verify the self-assessment.

Contrasted declarative assessment is often used to identify skills gained through non-formal and informal learning (summarised based on Souto Otero, McCoshan, & Junge, 2005)

[6] This is significant in that it often means institutions reusing the content would need to convert it into a different format.

- In-built: The module itself contains assessment tools and instructions, e.g. in the form of pre-test, on-progress tests, post-tests or assignments, exercises, etc.

- Community-driven: Learners support and learning from peers working with the same module or expert consultation in online communities. Those activities would permit to collect evidence for later grading or certification.

In an open learning scenario organized according to the latter context, the responsibility for formative assessment would be on the learners themselves, implemented through peer-to-peer feedback in online social networks and/or communities of practice. Networks/communities around modules could either be actively supported by the resource providers or be fully learner-driven.

The objective of a summative assessment for certification conducted in this context would aim to gather different evidences of learning. In this context, assessment would not necessarily be limited to a single final assessment, but rather constitute a process of assessing of a collection of evidences captured during the learning process.

These considerations have direct implication on the design of the module, i.e. on the elements it should include in order to foster a process of knowledge and competence development. Furthermore the learner is required to collect evidence which on the one hand creates awareness of his own learning progression, and on the other, constitutes a strategy to enrich formal assessment. A summative assessment carried out by a Higher Education Institution should guarantee a standardised procedure to the learner enabling him or her to demonstrate his or her knowledge and competences.

2.2 REQUIREMENTS AND STANDARDS FOR RESOURCES

Author: Rosana Montes Soldado and Luca Ferrari

Major issue to be taken into consideration for open learning recognition are requirements and standards for OER/OCW modules and their provision. The following subchapter addresses content creation, characteristics of repositories, legal issues and standards for open education resources, as well as tackles quality processes and criteria for evaluating OER modules. The area was investigated primarily to understand the nature of an 'open educational resource' and of 'open courseware', and how these terms apply to the scope of the project.

2.2.1 REQUIREMENTS OF RESOURCES

CONTENT CREATION

Following comparisons of OER modules offered by different institutions we find the following characteristics:

- OER modules are written in a range of technical formats[6].

- OER modules are often written using diverse language styles (tense, first person vs. third person, different use of grammar and spelling, etc.).

- Some OER modules only describe course outlines, while others are full modules or courses.

- Some OER modules provide learning objectives, assignments and/or suggested discussions whereas others lack this "additional" content.

Creating a structured set of modules suitable for tutor-independent learning directly might increase the level of effort required to design and develop the course materials. Also the lack of uniformity in referring, naming, attributing, file formatting etc. poses a challenge. A possible solution would be to add the file format of the OER module and the compatible software as a meta-information to the OER module itself.

OPEN SOURCE STANDARDS

Since most content is text-based, there isn't a need for a unitary standard beyond those already in place such as Open Office XML, Microsoft Office XML and RDF, since converting between them is relatively simple even for a small team. Inconsistencies do exist between the formats, however these tend to only exhibit themselves at late stages in the project when more advanced document formatting features are utilised.

A number of online services such as Office 365, Google Docs and ThinkFree extend the functionality of typical word-processors by providing for the online sharing of files for teams with members working in different locations, and as such use a mix of proprietary formats and open standards for document creation.

Beside, SCORM (Sharable Content Object Reference Model) provides a set of standards and specifications for sharing content for e-learning. "It defines communications between client side content and a host system called the run-time environment, which is commonly supported by a learning management system. SCORM also defines how content may be packaged into a transferable ZIP file called „Package Interchange Format" (Wikipedia).

LICENSING OF OERS

There are a range of Open Licenses for content. The most commonly used are the Creative Commons (CC) licenses. CC licenses allow for free reproduction and reuse of a resource, but allow for the author to set restrictions on this right, chosen from the following conditions:

- Attribution (BY) – the original source of the work must be credited appropriately.
- Share Alike (SA) – any derivative works must be shared under the same licence conditions as the original work.
- Non Commercial (NC) – the reproduction or derivative works may not be used for any profit-making purpose.
- No derivative work (ND) – the work may be reproduced, but may not be used to creative derivative works.

The conditions are assembled into a license that can vary from very open to less open, from „All rights reserved" to „No rights reserved".

Strictly speaking, what makes a learning resource 'open', is the licence it carries with it, i.e. that it carries a licence which at minimum allows reproduction and reuse of the resource. The freedoms offered to educators by these permissive licenses have opened up a range of possibilities in opening up education more generally, with suggesting the term Open Educational Practices to

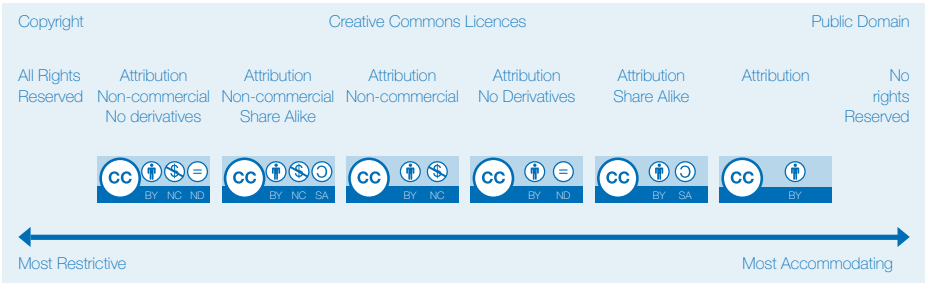


Figure 3: Legal degrees of openness (Hodgkinson-Williams & Gray, 2008).

comprise the simultaneous use of Open Educational Resources with Open Learning Architectures (Andrade & Elhers, 2011).

"In most Commonwealth countries, national copyright legislation determines that the copyright of teaching materials developed in the course of employment is all rights reserved" (Mackintosh, 2012). Therefore, teaching materials released as OER module under an open content license in the absence of an institutional policy or contractual agreement is been done illegally because the author did not have the rights to license openly.

Authors of open resources are probably best positioned to know what legal and technical conditions are most suitable for disseminating and/or sustaining their efforts.

2.2.2 QUALITY PROCESS AND CRITERIA FOR OER MODULES

According to (Ehlers & Pawlowski, 2006), "…standards are often misunderstood, especially in the education community. However, the intention of standardization is not, as often assumed, to reduce and unify the didactic or technological options, but to standardize their description. The goal is to attain a greater transparency for all users of learning technologies (learners, teachers, etc.) and a greater interoperability and improve reusability". The following paragraphs present identified quality criteria, both technical and pedagogical, that are seen as relevant for the aim of assessing and certifying learning outcomes based on OER module.

TECHNICAL CRITERIA

There are several criteria attributed to the technical aspects of OER modules:

- Compatibility with the standard
  - o Accessibility and usability of the learning resources (compliance with the guidelines of the W3C consortium, etc.).
  - o Compatibility with the common e-learning standards i.e. SCORM / IMS.
  - o Interoperability across operating systems and e-learning platforms: Learning Management System (LMS), Content Management System (CMS).
- Flexibility and expandability
  - o Flexibility and expandability of the formative module and/or learning materials from a technical point of view.

A lack of these criteria could prevent the adoption of a modular approach in the learning pathway.

- Customization and inclusiveness
  - o This refers to the possibility to customize and personalize the technical aspect of learning resources in therefore take into account user's background, language, country of origin, special needs, etc.
- Autonomy of the users during the interaction with the multimedia resources
  - o It refers to the availability of content in different languages, help desk, technical and didactic support.
- Comprehensibility of the graphic interface
  - o It refers to the availability of content in different languages, help desk, technical and didactic support.
- Comprehensibility of learning contents
  - o This one refers to the clearness of the language, etc.
- Motivation, engagement and attractiveness of the OER modules and/or learning resources
  - o Regards interaction between contents and users, availability of further learning material, etc.
  - o Interaction between users and learning materials, users and teacher and peers example, presence of tools to support the communication, interaction and users content creation.
- Availability of reporting tools (e-Portfolio)
  - o In order to track and formalise the process and its result in terms of learning (documentation of the learning experience).

PEDAGOGICAL CRITERIA

The following criteria could support the design of the OER modules from a pedagogical point of view. The criteria have to be considered both ex-ante and ex-post, i.e. at the beginning and at the end of the learning pathway.

- Cognitive

This type of criteria refers to the result (in term of learning) of the interaction between OER modules and learners. The following questions represent a sort of a check list to monitor the cognitive and social processes of the learners:

Cognitive and social processes	**Questions**
Reproductive learning Processes	To what extend the OER module could facilitate the learners to make effective and efficient there productive aspect of the learning (memorization of concept…)?
Meta-cognitive learning Processes	To what extend the OER module facilitate the learners to stimulate meta-cognitive learning process (research process, problem solving…)?
"Constructive" learning Processes	To what extend the OER module could facilitate the learners to stimulate "constructive" learning process (creation of "new" knowledge as a result of individual or cooperative work, etc.)?
Autonomy of the learners	To what extend the OER module could facilitate the autonomy of the learners?
Sharing processes between Learners	To what extend the OER module could facilitate/promote processes of sharing between learners(towards a community of practice)?
Collaboration between teacher, tutor and learners	To what extend the OER module could facilitate the collaboration between teacher, tutor and learners?
Collaboration between peers	To what extend the OER module could facilitate the collaboration between peers?

- Didactic
    - o Clearness of the aims, objectives and learning outcomes of the OER module.
    - o Correspondence between contents and objectives.
    - o Quality of the assessment and evaluation tools.

REQUIREMENTS TO DEVELOP OER MODULES

Based on the described technical criteria above, this section outlines suitable types of data for description of Open Education Resources. Presented in the table below, we outline eight segments: identification, structure, objectives and competencies, content, activities and evaluation, usability and accessibility, resources and bibliography and, finally, communication.

Author/s	Name of the author/s
Last release	Explain when the module was released.
Information about OER module	Explain the information about aims, objectives, main contents, timing, etc., as well as about technical specification (license)
Structure of the OER module	Explain the module structure in order to make clear the formative pathway to the user.
*Prerequisite (knowledge) *Facultative field	Elaborate what knowledge and skills are required from learner to take part in the module.
Objectives and competences	Clarify in detail the objectives, both of the module and the single OER. Besides, describe the specific learning outcomes.
Structure of the contents	Explain the characteristics of learning materials (type of multimedia,typology of interaction between users and materials, etc.)
Assignment	Clarify the activities needed to be undertaken by the users to complete the module.
Accessibility/Usability	Elaborate whether there exist special tools that allow people with special needs to use or adapt the learning resources.
Resources and bibliography	Provide a visible list of further learning materials.
Type of interaction and support tools	Indicate the type of interaction and tools to support the communication between users, teacher and peers.
Availability of teacher/tutor to support the learners during and after the training path (timing)	Clarify teacher participation and his/her time availability to support the students (also after the end of the course).
Interaction/connection with other modules	Indicate the way in which the modules are connected.
Number of ECTS credits*	Indicate the number of the ECTS and the modality to recognize it.
Type of License	Specify the characteristic of the license and the way to use or reuse the learning resources.
Language of the learning resources	Specify the language(s) of the learning resources available to learners.
Technical portability of the Module	Portability is the software code base feature to be able to reuse the existing code instead of creating new code when moving software from an environment to another.

Figure 4 Description of OER modules

2.3 CREDENTIALISATION, CERTIFICATION & RECOGNITION

Authors: Jeff Haywood and Chahira Nouira

One of the important aspects of the project was to provide an insight into understanding of the ways in which universities manage quality assurance, as well as how they recognise ECTS and prior learning. This section presents a short overview of systems and practice based on case-studies of the five partner universities who formed part of the OERtest Consortium. The other part of this section explores the extent to which quality assurance that was designed for traditional education can meet the needs of the module based learning. It identifies barriers when applying traditional quality assurance for learning acquired solely through use of Open Educational Resources and suggests possible solutions to overcome them.

2.3.1 HOW DO PARTNER INSTITUTIONS ASSURE QUALITY AND RECOGNISE ECTS AND PRIOR LEARNING?

This section provides an overview of quality assurance systems, as well as ECTS and prior learning recognition practice at five partner institutions involved in project.

QUALITY ASSURANCE

According to the material provided by the partner institutions it has been acknowledged that majority of them have embedded internal quality assurance. Besides, all of them carry out study programmes that are reviewed / accredited and three of them evaluate or tend to evaluate distance learning by traditional quality assurance mechanisms.

Out of five partner institutions, four universities (University of Bologna, University of Edinburgh, University of Granada and University of Catalonia) have established quality assurance systems, while the United Nations University is in the process of creating it.

Study programmes are accredited by the external quality assurance agencies at the University of Granada and University of Catalonia. At the University of Edinburgh, study programmes are reviewed by the university itself. The role of their external agency is to perform an audit of internal quality assurance system so as to evaluate compliance with the standard for reviewing the programmes.

Distance education programmes are approved using exactly the same regulations and process as traditional education only at the University of Edinburgh. The University of Bologna and University of Granada are exploring opportunities to merge quality assurance of distance learning (University of Granada) and of Higher Education Institutions' Continuing Education Programmes (University of Bologna) with framework for quality assurance of traditional education, while respecting specific characteristics of non-traditional education.

RECOGNITION OF ECTS

There is a similar conceptual approach among the three partner institutions which provided data in regards to the recognition of ECTS. In all cases, they match acquired

and expected skills and knowledge in order to recognise ECTS learners obtained.

At the University of Bologna, Erasmus students are offered e-learning courses. Credits obtained within these e-learning courses can be recognised within their original study programmes if the institution recognises the content of the e-learning.

Within the University of Edinburgh, a student who leaves the university before graduating with an award (degree or certificate) may take their ECTS credits to other organisations. Similarly, a few students (app. 100 per annum) ask to enrol in the University for an award and bring ECTS credits with them. Each of these cases is studied individually for a 'match' between the courses taken and the courses from which an exemption is requested. However, most students who do transfer ECTS credits to Edinburgh are their own students who have been on exchanges. In these cases, the courses are pre-approved - before the student departed on the visit.

The University of Granada reports that it has a standard procedure for recognition of university level official studies. Unofficial studies are not recognized. If there is a match between skills and knowledge in the field of study obtained at the visiting HEI compared to the expected skills and knowledge at the University of Granada, then the University of Granada recognizes assigned credits.

RECOGNITION OF PRIOR LEARNING

The practice of recognising prior learning is firmly in place only at the University of Edinburgh, while the University of Catalonia has just started developing a system for recognition of "experience-based" prior learning.

The University of Edinburgh does not in general carry out a significant amount of RPL, i.e. offering access or exemption from courses to non-ECTS recognised study. Formal rules and guidance exist for a few professional degree programmes (e.g. in teaching, social work, nursing) where entrants arrive wishing to gain credit for their professional work. The remainder of cases are scattered and not systematic. In that case university applies an ad hoc process that is documented for possible audit at a later stage. They do not offer credit for prior work in a general or even ECTS-transferable way. Thus, the recognition is not portable to other organisations.

2.3.2 USING TRADITIONAL QA PROCESSES FOR ACCREDITING LEARNING THROUGH OER MODULES

In this section we consider the extent to which current traditional higher education quality assurance processes can accommodate the OERtest open educational practice scenarios (see chapter 3), and their implications for the partner universities in accepting or declining to operate within the OERtest open educational practice scenarios.

In all partner universities, current practices for assuring the quality of their own academic programmes assumes that in practical terms the staff of the university itself are the 'owners' of the creation, delivery and assessment processes. 'Owner' in this sense implies that they specify the curriculum (level, credit weighting, expected learning outcomes, etc.) and in many cases they provide, or

at least specify, the learning materials to be used. The University as an organisation takes responsibility for these under its specific authority in law. Some form of external agency or government department approves these curricula, before or after they have been put into use, to ensure regional/national compliance. In general, staff of the university, either on 'permanent' academic contracts or employed in hourly or sessional work, deliver the teaching (lectures, labs, tutorials etc., in person or online) and perform the assessments.

Thus, to a large degree teaching staff 'know the learner's experience', and it is this closeness to their studies that gives them confidence that their assessments are valid, being as they are often limited in terms of all expected competences. Indeed, the expansion of in-course assignments and activities reflect this need for assessments of a wider range than can be accommodated by terminal assessment alone. Clearly, much of the learning that takes place is unseen by teachers, perhaps using OER modules found independently, but a sufficient closeness is retained to be confident in the outcomes.

Thus, there appears to be no opportunity to import a substantial quantity of externally selected or provided learning and assessment opportunities into the formal academic curriculum, via the QA processes that ensure its quality, unless that option is specifically written into the curriculum itself. OER/OCW module-based learning that takes place entirely without the control or supervision of a university's staff poses significant challenges to its way of viewing and reviewing quality in its provision. Unlike driving tests, SATS (Standard Assessment Tests) or other competence testing, university academic credentialisation depends upon the close relationship between teaching, learning and assessment.

However, curricular flexibility does exist to varying degrees at most, if not all, universities, through mechanisms such as optional credit, extracurricular credit etc. The extent to which it is permitted will depend upon the degree programme in question (some may be more prescriptive than others, e.g. Medicine, Law) and the level of study (more flexibility may exist at 2nd and 3rd cycle degrees than at 1st cycle). The need for greater flexibility and consistency in its application in HE provision across Europe has been signalled recently by two reports.

First one notes that there is a need for more diverse pathways into higher education, with use of new technologies mentioned as one mechanism for achieving this (EURYDICE, 2011). The report also details the variations across Europe in how Recognition of Prior Learning is treated in legislation and in practice (e.g. it is a requirement in France and Belgium, permitted in Spain and Italy and not mentioned in legislation in the UK and Poland – p26).

Second one points out the lack of consistency in awarding full credits for Erasmus study for all Erasmus students (Erasmus Student Network, 2010). This failure to ensure that the most important student exchange programme is fully compliant with its aims raises important concerns for any expansion of OER/OCW module-based study.

2.4 INTER-INSTITUTIONAL COLLABORATION

Authors: Anne-Christin Tannhäuser and Anthony F. Camilleri

This section looks at the collaborative environment covering aspects which would also facilitate mutual collaboration of qualifications based on OER-modules. It deals with the collaboration scene among European HEIs developed in the last decade, supporting policies and lastly identifies several important factors when designing a cooperation model.

2.4.1 HEI COLLABORATION IN EUROPE TODAY

The establishment of the European Higher Education Area has been a significant driver of collaboration for universities. Over the last 12 years, unprecedented levels of cooperation in terms of alignment (harmonization) of study programmes, quality assurance systems, degree structure, and recognition instruments have led to the creation of a single European space for education (known as the European Higher Education Area or EHEA), and the possibility for students to increasingly roam more freely between institutions.

However, political cooperation at an inter-governmental level through the Bologna Process has been only one of the drivers in the globalization of the European Higher Education Area, and its increased cohesiveness. Ginkel (2011) identifies five core processes leading to change: this being globalisation and localisation, development of the knowledge society, growing importance of ethics and values, climate change and environmental disasters, as well as fundamental shifts in the balance between public and private funding.

There are seven separate scopes for collaboration in Higher Education in Europe as outlined below (several are based on suggestions by Miller (2011):

- Collaborations for student exchange

Europe's higher education institutions engage in student mobility programmes, having set up multilateral and unilateral agreements amongst each other. Recent data count 33 countries with universities participating in ERASMUS 2011 (DG Education and Culture, 2010). For example, during the 2009/2010 academic year 213 266 student exchanges were realized.

- Cooperative course provision and joint degrees

"Joint degrees are most commonly awarded in economics/business and engineering, followed by law and management. European studies/political science, communications media, foreign languages and social sciences are also more frequently cited than other subject areas" (Tauch C. and Rauhvargers, A., 2002). Eurydice (2007) also reports that joint degrees were formally recognised in around half of the countries concerned.

- Sharing material

Broadly speaking, material can be divided into reference resources and learning resources. In the first category, the sharing of peer reviewed academic content is one of the oldest functions of universities. However, access to teaching and research materials has until now been fairly locked up within institutions: it has been shared between libraries, and made available through subscriptions to specialist academic journals, but has been largely inaccessible to the non-academic public. In recent years, the open access movement has been gaining increasing permeability within institutions, leading to the creation of

numerous collaborative initiatives

on OER modules. The Open Quality Initiative7 mapped over 200 such initiatives globally, while what is probably the best known initiative, MIT's Open Courseware Consortium, now comprises over 250 HEIs, sharing over 13000 courses under open licenses.

- Serving a mutual client

Some universities engage in networked collaboration with businesses and industry addressing their needs for specific skills and competences. These activities could be grouped within three areas: teaching and learning, research and innovation, social mission and engagement (Goddard, 2012).

- Joint research across borders and staff mobility

Researchers have always been fairly active in conducting research collaboratively across their institutional borders. Each year, an overwhelming response to the European Commission's ERASMUS funding call for collaborative projects in the field of Higher Education, demonstrates a high level of readiness of European Universities to collaborate within the funding framework of the Lifelong Learning Programme.

Supranational bodies of Higher Education cooperation for shaping policy, quality assurance and monitoring

The official inclusion of stakeholders as part of the Bologna Process in 2001, was an energising moment for the various umbrella organisations which make up the European Higher Education Community. This has led to a unique arrangement, whereby European policy instruments are being designed, implemented and monitored by the stakeholders themselves, with policymakers giving an official stamp of approval to the work.

2.4.2 SUPPORTIVE POLICIES FOR INTER-INSTITUTIONAL COLLABORATION

This section briefly lays out the broader context supportive to the main streaming of OER modules in higher education as well as more specific policies relevant for the aims of OERtest.

The Council of the European Union, adopted conclusions on the internationalisation of Higher Education, on the 11th May of 2010. In their conclusions, they call on member states to work with Higher Education Institutions to achieve a specific set of goals, namely:

- Fostering a truly international culture within institutions.
- Increasing the international attractiveness of higher education institutions.
- Promoting the global dimension and awareness of the social responsibility of higher education institutions.

With the similar aim, the Leuven and Louvain-la-Neuve Communiqué of European Ministries responsible for Higher Education (2009) states that:

- "We call upon each country to increase mobility, to ensure its high quality and to diversify its types and scope. In 2020, at least 20% of those graduating in the European Higher Education Area should have had a study or training period abroad."
- "Curricular reform will thus be an on-going process leading to high quality, flexible and more individually tailored education paths."

RECOGNITION AND QUALITY ASSURANCE POLICIES

Earlier in this document, we discussed tools supporting inter-institutional collaboration, including:

- The creation of a transferable and portable system of credits.
- The establishment of a European Qualifications Framework.
- The establishment of a set of European standards and guidelines for quality assurance.

These policies create the base for a cooperation model, however it should be noted that multiple supportive policies were employed to make each of these work including:

- Extensive networking between institutional decision makers at various levels.
- Establishment (where none existed before) of expert groups to deal with these issues.
- Support for pilot projects, dissemination and exploitation projects through European Commission Funding.
- Creation of a monitoring network allowing for (a) each country to be positioned against multiple goals, and (b) for the principles of peer pressure in the open method of coordination to be applied.

2.4.3 DESIGNING A COLLABORATION MODEL

Through literature review, Czajkowski (2007) identifies seven collaboration factors (six plus one emerging at the time), which can be used to measure a successful inter-institutional collaboration in Higher Education. He lists these as:

1. Trust and partner compatibility.
2. Common and unique purpose.
3. Shared governance and joint decision making.
4. Clear understanding of roles and responsibilities.
5. Open and frequent communication.
6. Adequate financial and human resources.
7. Outcome Assessment.

These in turn can be tracked through the three stages of inter-institutional collaboration as envisaged by Gray (1989), namely:

- The pre-condition stage where collaborators network, and create an initial relationship.
- The process stage where these same collaborators interact and make decisions.
- The outcomes stage, where the collaborators monitor and evaluate their effectiveness, and adapt their process to change.

However, several collaboration models that join learning provision and recognition already exist. The Collaborative European Virtual University (2004)project, which ran between 2001 and 2003, considered a number of models for a collaborative European university. The models reflect the academic theory, as well as provide some insight into the type of collaborations which might be necessary for collaboration and portability within the domain of OER module-based credit. cEVU proposed the following collaboration models:

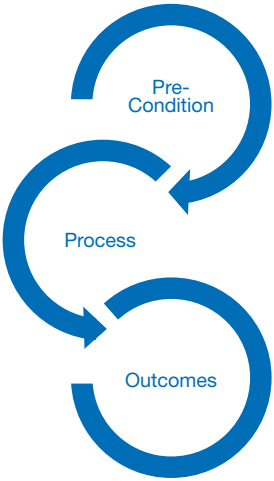


Figure 5 Stages of inter-institutional cooperation

COLLECTIVE VENTURE WITH CENTRALISED ACTION

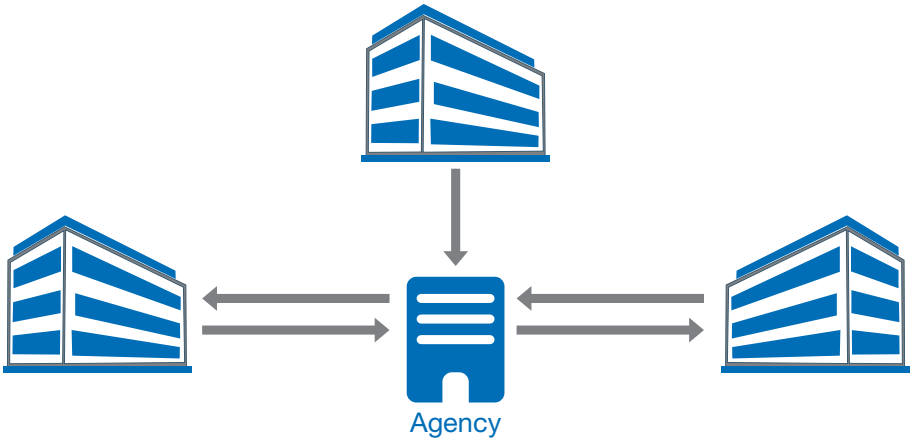


Figure 6 Collective venture with centralised action

This model envisages a network which should be seen as a collective venture of the participating institutions. The Central Agency plays a dominant role: it takes the initiative for course development, registers (through the participating universities) the students,offers the courses (even full programmes), awards the credits (and eventually certificates) and monitors the activities of student support.

Each participating institution retains its own identity and may have its own offer next to the one that is provided through the network collaboration. Students stay in a transparent way at"their" universities, take courses through their university from the Central Agency but have no direct contact with it.

COLLECTIVE VENTURE WITH DECENTRALISED ACTION: A EUROPEAN PARTNERSHIP

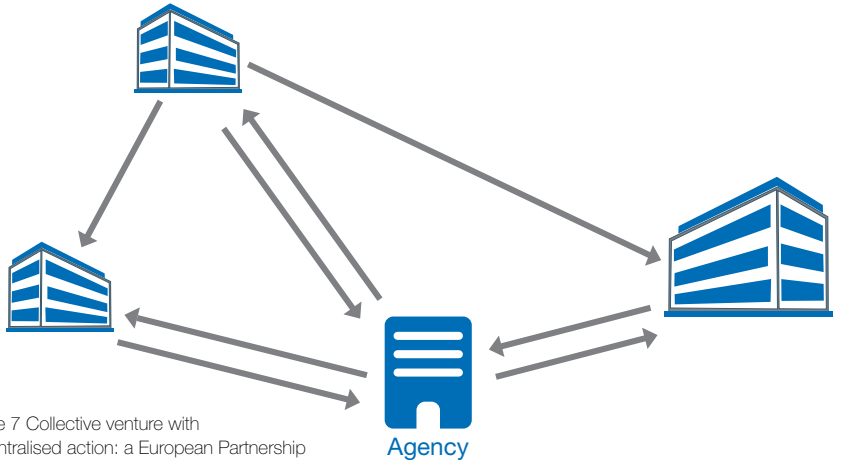


Figure 7 Collective venture with decentralised action: a European Partnership

In this model, the Central Agency has less influence; it takes less initiative than it does in the previous, as the responsibility for courses, registration and certification stays at the universities. The universities have more contacts with the Agency than with each other. The relations between the Central Agency and the universities are more bilateral than unilateral like in the first model. Universities offer useful products,which are presented by the Agency to interested partners. To ensure this usability,the products will be more at a module level than at course or programme level. The Agency takes care of practical issues such as the use of standards (to enable transportability), financial issues, external marketing, maintenance, sustainability of the collaboration.

INTERACTION MODEL: A EUROPEAN CONSORTIUM

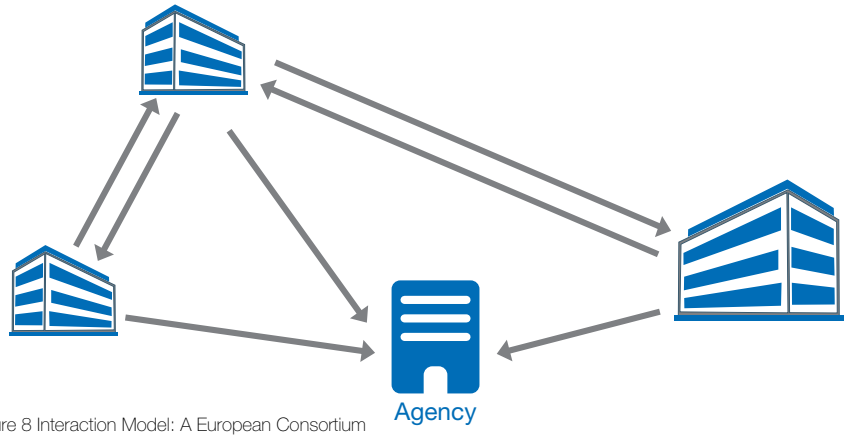


Figure 8 Interaction Model: A European Consortium

The main objective of this model is to bring academics, policy makers and students together in a virtual environment. Here, the Central Agency is primarily a repository of materials and know how. It also stimulates the collaboration and supports the exchange between universities. However, the concrete actions are situated at inter university level, which means that the universities keep the initiative and maintain fully their autonomy.

BROKER MODEL: A PORTAL SITE

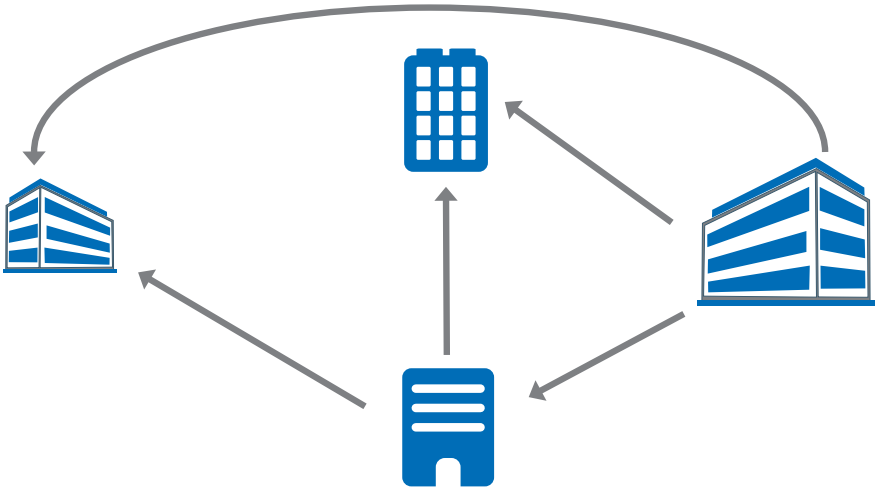


Figure 9 Broker Model: a portal site

Collaborating partner universities can be providers and use the agency to market internally their suitable courses to other partners or externally to education institutions and training organisations (including companies). Brokerage of the Central Agency may include delivery services and even certification services if the providing partner demands so. Although not directly expected, the partners can also be consumers of courses that are externally bought in through actions of the Agency on the partner(s) request.

With regards to certification and recognition of studies, the report makes two main recommendations:

- That all qualifications are described in terms of competences so as to facilitate the mutual recognition of credits.
- That procedures follow as far as possible those already developed for exchanges,most notably ERASMUS, so as to streamline red-tape by not creating new recognition procedures where they may be unnecessary.

Finally, the report makes recommendations as to how university networks could help sustain collaboration. Amongst their suggestions, they see possibilities for collaboration in:

- Mutual recognition of qualifications.
- Structuring the consultation between institutions.
- Monitoring the collaboration and quality assurance.

3
SCENARIOS FOR CREDITING OPEN LEARNING

Author: Jeff Haywood

During our exploration of how learning based upon open learning materials might be implemented by traditional universities, we recognised that we were dealing with unbundling of the academic processes that normally take place inside a single institution. Course design, delivery, assessment and award of credit must be viewed as separable and so we realised that permutations were possible depending upon where each of those elements took place.

The complexity was increased threefold when we considered that learners might be either existing students of an university, or intending students of that university or might be individuals with no connection with that university before or after credit was awarded. These permutations can be visualised as 'scenarios' (Fig 10).

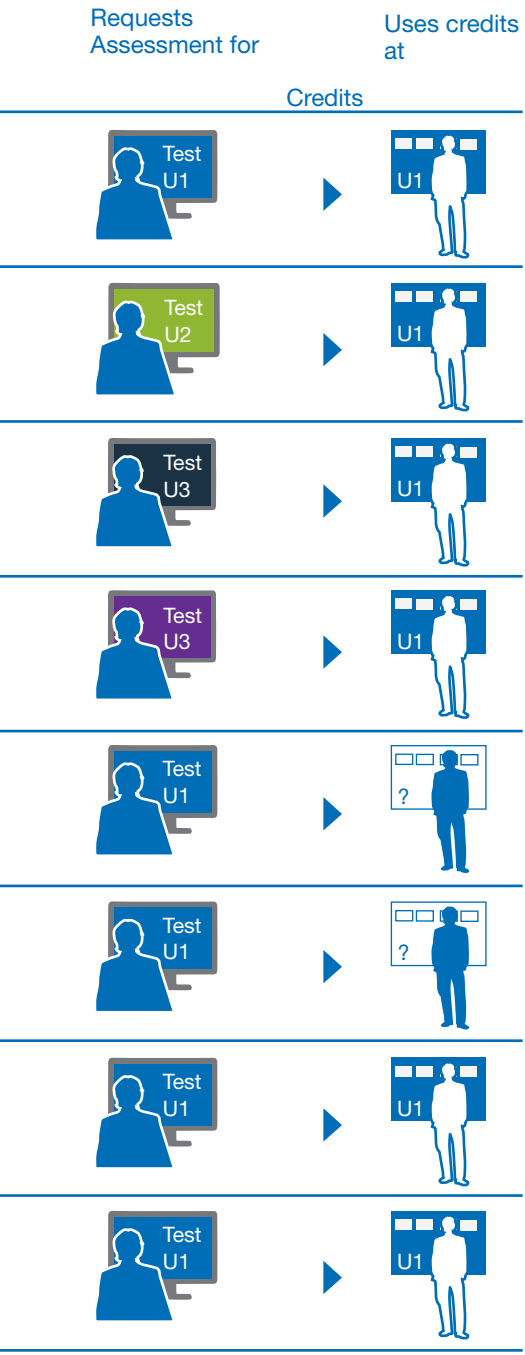
In each scenario, the location of each of the four elements of the educational process (design to award), and the status of the learner, differ. Through expert discussions in a workshop, plus subsequent refinement by the project team, eight different scenarios were identified to recognize OER module-based learning by a hypothetical Higher Education Institution.

The necessary conditions for all the scenarios to be viable are that the self-study materials are placed online for general access, and that those materials are sufficient in scope and quality of content, and required associated activities, to enable a learner to acquire the competences defined in the expected learning outcomes, and that a university is able to use them to guide the assessment of those learner competences. Effectively, the learning materials must be self-contained curricula. This is explained more fully in the next chapter

These scenarios were designed to help universities analyse the opportunities and the barriers to their recognition and accreditation of OER module-based learning. In an attempt to make the scenarios more intelligible to traditional universities, they have been named using parallels in the traditional academic 'business'. Universities might well regard the implications for their calculations of cost of assessment and price for credits differently depending upon the conditions in which they are being asked to apply them. For example, if the learner is already a student at the university to which s/he applies for OER module- based learning credit, that might be viewed very differently to the case of an individual with no formal status in the university.

The scenarios are not completely comprehensive but were regarded as covering all the likely situations that a university contemplating accrediting learning from OER modules might encounter, and those that it might consider when deciding its stance towards as part of its decision-making process. They are created from the viewpoint of University 1 (U1) which is being asked by learners to participate in the accreditation or recognition of the OER module-based learning. Please see the visualisation below (Fig 10) where the scenarios are presented.

OER SCENARIOS	Learner is at	Studies OER module at
OER traditional (independent self-study)		
OER Erasmus		
OER Summer School		
OER Anywhere		
OER Credit Market		
OER RPL Takeaway		
OER RPL For Entry I		
OER RPL For Entry II		



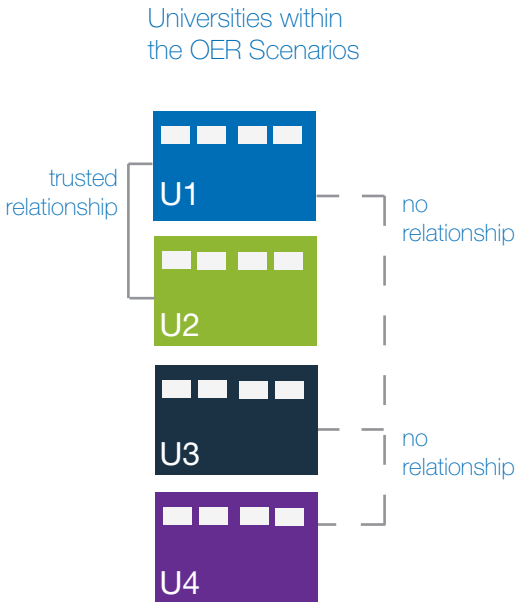


Figure 10 Scenarios showing eight different routes through which a learner may acquire and use university credits.

In Fig 10 above, the elements are:

- U1 is the university considering formally recognising OER module-based learning, i.e. the one to which the learner goes to request credits or to use credits from elsewhere.
- U2 is a university with which U1 has worked on an agreement regarding OER module materials and assessment, and that is "trusted" by U1 to be of sufficient quality for its educational outcomes to be accepted by U1.
- U3 & U4 are universities with no links to U1 and the educational outcomes of which are unknown/not yet evaluated.
- ? is a location or organisation which not a university or university-equivalent accredited provider. It may be the current or future employer of a learner, or the provider of online learning materials. For example a museum might provide open and OERtest-compliant online curricula. It could be an individual, although it appears unlikely that many OERtest-compliant open curricula would come from such a source.

The eight scenarios enable any university to understand the range of options that it faces when considering opening up its course and accreditation processes to open learning of this type, and enable it to make decisions as to which routes it is prepared to work with and which are not acceptable to it. It can also decide whether some are not possible due to legislation or other regulations and which routes are feasible.

We will now describe each of the scenarios and share our considerations regarding their potential for being put into practice by traditional universities.

3.1 OER TRADITIONAL

This scenario may be the least challenging for a university. If it places self-study materials online for general access, and those materials are sufficient in scope and quality of content and required associated activities to enable a learner to acquire the competences defined in expected learning outcomes, and if the university is able to assess the competences, then credit may be easily awarded.

Independent self-study courses are becoming more common as a way to create flexibility in degree programmes, as a minor part of the whole programme. However, there is no widening of access to HE. There is an increased flexibility in current provision, and perhaps the confidence of the university in this approach can be achieved through this careful exploration.

In OER Tradition, the normal university QA processes can be applied to both the curriculum (the materials and educational design) and the assessment. This is due to the fact that the curriculum is designed by academic staff of the university accrediting the student's learning. Although the learning process is independent of teaching staff, assessment is done by them, according to their definition of the expected learning outcomes set at the time the OER/OCW module was released in public.

3.2 OER ERASMUS

The Erasmus student exchange programme is predicated upon trust relationships between European universities, supported significantly by the Bologna Process and the ECTS credit system. It means that if a university is able to understand the education that a student has experienced at

another university so as to evaluate the 'fit' with the curriculum of the student's degree programme and is prepared to recognise the partner university's assessment as valid, credit for study away from the campus is approved. Some of the Erasmus agreements are quite broad-ranging for many students, and some are individualised on an ad hoc basis. Many exchange programmes exist outside the Erasmus framework, for example with North American universities.

In OER module-based learning, a similar situation to physical Erasmus exchange arises and the 'home' university must be assured of the quality of the OER Module-based education that the student will receive. Therefore, also for this scenarios normal QA process that approves Erasmus exchange agreements could be applied by any participating university, because curriculum (OER/OCW module) is provided by a 'trusted university'. In fact, quality assurance may be easier for OER module-based study than for traditional study, as all the curriculum will be online and open to scrutiny. The assessments will be 'known' and the standard to which they are marked can be quality assured. To a large degree the trust relationship between peer universities makes such detailed checking unnecessary, although it may take place during the establishment of the agreement.

This scenario does provide for wider access to higher education in the same sense as physical Erasmus, although learners must already be students at a university. As with OER Traditional, this may be a mechanism for building confidence in accrediting module -based learning.

3.3 OER SUMMER SCHOOL

The OER Summer School scenario takes a step on from OER Erasmus, because in this case although the learner is a current student at U1, s/he has decided to study and gain ECTS credits from a university with no relationship with her/his current university U1. Although students may well do this sort of independent study to enhance their CVs or gain what they see as useful skills and knowledge, normally this type of study would not be credited towards the degree for which they are studying. If such a situation arose, and credit was requested, a post hoc evaluation would be needed to determine whether the work was suitable and appropriate for inclusion in the degree programme and the standard was acceptable. Ideally, the learner would agree such a process in advance. The mechanism to approve or refuse credits might be very similar to that used to Recognise Prior Learning.

As before, there is a gain in curricular flexibility for students at University U1 but no widening of access to HE in general. However, as more high quality OER Module becomes available, students may increasingly wish to be able to search out suitable opportunities and expect their own universities to respect their needs. This viewpoint may well increase as direct fees for universities are introduced across Europe and their levels rise.

3.4 OER ANYWHERE

The OER Anywhere scenario is a variant of OER Summer School, except that the evaluation of the learning that has taken place is more challenging for U1 because the learning and the assessment have taken place at different universities, neither of which has a trust relationship with U1. Therefore,

the U1 needs to assess the quality of both components to reach a decision on whether or not to recognise the credits gained. For this scenario either the traditional QA or RPL QA processes could be applied. Choice would depend upon to the degree of curricular flexibility for the degree in question.

3.5 OER CREDIT MARKET

U1 assesses learner using the methods it has decided are appropriate for its own OER module and offers ECTS credits to be taken away and used as learner wishes/ is able. The parallel in traditional university education would be Continuing Professional Development / Education (CPD/CPD) where individual modules are studied without enrolment on a degree programme.

This scenario poses the biggest challenge to the university traditional QA processes, because the learner is neither a student of the university nor wishing to become one, but is solely interested in gaining academic credits. Setting aside the question of whether a university would wish to carry out this role, the challenges to the traditional QA processes are substantial. The award of credits to an individual assumes rigor in their identity, in the authenticity of their work and their participation in essential course components that may not be assessed formally but do contribute to achievement of learning outcomes. For students taking a whole degree, acceptance of some elements where this is less rigorously monitored is reasonable as long as the extent of these is limited. The quality of a year-long or multi-yearlong programme ensures that there is confidence in the overall quality of graduates and hence the university's reputation (and indeed licence to award degrees) is not compromised. Traditional university QA processes are generally not designed to accommodate models where staff of the university are not closely involved in the process, and so in these scenarios, universities may wish to revert to an RPL mode to evaluate the learning themselves to be assured that the rigour and quality are correct. (This is reminiscent of franchising of awards by some universities, whereby they set the curriculum but the teaching and assessment are carried out by staff at another university at which the learners are current students. This QA role by the franchising university requires a different QA model to the traditional 'in-house QA' model and has run into difficulties on many occasions.)

One model of operation in the OER Credit Market models is for an institution specify the attributes of 'acceptable' curricula with which it is prepared to engage, thus removing a substantial element of diversity from the experiences learners might offer. In the extreme it might specific exactly which curricula ('only OCW in Subject Y from University of X') it will consider. Alternatively it could define programmes of rigorous assessments in various subjects at one or more levels, and leave it to learners to gain the competences as they so fit (SATS or driving test model). By definition, these will tend to be examination oriented approaches and hence will eliminate a wide range of subjects and levels that cannot be effectively assessed in this way. The quality assurance task then resolves to ensuring rigour in the identification of learners ('who they really are') and in assessments and quality control of marking ('what they really know').

3.6 OER RPL TAKEAWAY

Universities have used Recognition of Prior Learning (RPL) to varying extents to enable entry to degree programmes of students whose background does contain suitable academic study for automatic entry. Although less common, there could also be cases where learners wish to get recognition of prior learning for purposes other than to enter study programme. For former it is most common where employment experiences are being offered, especially to a professionally relevant degree programme such as Nursing or Law. Thus, the same mechanisms in terms of assessment of the competences of the intending student and the quality assurance processes that ensure its rigour could be applied. Where a fee is charged, this too might be applicable, with appropriate adjustment for the difficulty of the assessment. The openness to scrutiny of OER Module curricula may make the recognition easier. Normally, credit is only given for a moderate proportion of the curriculum if recognition is given at all. The incentive for University 1 is that it gains a student, and access to HE is widened to those from a non-traditional background. The intending student will still have to participate in normal university studies, with the costs and benefits that this entails.

In OER RPL the problem of assessing the knowledge and skills of the learner presenting for evaluation is little different to that which has to take place if their learning has been based at work, at home or in other non-educational settings. A mapping has to be made of their competences (level, extent, domain of study) onto the curriculum they wish to enter, with credit awarded and attendance at specific courses recognised. As already mentioned, in some respects, well-structured OER/OCW module materials make this evaluation simpler than it would be for many work-based or non-formal learning experiences. It is clear that there is more variation between partner universities in their RPL practices, and the degree to which they employ it as a route to entry to their degree programmes. In general, RPL lies in a different 'area' of QA to the normal academic curriculum and progression, and has a significant 'ad hoc' element which is not surprising given the diversity of learning situations that RPL brings forward. In this respect, the inherent flexibility of 'traditional RPL' should signal the potential for adoption in the OER/OCW module domain, should a university wish to follow this route.

3.7 RPL FOR ENTRY I & II

To enable learners who have studied using open learning materials to enter a university, some form of recognition of prior learning will normally be required. If the open learning materials are OERtest-compliant, and the learner is able to bring a Learning Passport that sets out the learning outcomes achieved from an openly-available curriculum and assessments that are explicit (as described in the next chapter), the burden of RPL will be much reduced. The condition under which the open learning materials are offered by the university also being asked for entry (i.e. U1 in our RPL II scenario) this is even simpler, as U1 knows that its open curriculum is at the appropriate standard and level, and the ECTS credit-equivalence is clear. In RPL for Entry I, this is not the case, and so some form of additional assessment or evaluation may well be required.

4
PORTABILITY AND TRANSPARENCY: THE OERTEST GUIDELINES

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When developing a framework that would facilitate the assessment and recognition of learning using Open Educational Resources (OER) in a systemised and quality-controlled manner, the concepts of transparency and portability are crucial. Factors that hamper assessment and recognition of such learning are strongly connected with the lack of transparency in regards to gained knowledge, competences, skills, attitudes, activities that learners undergo, as well as in regards to the quality assurance of OER module design, provision, etc. In other words, only when these elements and processes are transparent, they could become a matter for assessment and portability decisions.

This chapter intensively deals with these issues, based on the discussion papers in the previous chapter. It starts by formulating the guideline's goal and setting the scene by examining portability and transparency concepts. Afterwards it demonstrates the structure and the main outline of the Learning Passport and continues to the largest extent with the guidance to fulfil it.

4.1 AIMS OF THE GUIDELINES

These guidelines are intended mainly for use in Higher Education Institutions (HEIs), in specific learning, assessment and recognition contexts. Guidelines are not meant for use in the design of assessment methods or tools for OER module-based learning, since in our studies we could not find any differences between OER Module and closed-licence distance learning which would be relevant to assessment design. Also, it should be noted at the outset that the guidelines being proposed do not necessarily apply exclusively to modules offered through OER. A core design requirement from the team was to base the guidelines as closely as possible on existing procedures and techniques already in place within Higher Education, applied to the specific use-case of OER-module recognition. Thus, where a course-module is issued under a closed licence, but meets all the other criteria we set for a module, it is likely that the these guidelines could also be used, since the licence does not change the nature of the learning offered by the module, only the availability of it.

Developed guidelines are primarily intended to be used by staff within HEIs. They were designed with the goal of becoming a useful tool for managing the entire process of design, implementation, teaching, assessment and recognition of OER-based learning modules when applied in a system-wide fashion. The main objective of these guidelines is to provide transparency to the learning process facilitated by the OER-module. As such, the primary users of the guidelines will be any department of an HEI which would benefit such transparency. Taken within the context of the scenarios above, these would include international offices (responsible for credit recognition) at institutions receiving OER-credits, quality assurance departments, admissions departments and academic staff

with students having partly studies using this model.

In defining the elements of the learning process which need to be exposed and described in order to be transparent, the guidelines should also assist any staff within institutions that have an interest in improving the utility of OERs produced. Thus, the document also provides guidance to OER course managers and designers, teachers and administrative staff.

The main beneficiary of these activities is however intended to be the lifelong learner. The learning scenarios envisaged above, if adopted in the mainstream, might increasing the flexibility of learning pathways and the learning options available to people in all contexts. As such, it would be a major driver of lifelong learning, especially amongst non-traditional groups of students. By designing the guidelines with an unbundled educational model in mind, we also hope to facilitate new economic opportunities which may arise thanks to these provision modes, such as the offer of specialist assessment services by institutions.

4.2 A PROCESS-MODEL APPROACH TO PORTABILITY

Portability may be defined loosely as the ability of a student to take a qualification (recognizing either a credit or an entire course), and have it recognized for the purposes of continuing education at any other Higher Education Institution. An institution trying to recognize a qualification will seek to verify:

- What learning outcomes are being certified by the qualification in question?
- What level of achievement is being certified by the same qualification?
- Can (and how) can the qualification be compared to a familiar offering?
- Can the qualification be trusted? (Does it reach the quality standards of the accepting institution?)

Within Europe, the procedures for managing such recognition processes are regulated by the Lisbon Recognition Convention, which has been signed by 50 countries, including several outside Europe. The broad principles for recognition under the convention are (Council of Europe and UNESCO, 1997):

- Holders of qualifications issued in one country shall have adequate access to an assessment of these qualifications in another country.
- No discrimination shall be made in this respect on any ground such as the applicant's gender, race, colour, disability, language, religion, political opinion, national, ethnic or social origin.
- The responsibility to demonstrate that an application does not fulfil the relevant requirements lies with the body undertaking the assessment.
- Each country shall recognise qualifications – whether for access to higher education, for periods of study or for higher education degrees – as similar to the corresponding qualifications in its own system unless it can show that there are substantial differences between its own qualifications and the qualifications for which recognition is sought.
- Recognition of a higher education qualification issued in another country shall have one or more of the following consequences:

- access to further higher education studies, including relevant examinations and preparations for the next cycle of higher education, on the same conditions as candidates from the country in which recognition is sought;

- The use of an academic title, subject to the laws and regulations of the country in which recognition is sought;

- In addition, recognition may facilitate access to the labour market.

Where these guidelines are followed, in principle there should be no barrier in recognizing an OER module within already existing regulatory frameworks. However, recognition offered for some of the highly-unbundled, novel provision methods envisaged by the scenarios presented in the previous section, might be hindered due to the lack of familiarity of the institutions with any of the concepts involved. Thus, so as to guarantee the quality of the assessment this document proposes the creation of a learning-passport: a credit-level diploma supplement which would give full transparency to award the qualification. The learning passport is structured around a process-model of course design, provision and assessment, which when fully completed, gives a comprehensive picture of the holder's learning pathway. The OERtest process model consists of 4 stages, each containing a number of processes, as shows the following picture:

DESIGN

Specification - this process deals with the definition of the learning outcomes which should be used in the learning process
Outline - broadly speaking, this involves the detailed definition of the curriculum
Position - positioning the course means analyzing the degree of openness, the level of OER reuse and the nature of the learning involved in the course

LEARNING

Guiding - this involves the forms of learning support a student will receive - whether through materials, from community support, or from other sources
Document - this is the student's creation of a learning portfolio, documenting their acquisition of learning outcomes throughout the process

ASSESSMENT

Verification - this is more of an administrative process, whereby the student's documentation of their learning process is checked against requirements, to ensure that the student has completed all necessary activities to be eligible for further assessment
Testing - this involves checking whether the student has achieved the competences required by the course in question.

AWARDING

Certification - this involves the issuing of a grade
Recognition - this is the recognition of the learning outcome by the other institutions.

Figure 11: Process Model for Portability of Learning Based on OER

4.3 LEARNING PASSPORT

The learning passport combines information which the different actors in an unbundled learning system are requested to provide in order to put open learning recognition into practice:

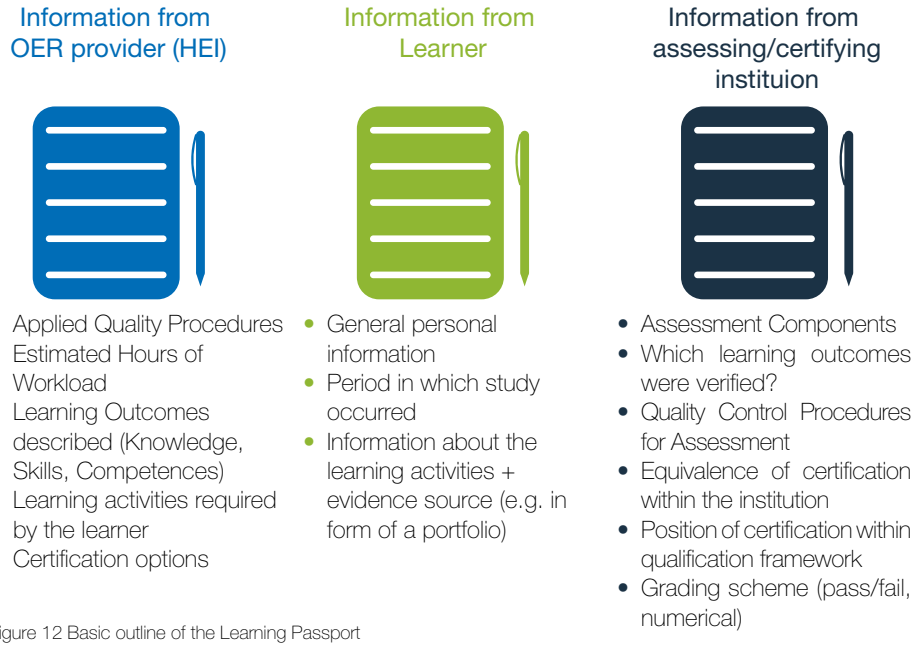


Figure 12 Basic outline of the Learning Passport

Otherwise, the full model of Learning Passport is presented in Chapter 7.

As illustrated above, the passport consists of the three sections. The first section is designed to gather information about the learning module and about the institution that provides it. More concretely, the document aims to collect specific information about the institution, detailed information about the content of the module taking into account learning outcomes and activities undergone by the learner and the nature of the resource module. In that respect, this part of the Passport is supposed to be fulfilled by respective institution.

The second section regards primarily activities that learner was engaged in. By the same token, this section is expected to be filled out by the respective learner. In the last section, the Learning Passport gathers information about the institution that has assessed Learning from OER modules and awarded certification. Therefore, institution assessing learning and certifying is meant to contribute with data to this section.

Different learning scenarios require different use of Learning Passport

Although the Learning Passport proposes one model, its use will slightly vary according to the learning scenarios presented in chapter 3. For example, in case of OER Summer School scenario, a learner is usually studying at University 1 and has been learning at the University 3 that has no cooperation

established with University 1. If the learner would not have an intention to use recognised ECTS as part of the study programme at the University 1, both sections (1 and 3) of the Passport would be fulfilled by the University 3.

Nevertheless, if the learner would wish that learning at the University 3 would be recognized at University 1, where he/she is based, then the learner would most probably have to provide information from section 1 of the Passport in advance, fulfilled by University 3. University 1 would then assess it and inform student whether acquired ECTS could be used in the programme leading to the degree at the University 1.

For instance, the latter case is to a certain level similar to the OER RPL for Entry I, where the learner wishes to enter U1 by getting recognised knowledge, competences, skills obtained while working at a certain workplace. As this form of learning would mainly be non-formal and in-formal, section 1 of the Learning Passport would not be fulfilled. However, in this situation learner would fulfil section 2 and provide as much evidence as possible alongside. University 1 would then assess this and decide about certification of ECTS and entry possibilities.

This several examples show that Learning Passport could meet great variety of needs in regards to unbundled learning scenarios. The following sections provide guidance through the different steps of process model, where each element of the learning passport is based upon existing theory in the field.

4.4 NINE STEPS TOWARDS THE LEARNING PASSPORT

This section outlines a set of processes an institution ought to have in place, so as to be able to accommodate open learning recognition, stretching leading from specification of learning outcomes to recognition of credit. The processes outlined are not intended to be prescriptive, but serve as guidelines – highlighting best practice for each of the processes – so as to facilitate an institution's work with Open Learning Recognition, and, critically, to allow it as far as possible to use already existing processes as part of its' adoption.

Depending on which of the scenarios presented in Chapter 3 is in play, the various processes making up the entire framework may be fully centralized and managed by a single institution, (such as in the OER Traditional scenario) or distributed amongst a number of institutions which may or may not have a networked relationship (such as in the OER Anywhere scenario).

4.4.1 FOR PROVIDERS OF OER MODULES – GUIDELINES FOR OPEN LEARNING PROVISION: EXTENDING THE DESIGN STAGE

STEP 1: SPECIFICATION

The specification required here is that of the learning outcomes of the module in question. Here, we suggested the incorporation of two approaches. The first is that of writing SMART learning outcomes, i.e. learning outcomes which are:

- Specific
- Measurable
- Attainable
- Realistic

- Time-Bound

In relation to this, we suggest the use of Bloom's (revised) taxonomy in the description of learning outcomes. Bloom (1956) described domains of knowledge, namely the:

- Cognitive domain (today referred to as knowledge objectives)
- Psychomotor domain (today referred to as skills objectives)
- Affective domain (today referred to as attitudinal objectives).

In Bloom's Taxonomy, each of these contains several elements, which in turn can be described using a set of verbs, which are the verbs which ought to be used in the definition of learning outcomes.

Cognitive domain - Knowledge

Element	Description	Verbs
Remembering	Objectives written on the remembering level (the lowest cognitive level) requires the student torecall or recognize specific information	Define, fill in the blank, identify, label, list,
Understanding	Objectives written on the understanding level, although a higher level of mental ability than remembering, requires the lowest level of understanding from the student	Locate, match, memorize, name, recall, spell, state, tell, underline, state
Applying	Objectives written on the applying level require the learner to implement (use) the information.	Convert, describe, explain, interpret, paraphrase, put in order, restate, retell in your words, rewrite, summarize, trace, translate
Analysing	Objectives written on the analysing level require the learner to break the information into component parts and describe the relationship	Apply, compute, conclude, construct, demonstrate, determine, draw, find out, give an example, illustrate, make, operate, show, solve, state a rule or principle, use
Evaluating	Objectives written on the evaluating level require the student to make a judgment about materials or methods	Analyse, categorise, classify, compare, contrast, debate, deduct, determine the factors, diagnose, diagram, differentiate, dissect, distinguish, examine, infer, specify
Creating	Objectives written on the creating level require the student to generate new ideas, products and ways of viewing things	Appraise, choose, compare, conclude, decide, define, evaluate, give your opinion, judge, justify, prioritise, rank, rate, select, support, value Change, combine, compose, construct, create, design, find an unusual way, formulate generate, invent, originate, plan, predict, pretend, produce, rearrange, reconstruct, reorganize, revise, suggest, suppose, visualize, write

Figure 13 Cognitive domain

Psychomotor Domain – Skills (Dave, 1967)

Element	Description	Verbs
Imitation	Objectives written on the imitation level require the student to copy an action of another by watching and repeating the action, process or activity.	Copy, follow, replicate, repeat, adhere, observe, identify, mimic, try, re-enact, and imitate
Manipulation	Objectives written on the manipulation level require the student to carry out a task from written or verbal instruction.	Re-create, build, perform, execute, implement
Precision	Objectives written on the precision level require the student to perform a task or activity with expertise ant to high quality, without assistance or instruction, and furthermore tobe able to demonstrate an activity to other learners	Demonstrate, complete, show, perfect, calibrate, control, practice
Articulation	Objectives written at the articulation level require the student to relate and combine associated activities so as to develop methods to meet varying, novel requirements (non-standard objectives)	Construct, solve, combine, coordinate, integrate, adapt, develop, formulate, modify, master, improve, teach
Naturalisation	Objectives written at the naturalization level, require the student to be able to the define the aim, approach and strategy for the use of activities to meet strategic needs	Design, specify, manage, invent, project-manage
Creating	Objectives written on the creating level require the student to generate new ideas, products and ways of viewing things	Appraise, choose, compare, conclude, decide, define, evaluate, give your opinion, judge, justify, prioritise, rank, rate, select, support, value Change, combine, compose, construct, create, design, find an unusual way, formulate generate, invent, originate, plan, predict, pretend, produce, rearrange, reconstruct, reorganize, revise, suggest, suppose, visualize, write

Figure 14 Psychomotor Domain

Affective Domain – Attitudes (Kratwohl,Bloom & Maisa, 1964)

Element	Description	Verbs
Receiving	Receiving refers to the student's willingness to attend to particular phenomena of stimuli (classroom activities, textbook, music, etc.	asks, chooses, describes, follows, gives, holds, identifies, locates, names, points to, selects, sits erect, replies, uses
Respond-ing	Responding refers to active participation on the part of the student. At this level he or she not only attends to a particular phenomenon but also reacts to it in some way	answers, assists, complies, conforms, discusses, greets, helps, labels, performs, practices, presents, reads, recites, reports, selects, tells, writes
Valuing	Valuing is concerned with the worth or value a student attaches to a particular object, phenomenon, or behaviour. This ranges in degree from the simpler acceptance of a value (desires to completes, describes, differentiates, explains, follows, forms, initiates, invites, joins, justifies, proposes, reads, reports, selects, shares, studies, worksimprove group skills) to the more complex level of commitment (assumes responsibility for the effective functioning of the group). Valuing is based on the internalization of a set of specified values, but clues to these values are expressed in the student's overt behaviour	completes, describes, differentiates, explains, follows, forms, initiates, invites, joins, justifies, proposes, reads, reports, selects, shares, studies, works
Organisa-tion	Organization is concerned with bringing together different values, resolving conflicts between them, and beginning the building of an internally consistent value system. Thus the emphasis is on comparing, relating, and synthesizing values. Learning outcomes may be concerned with the conceptualization of a value (recognizes the responsibility of each individual for improving human relations) or with the organization of a value system (develops a vocational plan that satisfies his or her need for both economic security and social service)	adheres, alters, arranges, combines, compares, completes, defends, explains, generalizes, identifies, integrates, modifies, orders, organizes, prepares, relates, synthesize
Character-isation by a value or value set	The individual has a value system that has controlled his or her behaviour for a sufficiently long time for him or her to develop a characteristic "life-style." Thus the behaviour is pervasive, consistent, and predictable	acts, discriminates, displays, influences, listens, modifies, performs, practices, proposes, qualifies, questions, revises, serves, solves, uses, verifies

Figure 15 Affective Domain

STEP 2: OUTLINING

Outlining involves defining the activities by which the learning outcomes can be achieved, which in turn make up the course curriculum. Each activity needs to be defined in terms of the:

- Type of activity
- Required activity on behalf of the user
- Learning Resources required

This can include any number of activities from diverse pedagogical approaches such as attending lectures, participating in workshops, studying, memorizing, researching, gaining work experience, and any number of other verbs. It is outside the scope of this framework to give a universal overview of pedagogical approaches. This said, one should note that in an online-setting where user-generated content is facilitated through open licensing, an entirely new spectrum of verbs is opened up. An example of this is given below (Educational Origami).

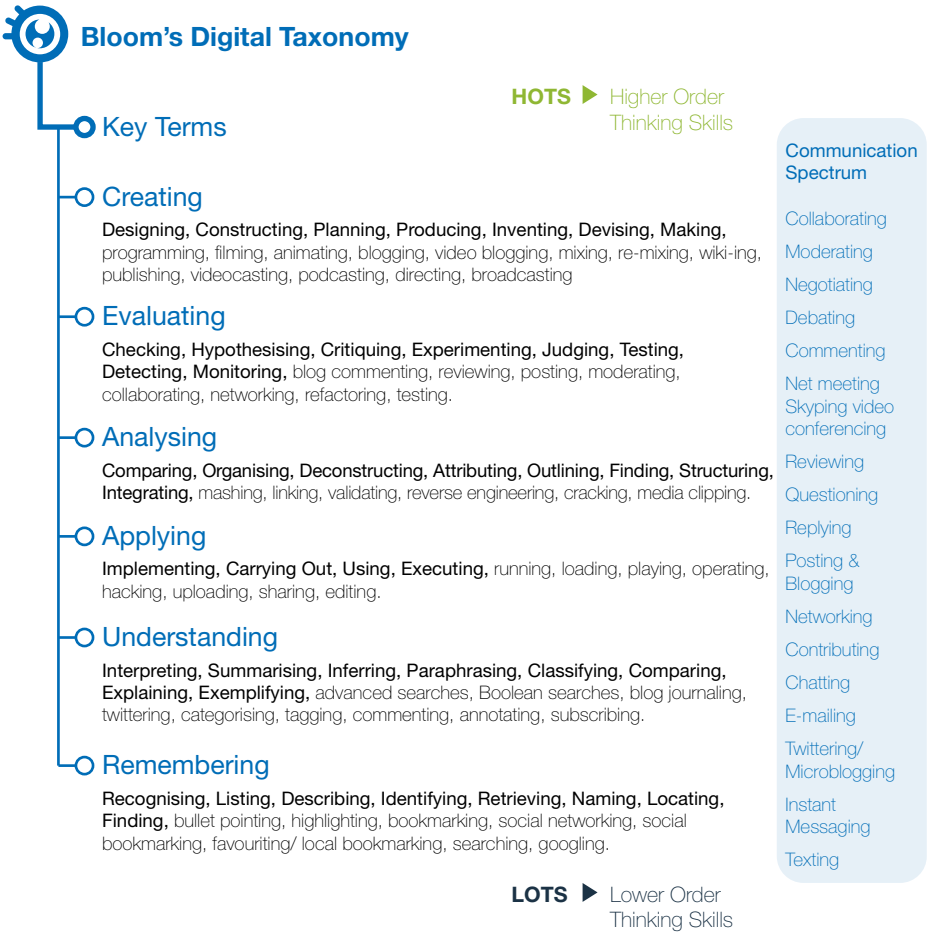


Figure 16 Bloom's Digital Taxonomy

In designing a set of learning activities, we also suggest following the guidelines laid out by Mateo & Sangrà (2007), and quoted in Chapter 2 which are based on the premise that learning is more efficient and effective when it is centred in activities, as well as the fact that they should encourage users to learning:

- Learning activities should be authentic raising real-world issues and presenting significant situations (Herrington, Oliver & Reeves, 2003).
- Learning activities should introduce real challenges for the student's development of thinking and acting.
- Learning activities should contemplate that knowledge is usually a product of social negotiation (Vigotsky, 1978). Collaboration and peer assistance should be encouraged. Special attention should be also given to the learning contexts in which learning occurs.
- Learning activities can be approached to assessment activities, understood as "sets of methods that require the students to generate an answer or product that demonstrates their level of control over a knowledge, ability or skill, should be introduced". Thus, the assessment becomes embedded in the pedagogical process.

STEP 3: POSITION

The Open Educational Quality Initiative developed the concept of open educational practice, which consists of two elements, namely:

- The pedagogical openness of the offering
- The individual freedom of the user to practice open education

Pedagogical elements can be classified as:

- "Low" if objectives as well as methods of learning and/ or teaching are rooted in "closed" one way, trans- missive and reproductive approaches to teaching and learning. In these contexts, teachers know what learners have to learn and transfer mainly knowledge.
- "Medium" represents a stage in which objectives are still pre-determined and given, but methods of teaching and learning are representing more open pedagogical models which encourage dialogue oriented forms of learning or problem based learning focusing on dealing with developing "Know how".
- "High" degrees of freedom and openness in pedagogical models are represented if objectives of learning such as question or problems around which learning is ensuing are determined by learners, and teachers facilitate through open and experience oriented methods which accommodate different learning pathways.
- Individual freedom of the learner is classified using the same terms, namely:
- -"Low" – meaning that within a given learning/ teaching context no open educational practices are encouraged
- "Medium" – meaning that within a given learning/ teaching context islands of open educational practices exist but are not a shared and common reality
- "High" – meaning that within a given learning/ teaching context open educational practices are embedded into the reality of all learning and teaching.

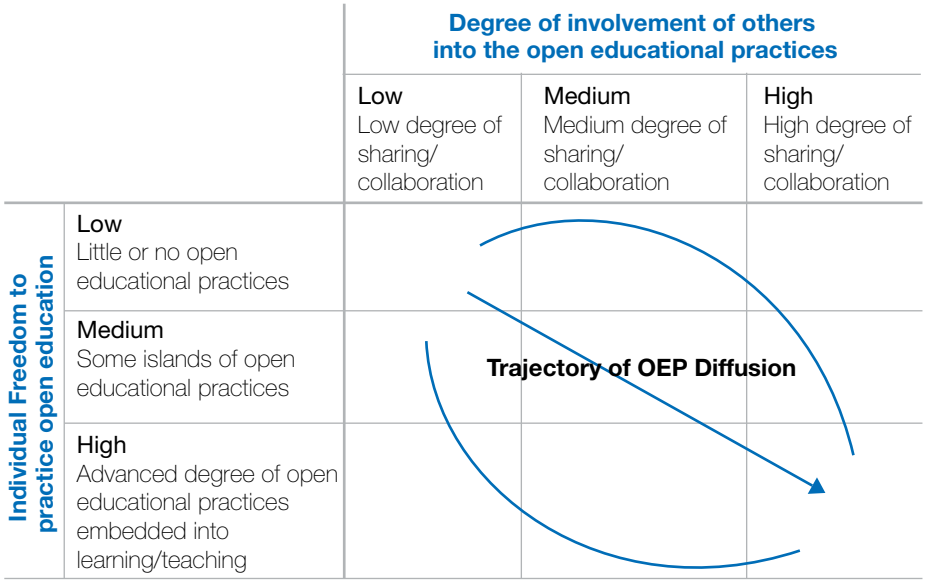


Figure 17 Nature of the resource module.

CONSIDERATIONS FOR MODULE DESIGN TAKING FORMATIVE ASSESSMENT INTO ACCOUNT

Organizational procedures applied to the "recognition of prior learning" (RPL) and "exam only students" served as reference frameworks to elaborate on formative and summative assessmentof module-based leaning. As Rimbau, Gilabert, Delgado & Rifa (2008) posit, it is crucial to ensure in RPL that the evidence provided by applicants as proof of the skills developed meet the basic requirements identified by Nyatanga and Forman (1998): they should be sufficient, authentic, current and valid in relation to the competencies that define the training modules to recognize. To these criteria is needed to add those noted by Zucker, Johnson and Flint (1999):

- Should only be granted when the applicant claims to have demonstrated the required skills, not being enough the recognition of the experience itself,
- The level of competence demonstrated must meet the one established for higher education, and
- Demonstrated competencies must maintain an appropriate balance between theory and practice, according to their relative weight defined in the training modules aimed at recognition.

4.4.2 LEARNING STAGE

STEP 4: GUIDING

The OER-Test scenarios, depending on the particular subject, involve a combination of self-directed learning, and independent learning within a directed learning process. In terms of Lonsdale's (2002) classification, they would

be quite similar to self-improvers. Lonsdale supposes that such learners often have an interest, and frequently wide knowledge of, their respective subject areas. Novice learners will likely require considerable direction and support, whereas with more experience they may become more independent. This said, they are liable to suffer from the loss of motivation and direction that can affect an independent learner (although in several of the OER-Test scenarios, the incorporation of the learning module within other learning processes would significantly decrease the occurrence and strength of this phenomenon.

Candy (2004) envisages several types of support which can be offered in an online, self-directed context. These include:

- Support provided by expert communities – such communities exist for most disciplines, and allow for experts and beginners to interact as peers. This peer sharing allows users participating to learn by making and developing connections (intentionally or not) between ideas, experiences, information, by interacting, sharing, understanding, accepting, commenting, creating and defending their own opinions, their view points, their current situations and their daily experiences. (SCIENTER IPTS study)

- Dedicated resource repositories – whether offered as part of the course materials, or found in curated databases, curated repositories provide guidance as to where to find high quality learning resources to support and guide the learning process. These can range from professionally maintained journal databases such as those curated by the US National Institutes of Health, or the ERIC database curated by the Department of Education, to databases generated by other students who went through the process before, or dedicated, skilled hobbyists.

- Programmed interactive support – these include 'help sections', 'more information' sections etc. within learning materials already provided, which have been designed with an eye to predicted barriers to learning, and pre-addressing them.

- Automated guidance – increasingly sophisticated algorithms and artificial intelligence mean that many forms of support have been automated. Thus, for example in the field of jurisprudence, where before experts would guide students to relevant and related cases to their studies, this is now a matter of a simple web-search, which is backed up by sophisticated algorithms which automate the calculation of the importance and relevance of a case. (This is often referred to as 'hard' scaffolding in literature.

- Tutoring – (or in some cases apprentice-type experiences) is still required by many learners. However, here we see the unbundling of the tutoring element from the course design and content-provision element, with the user becoming the primary determinant of where such expertise will be acquired (often referred to as 'soft' scaffolding in literature).

4.4.3 FOR LEARNERS – HOW TO DEMONSTRATE THE LEARNING ACHIEVED

STEP 5: DOCUMENTING

The documentation of the learning process has two main functions. The first is that of recording the learning experience, and the learning activities undergone, so that the verification of competence-acquisition implicit in performing those activities may take place.

Such documentation may take 1 of 3 forms:

- Simulation and evidences extracted from work: simulation means that competences are not tested in real life (because, for various reasons, they cannot be), but that an individual is placed in a situation that fulfils all the criteria of the real-life scenario in order to have their competencies assessed. Validation methods falling into the category "evidences extracted from work (or other) practices" have in common that a candidate collects physical or intellectual evidence of learning outcomes. This may relate to work situations, voluntary activities, family or other settings (Souto Otero, McCoshan, & Junge, 2005).

- Portfolio. Consists in compiling student works gathered throughout the learning process and that provide evidence regarding his knowledge, skills and competences. The collected evidence allows the teacher gain a better understanding of the student's work from a global perspective, including aspects of his personality (Mateo & Sangrà, 2007).

- Contrasted declarative methods: they are based on individuals' own identification and recording of their competences. Normally a third party counter-signs the declaration, which may take the form of a so-called "competence handbook", in order to verify the self-assessment. Declarative methods may involve a self-assessment against given criteria or none at all. This validation process is simple because it involves the use of only one instrument. It is a recording process because the purpose of validation is purely the identification of skills gained through non-formal and informal learning (Souto Otero, McCoshan, & Junge, 2005).

The second perspective of such documentation is one of self-assessment. Ash & Clayton (2009) give an overview of elements of self-assessment/ reflection from literature:

	High Quality Reflection…
Eyler, Giles & Schmiede (1996)	• is continuous (ongoing) • is connected (with assignments and activities related to and building on one another and including explicit integration with learning goals and academic material) • is challenging /including in terms of the expectation that students take responsibility for their own learning) • is contextualized (to the community setting and broader public issues and to the students' own particular roles)
Bringle & Hatcher	• links experience to learning • is guided • occurs regularly • involves feedback to the learner to enhance the learning • helps clarify values.
(1999) Zlotkowski & Clayton (2005)	• is oriented towards specific learning objectives • is integrative • is assessed in terms of critical thinking • includes goal setting • generates change in the learner's life

Figure 18 Elements of self-assessment. Ash & Clayton (2009)

4.4.4 FOR ASSESSING/ CERTIFYING INSTITUTIONS – HOW TO WORK WITH INFORMATION FROM OER MODULEPROVIDERS AND LEARNERS

ASSESSMENT STAGE

STEP 6: VERIFY

Verification of learning outcomes from formative assessment is essential as part of an integrative learning assessment. As Rimbau, Gilabert, Delgado & Rifà (2008) posit, it is crucial to ensure in RPL that the evidence provided by applicants as proof of the skills developed meet the basic requirements identified by Nyatanga and Forman (1998): they should be sufficient, authentic, current and valid in relation to the competencies that define the training modules to recognize. Within the OERtest context, this is relative simple, in that the learning activities which lead to the competence acquisition will always have been defined in all but one scenario.

To these criteria it is needed to add those noted by Zucker, Johnson and Flint (1999), ad described in Chapter 2:

- Recognition should only be granted when the applicant claims to have demonstrated the required skills, not being enough the recognition of the experience itself,
- The level of competence demonstrated must meet the one established for higher education, and
- Demonstrated competencies must maintain an appropriate balance between theory and practice, according to their relative weight defined in the training modules aimed at recognition.

IMPLICATIONS TO THE TO THE ASSESSMENT STRATEGY

There are design and organizational issues for assessment to take into account according to ownership of open courseware. A student asking for recognition of an open courseware module developed by the same university demands from the institution applying the same assessment requirements as applied to regular students. A different situation applies to a "module" developed by another university. In this situation, the assessment procedure and methods to be applied must be built on. Both situations have in common an approach that emphasizes summative assessment understood as "necessary and sufficient condition". In most of these cases an "exam" appears to be a suitable solution.

Modules subjected to formative and continuous assessment challenges the before described situations. In this case, the need for the student to collect and present a variety of evidence is almost imperative. From the institutional side, an assessment design should take into account the way this evidence is demanded, validated and integrated to the assessment strategy. Modules providing additional activities, exercises and self-assessment tests are better suit to these ends.

STEP 7: TEST

Testing can be defined as comprising any methodologies that identify and validate non-formal and informal learning through or with the help of examinations in the formal system.

Thus, an individual enters examinations of the formal education system and by passing them, his or her competencies gained through non-formal and informal learning are validated. This process also formalizes an individual's skills as the end-result is a formal and usually generally recognized diploma or certificate. (Souto Otero, McCoshan, & Junge, 2005). The OERtest scenarios envisage the unbundling of this process, from the processes of design and learning.

McLoughlin and Luca provide the following breakdown of types of objective assessment available online. They distinguish between assessment methods which:

Objective assessment	Authentic assessment	Indicators of authenticity	Web-based support
Require correct responses only	Require quality product and/or performance, and justification	Assess whether the student can explain, apply, self-adjust, or justify answers, not just the correctness of answers using facts and algorithms.	Allows students to articulate viewpoints in text-based conversation that can be archived as a learning resource.
Must be unknown in advance to ensure validity	Are known as much as possible in advance: involve excelling at predictable demanding and core tasks: are not gotcha! Experiences	The tasks, criteria and standards by which work will be judged are predictable or known like a project proposal for a client, etc.	Web-based teaching allows access to multiple sources of information about the task, while allowing learners to explore alternatives
Are disconnected from a realistic context and realistic constraints	Require real-world use of knowledge: the student must do history, science etc. in realistic simulations or actual use.	The task is a challenge and a set of constraints that are authentic likely to be encountered by the professional (know-.how, not plugging in, is required)	The task is a challenge and can extend the confines of the classroom to involve complex, ill-defined tasks and collaboration
Contain isolated items requiring use or recognition of known answers or skills	Are integrated challenges in which knowledge and judgment must be innovatively used to fashion a quality product or performance	The task is multifaceted and non-routine, even if there is a right answer. It thus requires problem clarification, trial and error, adjustments, adapting to the case or facts at hand, etc.	Web provides access to information, databases and course notes. Learners have control
Are simplified so as to be easy to score reliably	Involve complex and non-arbitrary tasks, criteria and standards	The task involves the important aspects of performance and/or core challenges of the field of study	Web-based learning provides multiple vehicles for showcasing student achievement, including portfolios and skills demonstrations
Are one shot	Are iterative: contain recurring essential tasks, and learning processes	The work is designed to reveal whether the student has achieved real versus surface mastery or understanding versus mere familiarity, over time.	Web-based teaching enables gathering of continuous process data on student achievement.

Figure 19 Types of objective assessment available online

These forms of assessment may include essays, monographs, tests, exercises, portfolios, assignments, drills and practice, products &artefacts, which may be applied either continuously or in the form of a final assessment.

Guitert (2011) suggests that continuous assessment:

- Ensures the active participation of students, allowing teachers to guide and direct their learning process. The teacher's feedback is constant throughout the course to encourage you to learn and improve on its course and not only in its closure (by exam).

- Provides a guideline of suggested activities and a specific work rate. It becomes therefore a key element in order to plan and record of the student.

From this point of view, continuous assessment becomes a tool to help students monitor their own progress and facilitate the pace of study without incurring lower quality and demand (Guitert, 2011).

AWARDING STAGE

STEP 8: CERTIFY

Certification recognizes acquired learning outcomes at a certain level. Thus, the main requirements of a high quality certification are that it is reliable and transparent. A number of tools have been developed within the EHEA to serve these two aims.

Reliability is guaranteed by a system of quality assurance, which is in the process of being implemented at course, institutional, and national levels in a harmonized fashion across Europe. During the past ten years, quality assurance in European HE has made great progress, driven largely by the requirements of the Bologna Process. As one of these consequences, European HE QA process is today based upon "European Standards and Guidelines for Quality Assurance (ESG)".

QA in HE is the legal responsibility of each state, and their processes vary substantially. From a relatively indirect approach, defining how universities accredit and quality assure degree programmes (e.g. UK), to one of direct involvement in the process. There are also variations in how different Bologna countries view non-traditional HE formats, such as distance or online education, in terms of comparability and acceptability. The key to all effective QA processes is transparency about how courses and programmes are accredited and quality assured, and whether the outcomes of QA audits are made public, etc.

For specific modules, the European Credit transfer & Accumulation Scheme (ECTS), serves as a universal translator of certifications across Europe. A key part of the Bologna process, used by universities and HE colleges across the 'Bologna countries'. In most of these countries participation is a legal requirement at universities. The main purpose of ECTS is to enable mobility of learners by ensuring that their studies can be recognised and accepted in universities and at workplace beyond their country of issue. It is now beginning to be recognised and used beyond Europe. The ECTS guide (European Commission, 2009) provides a detailed description as to the definition and use of ECTS. Of relevance to our usage scenario is that:

ECTS credits relate to study workload. A year of study in a first level degree is assigned 60 credits and equates to between 1500 and 1800 hours of study (both teaching and

independent study). Courses have credits assigned according to their study workload attribution needed to achieve the stated learning outcomes.

Of particular relevance to the OERtest scenarios, is the fact that ECTS allows for students which have learned in other educational settings (through formal, non-formal or informal learning, for example in employment), to be awarded credits, once assessment, validation or recognition of the learning outcomes is performed.

Section 4.2 of the guide states: "Learners are awarded ECTS credits only when appropriate assessment has shown that they have achieved the required learning outcomes for a component of a programme or for the qualification. Credits are awarded by authorised awarding institutions. If the required learning outcomes are achieved in non-formal or informal contexts, the same number of credits as foreseen in the formal programme is awarded following the appropriate assessment. To validate non-formal or informal learning, higher education institutions can put in place different forms of assessment than those used for learners enrolled in the formal programme (see section 4.5). In any case, the assessment methods should be publicly available."

STEP 9: RECOGNISE

The 1997 Lisbon Recognition convention was prepared jointly be the UNESCO and the Council of Europe, and as of January 2010 (Council of Europe, 2010), had been ratified by all EU member states except Greece and Italy. The convention obliges signatories to recognise qualifications – whether for access to higher education, for periods of study or for higher education degrees – as similar to the corresponding qualifications in their own systems unless they can show that there are substantial differences between their own qualifications and the qualifications for which recognition is sought.

In applying the principles of the Lisbon Recognition Convention and deciding whether there are "substantial differences" between whole qualifications or particular components, it has been found that learning outcomes have a key role to play, but only if the learning outcomes are "clear, brief and specific" and presented in a standard format that facilitates comparison (Competences in Education and Cross-Border Recognition Project, 2007).

ECTS can feed into recognition decisions, with the ECTS guide stating that recognition of credits obtained for work elsewhere needs to be flexible, and 'fair recognition' of learning outcomes should be applied rather than seeking a perfect match. Within the EU, many institutions allow for ECTS collected at another institution to be considered as part of a qualification being studied for in the home institution. This is most commonly applied as part of Erasmus mobility agreements.

The details of the study path to a qualification (courses taken, credits awarded, mode of study, etc.) are set out by the awarding institution in the Transcript of Records/ European Diploma Supplement. The diploma supplement is a qualification level transparency document, which is not designed to transfer of individual modules. For this reason, OERtest is proposing a 'learning passport' which allows for the recording of learning done at module level, and gives an appropriate level of transparency for credits delivered in an unbundled scenario to be transferred and recognised between institutions. This model is presented at the end of the publication.

5

IS CERTIFICATION OF OPEN LEARNING FEASIBLE? A STUDY IN FIVE DIFFERENT INSTITUTIONS

Final and above all pivotal stage of the project was to test how feasible the suggested approach - as presented in the previous chapter – is for universities with different profiles testing. It aimed to analyse the feasibility of OER module provision in Higher Education and to get a feedback from university management, administrative and academic staff about the adoption of learning from OER modules assessment and accreditation approach, as well as to elicit a procedure for implementing the approach, identifying enablers and barriers.

Starting from this goal, we had the following specific objectives:

a) To examine the feasibility of implementing the assessment framework of module-based (OER/OCW-like) learning provision within European Higher Education Institutions.

b) To determine the requirements and adaptation processes of HE institutions in order to be able to accredit the learning outcomes/competences through module provision.

c) To examine the economic feasibility of module-based learning provision.

d) To determine the appropriateness of module-based learning provision for universitiesin the frame of their missions and priorities.

e) To estimate the impact an elaborated approach as presented by the guidelines would have on higher education and lifelong learners

Responses collected and analysed within the feasibility testing provided inputs for improving the “Guidelines for OER Assessment”.

5.1 METHODOLOGY OF THE FEASIBILITY STUDY

Authors: Marcelo Maina and Maria Pérez-Mateo

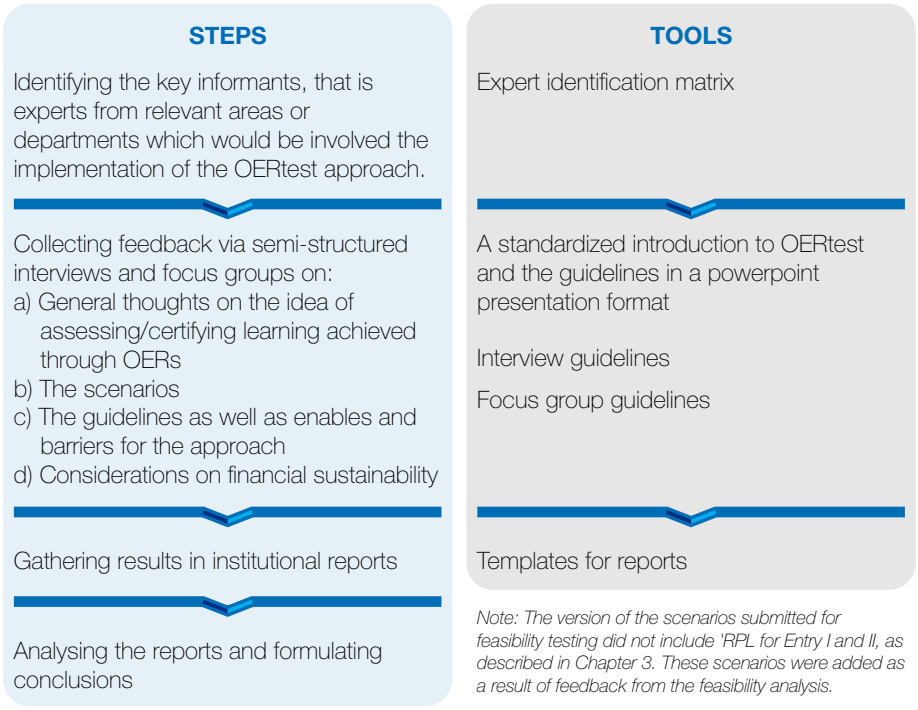
This whole chapter, that explores the feasibility of proposed framework for recognition of open learning, has been conducted based on the six scenarios of open learning, as that was the number of scenarios identified the feasibility study was carried out. However, one of the outcomes of feasibility testing was also further development of scenarios for crediting open learning. Therefore, the following chapter explores the feasibility of only six scenarios, while the publication in the chapter 3, devoted solely to possible open learning scenarios, illustrates the final eight scenarios.

Feasibility was investigated in five different HE institutions with different profiles: Universitat Oberta de Catalunya (UOC, Spain), The University of Granada (UGR, Spain), The University of Edinburgh (UniEd, UK), The University of Bologna(UniBo, Italy) and The United Nations University (UNU).

Taking into account that the OERtest Project explores an innovative field where little systematic research has been undertaken, we adopted a qualitative approach in order to exploredifferent informants’ perceptions on the potential of adoption of the presented approach.

Concretely, feasibility testing for module-based learning consisted of initial actions and 4 steps:

1. Exploration and definition ofmodule-based learning so as to deepen into experts' beliefs and perceptions about the core issues of the project.
2. Exploration of a sustainability model, taking into account the financial analysis.
3. Analysis of the feasibility of OER Module provision in HEIs.



Note: The version of the scenarios submitted for feasibility testing did not include 'RPL for Entry I and II, as described in Chapter 3. These scenarios were added as a result of feedback from the feasibility analysis.

Figure 20: Feasibility study methodology

The second step wasadapted to the practicalities within each institution, i.e. sometimes either focus groups or interviews alone were conducted to gather data.We also consideredethical issues for developing this research process.

The key informants within participating institutions were identified among senior members and decision makers working in different unitsthat are involved in the accreditation process. 54 people were identified, associated to 8 different areas or departments.

26 face-to-face interviews were conducted. The Open University of Catalonia, University of Bologna and University of Edinburgh conducted a focus group, each composed by six to ten key informants who discussed about the OERtest approach amongst each other.

5.2 GENERAL REFLECTIONS ON OPEN LEARNING RECOGNITION

Author: Anne-Christin Tannhäuser

This section summarizes first reactions of HE professionals to the idea of awarding credit for learning solely-based on Open Educational Resources in an unbundled (to different degrees) system of OER moduleproviders, which would asses and grant credit to learners.

Understanding beliefs and attitudes to the broad concept when confronted with new ideas – even before discussing details - constitute an important factor to understand whether a certain innovation has the potential to become adopted and mainstreamed. The value this short chapter hopes to create is filtering out central issues, raised by HEI staff before focusing on more specific features of the OERtestapproachthat might be also of value for potential promoters in the future.

5.2.1 THE VALUE OF THE APPROACH IS RECOGNIZED

Generally, interviewees mentioned a spectrum of positive aspects associated with the presented approach. All in all these were:

1 Reaching more non-traditional learners

Working towards assessment and certification of modulebased learning was viewed as an opportunity to reach working professionals, adult learners and other non-traditional learners

2 Increased visibility of the HEI

Some interviewees recognized the OERtest approach as a useful marketing tool, a way to promote high quality learning resources and to attract prospective students.

3 Perceived demand to explore an emerging area of HE innovation

Those already knowledgeable on large-scale well-funded OER/OCW initiatives of HEIs, mainly in the U.S., felt the necessity to explore this area in order to keep up with innovative developments.

4 Widening the provision and learning experience for registered students

Module-based learning recognition was described as a potential enrichment of students' learning processes. It was also seen as a facilitator in accessing high quality content and as part of the positive trend towards personalization and adaptation to the pace of student learning (just-in-time learning). Based on experiences within the Virtual Campus of Andalusia, some interviewees envisioned the approach as a very attractive offer to their own students and would expect a high student interest in acquiring recognition for learning with resources of other universities. However, this view was doubted by other respondents (see end of chapter).

5 Complementing traditional university funding

Some interview partners viewed assessment and certification services as a potential new income source. Other reactions indicated doubted its profitability or even the potential for cost-recovery of necessary investments (staff costs for material, procedures).

5.2.2 RECOGNITION OF OER-BASED CREDITS – LIMITATIONS TO FULL UNBUNDLING.

Presented with the OERtest approach, interviewees did not presentany conceptual hurdles if assessment and accreditation of learning from OER modules takes place within their own university. On the other hand, as with existing mobility programmes, interviewees stated that accepting OER Module-based credits acquired elsewhere does require a mapping agains ttheir own programmes. Two Spanish interview partners suggested awarding credits within free elective courses or granting extracurricular credits, which would allow for more flexibility in terms of students choice but consequently require learner assessment by another body (no equivalent programme, means generally no internal expertise to assess the learning outcomes).

5.2.3 POSITIONING LEARNING PROVISION BASED ON OER MODULES

It is vital to understand where module-based learning assessment and certification would be positioned within the "normal business" of Higher Education. Interviewees explicitly or implicitly considered the approach as an additional learning pathway.

Responses from the University of Edinburgh state the objective is to not disrupt the current learning offer by OER-based provision. Experts considered awarding less ECTS for module-based learning outcomes than for their traditional and online course provision. Several Spanish respondents assumed the feasibility of the approach, if module-based learning provision is placed within university-specific[8] degrees and hence would not need to comply with national rules for higher education provision.

Furthermore, several interview partners considered that module-based independent learning would need to be indicated as such in the certification provided to the student. Contrary to some reactions received during public and informal talks within the scientific community, this would not necessarily signify downgrading of the OER Module-based credits, but rather conform with the practice of indicating the mode of study as with the Diploma Supplement[9], for example.

Interview partners were well aware that OER Modules can and would need to become an institutional offer, as opposed to resources provided by individual scholars and HE lectures, which would also require registration procedures. The importance of quality assurance was highlighted by almost every participant in the study.

5.2.4 APPROACH TO OER QUALITY ASSURANCE – INTRA- OR INTER-INSTITUTIONALLY?

From previous workshops with OERtest universities it had become clear, that existing OER Modules have not been subject to such rigorous quality assurance as required for creating curricula and awarding credit for self-learners. Thus, the learning passport presented in the guidelines establishesthe following requirement: Participating institutions need to describe which internal quality assurance measures were applied to offer the OER Modules and/or to assess the learning from OER modules and consequently these

need to be specified and followed intra-institutionally – and therefore request to include OER Modules into existing quality procedures or adapt those for this specific cause. Based on the fact that all partner institutions already follow quality procedures for their distance/online learning provision, which are either the same as for face-to-face learning provision or more specific to online provision, the assumption of the guidelines is that the resulting transparency would create the necessary inter-institutional trust.

Respondents' answers to the OERtest approach can be summarized along two different lines:

- Distributed QA as suggested by the learning passport is feasible (responsibility remains with the module provider/learning assessor): Considerable trust of the responsible internal body that owns OER Modules and module-based assessment and accreditation will be made compliant with the local quality criteria for face-to-face/distant provision.

- Preference for centralized QA (shared quality standards among a network): "Quality Assurance procedures have to be defined and assumed by all institutions". Also a centralized body of reviewers to check compliancy of OER Modules was suggested.

5.2.5 CERTIFYING LEARNING FROM OER MODULES AS A FEASIBLE GOAL? ENABLING CONDITIONS FOR ADOPTION AT DIFFERENT SPEED.

Interview partners stated the relevance of this discussion for recent developments within their institution and recognized opportunities to build on already existing initiatives. When reflecting about the readiness to adopt an approach similar to the one presented, several facilitating factors could be identified for moving ahead with implementation:

- Established online provision and existing OCW repositories structured as full courses, which can be studied independently.

- Building on existing ERASMUS agreements, but even more so established inter-institutional partnerships for distance provision, e.g. the international excellence campus (CEI Biotic – UGR, Spain) or the "Campus Andaluz Virtual" (Andalusia, Spain).

[8] I.e. a programme that is not recognized as officially by Spanish regulations, but holds weight in the work environment, since it is oriented towards an advanced professional specialization. These courses do not give access to Doctoral programmes.

[9] Full-time, Part-time, Distance, Placements

[10] The best known example is a U.S. federation called "InCommon": a collection of organizations that have agreed to interoperate using a common set of rules, particularly in the areas of privacy and security. Using authentication and authorization systems offered by the "InCommon" identity providers, institutions leverage available information in order to protect online resources and authorize users without creating/ maintaining large databases. Hence, the federation supports a common framework for trustworthy shared management of access to on-line resources.

- Membership in an Identity Federation[10] with other universities in order to verify the students' identity.

Some interviewees could imagine starting a pilot involving students/OER Modules from different institutions – based on these enabling conditions. Feedback from others showed more doubt as to whether a "distributed" OERtest approach could (ever) be adopted. Arguments referred to the high complexity of the task, for which a multitude of aspects needto be considered -"The whole university would need to be involved"- and the challenges of multilateral agreements. One partner university report concluded "Adopting the model offered by OERtest will be slow".

5.2.6 STUDENT DEMAND, STUDENT IDENTIFICATION AND MODULE OFFER – ANSWERS DIFFERED

Identity verification of the student was a spontaneously raised concern of several respondents. Is the student registering the actual person studying with the respective moduleoffer? Ensuring student verification was seen as a bigger challenge among some respondents. But UGR for example is already member of an identity federation among Spanish universities, which would support the OERtest approach for a subset of potential module-students.

Answers also variedwith regards to the expected demand from students. On the one hand, there was considerable doubt whether there would be "any demand for provision of assessment and accreditation at realistic prices" and from what learner population it might arise. On the other hand, responses reflected a possible "risk of migration to OER Module-based offers if those can be offered cheaper" and a lower dropout rate, assuming that learners would take a more informed choice given the transparency of the OER module-based offer.

Not surprisingly, given the difference in OER Module maturity between the HEIs of interview and focus group participants – ranging from large OCW repositories to first experimentations with open learning resources – reflections on the readiness/ suitability of the open learning material for assessment and accreditation differed:

- from an update of the OER/OCWmodule platforms for student tracking and putting into place a registration/tracking system (high maturity)
- to rather work-intensive adaption of materials from distance, tutor-led master courses (medium maturity, no systematicmodule provision)
- to the need to create OCW compliant with the OERtest approach challenged by the lack of existing incentives for teachers/ material producers (low maturity)

5.3 HOW MUCH "UNBUNDLING"? – OPINION ON DIFFERENT SCENARIOS FOR OPEN LEARNING RECOGNITION

Authors: Jeff Haywood and Chahira Nouira

The participants in our feasibility analysis were generally aware of and comprehended the concept of unbundling of education, usually due to knowledge of examples coming

from the UK. Starting from real agreements between institutions, the scenarios are seen as more or less feasible depending on the HE institution participating in this study. Some factors that could affect to this perception are cultures of each country/institution (individual vs. collaborative; fees vs. free; face-to-face vs. online), student' profiles (how used is to OER Module), etc.

Figure 22 summarizes the pros (ease of application) and cons (difficulties for its implementation) for each scenario.

Scenario	Pros	Cons
Traditional	It is perceived as the most feasible (UOC, UGR).	It is perceived in contradiction with the current educational delivery model (UniEd).
Erasmus	Based on the supposed quality from the U2 institution programs (as they are HEI), it's not a problem for the U1 (UOC, UGR, UniEd).	It's slower than validation processes between approved courses (Erasmus); it could even impossible or result a RPL (UOC), but seen as feasible via high quality MOOCs (UniEd).
Summer school	Feasible by activating validation processes between universities (UOC, UniEd).	Not likely to be attractive as credits to take-away not part of core business (UniEd)
Credit market	It would be similar than a university extension course (it offers content to people who doesn't gather the HE requirements)(UOC).	It's the most controversial scenario (UOC) or least favourable (UniEd) as it implies different institutions evaluating and accrediting the learning process. It probably requires PPL processes according to the OER module origin or student' objective (UOC).
Anywhere	Feasible as it is already implemented within HE institutions (UOC, UGR).	It should be a little bit different than RPL because it should evaluate competences, not knowledge: just an exam is not enough (UOC).

Figure 21 Pros and cons for each scenario

The participants from this study consider that these scenarios correctly represent the possible situations regarding the student (both content and visual issues) while suggesting some improvements regarding the RPL scenario.

For some participants from the UOC it makes more sense to speak about RPE (Recognition of Professional Experience) than RPL. This implies to consider, beyond knowledge, to which extent the competences have been achieved by students.

Some participants from the UniEd propose to consider two RPL scenarios: one where the learner enters U1 (For Entry) and one where the learner does not (Take away).

It is evidenced that, in terms of processes, these scenarios share some procedures. Beyond the scenarios, they identify the

following relevant items in order to develop the scenarios analysis:

- What processes take place in which institutions: in the same institution, different institutions within the consortium or outside the consortium.
- To what extent OER-modules are based on officially recognized quality criteria: if they are approved programmes or not. In the first case, processes for institutions are based on validate credits; in the second case, it probably begins a RPL process.

According to this, they recommend regarding the visual explanation to specify:

- Level of agreements between institutions, as it will facilitate or hinder the procedure.
- Whether modules are approved or not. According to participants, the use of OER-modules is irrelevant in many scenarios; the emphasis is on agreements between institutions and/or validation processes. Nevertheless, they stress that if the OER-module doesn't come from a HE institution it becomes a different situation. That is why they propose to make explicit in the image when the OER-course is officially approved and when not. Indeed, "having the course approved will facilitate to establish agreements between the institutions".
- Which processes would be activated from learning to assessment and from assessment to accreditation in each scenario?

Trying to apply these scenarios to possible situations for the student, they suggest 4 reasons for using these scenarios:

- As an attraction to access to a program within an institution.
- To validate credits as a part of a program within an institution.
- As a supplement or complement to the title, that is, completing a programme.
- Specialization regarding a concrete topic or knowledge area or to complete gaps.

5.4 TOWARDS A SUSTAINABLE MODEL FOR ASSESSMENT AND ACCREDITATION OF OER MODULE-BASED LEARNING

Author: Marcelo Maina and Maria Pérez-Mateo

During information gathering from the OERtest partner universities, discussion of the economic issues that would be raised by assessment and credentialisation of module-based learning arose spontaneously, indicating their significance to the implementation of the OERtest approach.

Sustainability can be viewed from two perspectives:

- From the economic benefit point of view, i.e., "that it is surplus; the incomes generated by fees and learner enrolments cover the costs over time". In other words, the business face of universities is dominant;
- From the social impact point of view, bearing in mind that if "this allows us to recognize many people in our society, (...) has significant benefits for many individuals to make them more competitive in the European labour market". Thus, "even when it is operating at less than breakeven, funding can be raised within

the University because the cost is small, or it is relatively small, in comparison to the benefits for those individuals". That is the dominant pro bono face of universities.

To investigate the economic sustainability of the OERtest proposal, a set of elements, organized into three groups, were identified: the economic factors, the economic factors applied to scenarios and the economic opportunities and risks.

5.4.1 ECONOMIC FACTORS IN ASSESSMENT & CREDENTIALISATION

It has become generally necessary, in higher education as in all public sector organizations, to ensure that activities and projects are sustainable. This may be in simple financial terms, that is the balance sheet is balanced or positive - income is sufficient to cover costs or, with a broader view, that the return on investment is neutral or positive. Thus, for each of the OERtest scenarios, a university could determine which might be made sustainable and which might not.

While we do not intend here to provide a thorough economic analysis and a detailed model for implementing module-based learning and recognition, there are some relevant aspects that we can explore and which are likely to be necessary for every the assessment and credentialisation processes (e.g. creation of partnerships, evaluation of learner work, credentialisation of the outcomes).

COSTS

In terms of expenses or costs, two main items need to be considered:

Material: which resources, of which types, and spaces are required

Personnel: which expertise profiles, grades are needed and the number of hours of work from each.

Both these elements may vary significantly depending upon the number of learners to be managed, and the number and types of assessment processes and credentialisation process required. Costs will be lower to the extent that processes can be simplified and automated. This is clearly seen in the Massive Open Online Courses[11], where computer-based assessments of various types are the main basis of assessment at the present time. In those MOOCs

[11] Particularly those known as xMOOCs, which are content-based with little requirement for learner interaction - http://www.convergemag.com/policy/MOOCs-Here-to-Stay.html),

where process is most important, large-scale and robust peer-to-peer assessments are being developed. Where these can be used, perhaps with light-touch verification of the identity of the learner, assessment costs can be held down. Ideally, assessment, or rather verification of the assessment, should be designed to be completed within the minimum number of hours of (expensive) academic time.

The extent to which universities understand their cost base, and can be confident that their economic calculations are valid is important. Charging for educational services is not universal across Europe, although there is a steady trend towards greater financial transparency. One solution that is being applied is that of the 'full economic cost' of staff (fEC), and this has been normal practice within UK universities for some years. It is based upon a calculation of the fractions of the university's costs that are assigned to research and teaching, where 'costs' includes a share of the cost of estate, support staff, facilities etc that an academic member of staff draws upon to carry out their research or teaching. As a rough approximation, this fEC cost of staff is 2x their salary + social benefits. Thus for a professor with daily salary cost of €400, the fEC rate would be approximately €800 per day. Any university wishing to cost the provision of assessment and credentialisation services will need to decide whether to charge the full economic cost or a 'marginal additional cost' in which on the actual costs of salary hours and facilities used as included.

It is often stated that "credentialisation/assessment is less expensive than teaching/assessment". Our analysis shows that this statement is not necessarily true, with costs for credentialisation varying widely depending on scale, techniques employed and rigour employed.

Assessment of learning based upon open learning materials that follow the OERtestguidelines involves a review of the learning portfolio that the learner offers to the university, plus any further assessment and testing that the accepting university wishes to apply. If the work done can be reviewed easily, and the standard ascertained with the knowledge and competences gained clearly set out, the assessment task is simplified. This is most likely to be the case where the assessing university produced the materials or they were produced as part of a collaboration or agreement. The question of rigour in the assessment is still present, for the work needs to be clearly and undisputedly that of the presenting learner. Remote learners who request assessment may require substantial effort (eg. remote invigilation of exams, test centres) and the cost of assessment will be higher than for those close to the assessing university. "For a learner close to the university, who could meet with our staff to verify competences, the cost will be less than where we have to set up special remote assess

We should note that in traditional HE, on-campus or online, the close relationship between the teachers/tutors and the students is part of the process of viewing learning development and performance, and hence assurance that the work is (reasonably likely to be) that of the student. This is not the case for learners who present for solely for assessment, and so the cost of assessment will be higher, per individual assessment 'cycle', than for taught students.

This feature, and also the lack of regard to the importance of scale, are perhaps neglected by those who advocate that the cost of assessment alone will be much lower than conventional university education; "custom

assessment of the RPL type, could require up to a day's work from an academic and a half-day of work from an administrator".

The credentialisation process is probably most amenable to automation and simplification, although the cost of developing and implementing these processes should not be underestimated. Most universities offer credits for courses / modules (e.g. History 7, Organic Chemistry 4) and not for stand-alone competences unrelated to any course offered by the university. In entry to the university via RPL, credit exemption is offered for courses that the learner does not need to take (and so these are part of the normal student record and certificate) or they are substitutes for lower level entry qualifications and so not part of the student's certificate. Thus establishing a process to offer such competence-based credits may have high initial costs (IT programming, rules and regulation changes, liaison with state education agencies etc.) and these will only be realistic if the number of learners being offered credits is large. "The issue of a certificate of credit could be automated, as it is for our taught students, and so the cost would be quite low".

In general terms, a learner "who completes the whole process in the institution uses more resources from this institution, and therefore may be more expensive than one who does not complete all the process there". This implies that the economic fees for this learner would be higher than one who has realized only part of the process. However, each individual has to be studied in detail according to the processes developed. For example, if a learner has been assessed by an institution A, the accreditation process will cost less for the learner assessed by the institution A than assessed by the institution B, and the ability to operate processes with many individuals simultaneously produces economies of scale.

Note that some parts of the assessment and credentialisation processes may depend on the volume of learners, while others do not. For example, "define the process, place it in the 'platform', checking all is correctly working, follow up the process..." does not depend on the number of learners, because "these people will do the same work if there is 1 learner, 10 learners or 100 learners". However, "the platform usage or the evaluation of evidence by the teachers" will. It is necessary therefore to identify these items.

It is also important to note that sustainability is related to the volume of learners. This means that "the more people benefit, the easier it is to be sustainable". Again, the Massive Open Online Courses use scale as an important element in their business models, regardless of the details of their economic base.

INCOME / BENEFITS

The quantification of the efforts and resources needed in the two processes, assessment and credentialisation, determines the income needed to assess the feasibility. Funding has to be able to cover these costs.

In terms of gaining income, partner universities were at least seeking to break even with their costs: "The price, at a minimum, must cover the costs". However, the options for recovering costs through direct charges to learners (i.e. fees) will be influenced by national and perhaps local contexts that define whether, and at what level, fees can be charged by universities for educational services. These may well depend upon the residence status/nationality of the learner,

and also whether s/he is an existing student of the university or not. For example, in some European countries, higher education is fully paid by the state for all students, in some for nationals only and in some all students pay to some extent. Thus the conditions for fee-setting may depend upon the OERtest scenario, and also whether charging only for assessment and credentialisation (i.e. without teaching) is seen as a core part of HE for state funding purposes or not. Each university would have to assess the situation in its own location.When deciding the income stream(s) it might use to offset the costs of the assessment and credentialisation services it wished to offer.

In general, the sorts of questions that all universities will need to ask themselves include:

- Can public funding be acquired?
- Can private (e.g. philanthropic) funding be acquired?
- Is the university prepared/permitted to subsidise this activity from other income sources (e.g. because of the reputational value of the service offered) "Essentially we do this for RPL where the individual is an intending student, as the gain in a new student is much greater than the cost of the RPL process."
- f fees are to be charged, decisions have to be taken as to whether these are fixed price, variable price depending upon the number of credits offered or variable price according to the work involved. There are advantages and disadvantages in each approach. "We would anticipate, where we provide the end-to-end service (e.g.OERtest Traditional or Erasmus), that we could charge a price per credit awarded, as we can average our costs. For RPL type assessment/credit, we are more likely to charge by the volume of work incurred."

The Table summarizes costs and incomes per action or issue to consider in this process.

ITEM	COST	INCOME
Providing OERtest-compliant learning materials	Designing and creating learning materials suitable for independent self-study.	Potential philanthropic or state / EU grant funding. As materials open, no sale options, unless they are under
	Costs can be reduced by close alignment with production of 'normal course materials'	Education-use only in which case sale to commercial organizations might be possible.
	Routine refresh of materials – intervals to be decided on a 'course-by-course' basis	As above
Delivering module-based learning materials & Assessing learners	Creation & maintenance of platform for materials (possible joint activity in consortium to minimize costs)	Potential income sources are: philanthropic or state / EU grants, subsidized by fee income from assessment & credentialisation
	Academic staff time to review learning portfolios, operate additional assessments as required.	Full cost recovery through fees
	Academic & support staff time to develop processes, and systems for recording, tracking, etc.	As above
Credentialis-ing learning	Academic and support staff time to match learning outcomes to level and quantity of credits to be awarded	As above
	Support staff time to ensure rigour in assessments (identity) if not covered under assessment	As above
	issue of certificates	As above
	Maintenance of record of activity for audit purposes	As above
General activities	Creating agreements with peer universities to operate mutual assessment of learning materials. Less cost if working with existing partners	Might be considered part of 'normal university activities' and not specifically costed.
	Systems for collection of fee income, taking into account fee variations or not. Cheaper if existing systems can be adapted	Start-up cost – recover from fee income or grants

Figure 22 Costs and incomes per action

5.4.2 OERTEST SCENARIOS AND THE ECONOMICS OF ASSESSMENT & CREDENTIALISATION

In terms of the OERtestscenarios, those involving the learner in fewer processes in the institution, may be more sustainable because they require less resources; and "all that involving distinct cases (or special cases) is more expensive because the processes are different and it probably will not meet so many learners".

Accordingly, reviewing likely costs in each of the OERtest scenarios:

The OER Traditional and OER Erasmus scenarios both address existing students from the home university (U1). Hence no issues in terms of rigour present themselves, because the learner is 'known' and their work assessed in the light of that knowledge, as is normal in traditional universities. A gain over traditional Erasmus is that the course (curriculum, learning outcomes, tasks etc.) is fully open to view by teachers at the student's home university, and the student can study without leaving 'home base'. The credits are offered alongside all the other credits that the student gains throughout the degree programme. This would make the assessment and credentialisation relatively simple in comparison to other scenarios. Moreover, several or many students could take the same module-based course at the same time and so some economy of scale would be introduced.

The OER Summer School and OER Anywhere have some of the advantages of the Traditional and Erasmus scenarios (e.g. existing student) but as the module-based learning does not come from a known source, the costs of evaluating whether it fits to the student's degree programme, anddetermininghow to assess the work done are greater.

The remaining scenarios are likelymore expensive to operate. There are questions: of rigor (is this the person who did the work?); of being confident that one understood the module-based learning undertaken;of number of credits it would be worth and at what level if a module from another non-partner university;of lack of basis for trust with the assessment of another university. In Recognition of Prior Learning scenario, the incentive for the 'home university (U1) is that the learner wishes to become a student at U1 and so 'normal RPL processes' can be applied. For Credit Market, the cost must be offset by the fees charged for what may be bespoke assessment and credentialisation services, and indeed may be viewed as 'for profit' activities, increasing the fee levels.

In each case, it will be necessary to analyse the number of learners needed (perhaps simultaneously) and the fees charged to reach sustainability for each scenario.

"Traditional and Erasmus are the most controlled scenarios, and so the easiest to scale and make efficient."

In order to facilitate the institutions' management it could be helpful to identify processes that could cluster learners with similar profiles. Clustering is meant in terms of type of servicerequired by the institution (an modulestudy, assessment, credentialisation or their combinations) and in terms of purpose of study (for credentialisation of a gap, to enter a program, etc.). It is also important to have information about which of these processes have been already completed and at which institutions. To obtain such information it is necessary to

identify all the potential resources/processes that are required beyond the scenarios identified under the OERtest.

Although the assessment and credentialisation business model can ignore the design and delivery costs, those universities that wish to offer learning from OER modules materials will need to consider it, as it generates costs. In particular, as seen in this project, fully-formed and specified OER-modules need to fulfil the necessary requirements to make them 'studyable and assessable', which in turn imply some costs over and above that of creating basic OER Module. The closer is the production of online course materials for within-university use to the format needed for OERtest type modules, the cheaper will be the cost of the latter. This implies that open universities, and those with tightly managed curriculum production processes will find it simpler (and hence cheaper) to produce OERtest modules than traditional universities with mainly campus-based courses. For example, "We have not yet set a policy for OER, although we expect to do so this year, but even then it will be advisory, and as much of our teaching is face-to-face, there will still be a gap between OERtest-compliant online curricula and our on-campus curricula."

Furthermore, for example, UOC's "structure of income (so far) has been based on investment in materials". However, this model is now changing, moving towards the 'open movement' (depending on the institutional mandatesince 2010) and use of OER Module. It is suggested therefore that this approach probably involves restructuring ofthe university's economic system.

ECONOMIC OPPORTUNITIES AND RISKS

The OERtest partner universities saw both economic opportunities and risks in the model proposed for offering an unbundled education process through assessment and accreditation of open learning materials.

Opportunities:

"This project has more opportunities than risks in the sense that we can evaluate and accredit some learners probably charging a margin above a standard learner. And also have a spontaneous policy for loyalty and attracting learners".

"We see opportunities to attract excellent new students through widening the routes of access, and this can then bring us additional income through fees and scholarships."

Risks:

"We would need to restructure our economic system, at uncertain cost and reward".

"Migration of traditional students into this system, if the cost for them is lower"

"We may lose classroom-based learners."

"If this proposal is correctly implemented and the materials are adapted to the requirements exposed in the Clearinghouse, it could be more profitable, not only more sustainable, but more profitable than the current training. If the material does not meet the requirements, the teacher, the classroom, the environment ... makes up these deficiencies, at increased cost".

"The risks are mainly that we do not correctly

estimate the costs and so lose money by diverting staff into a loss-making activity, particularly through work they cannot now do that would have been more valuable. This risk increases with the volume of assessments we are asked to carry out."

"At present, we do not see this as a sustainable activity at above a very small volume, unless the context changes."

5.5 UNIVERSITIES' OPEN RESOURCES - FIT FOR GIVING CREDIT WITH THE LEARNING PASSPORT?

Authors: Jeff Haywood and Anne Christine Tannhäuser

Whether institutions will award credits for learning from OER modules is – not surprisingly – dependent on the format and the quality of the open resource itself. At the beginning of this undertaking the hypothesis was made that those open resources would need to be structured in the form of courses, suitable for independent study[12], and thus not require formal tuition although peer or community support and interaction may be necessary.

In order to provide full transparency on the OER Module under question, one section of the learning passport which was structured based on expert feedback from all five participating institutions, is dedicated to provide comparably extensive information on the open resource offered to learners:

- Information about the institution and credit (Context of offering, applied quality procedures, estimated hours of workload)
- Information about the content of the resource (Learning outcomes in terms of knowledge, skills, and attitudes)
- Activities expected by the learner (type and expected workload/ activity)
- "Nature" of the resource (Level of pedagogical openness, individual freedom of the learner to practice open education, License/ restrictions on use, intended audience for certification)
- Assessment components

The complete OER section of the learning passport including further

[12] This narrow definition reduces the focus to a subset of OER, namely OpenCourseWare: "a free and open digital publication of high quality university-level educational materials. These materials are organized as courses, and often include course planning materials and evaluation tools as well as thematic content" (OCW Consortium: http://www.ocwconsortium.org/aboutus/whatisocw)

[13] Participation in on-campus activities and access to some materials and exercises inside the authenticated Virtual Learning Environment are necessary.

[14] "Quality procedures" in the learning passport requests information on the course-design methodology applied (e.g. instructional design and how it was used) and elements in the design process which ensure quality (peer review of the course materials / plan, external examiners, review by a senate/ faculty committee etc.).

[15] This resources is only partly open and currently is offered only to registered students.

[16] http://www.oer-quality.org/.

specifications on some of the concepts as described above is shown at the end of this publication. A dozen resources were selected as most likely to be necessary for giving credit to learners in the future, and our partner universities were asked to indicate the difficulty of detecting compliant resources, and obtaining the necessary information about them on a 3 point nominal scale ('easy', 'difficult', 'very difficult'). The aim of this activity was to get a picture of the suitability of the passport's categories and the required effort to provide resources in the form suggested by experts during the group discussions.

Determining existing open resources for independent study was found to be more challenging for non-distance universities. The few available course-like resources are not fully "in the open" for external learners and subsequently a) licensing issues for these resources have not been addressed, yet and b) the learning outcomes for these modules cannot be completed with the online materials alone[13]. On the other hand, it appears that universities already deploying Open Courseware repositories were in a good position to provide largely compliant resources.

It shall be noted that approximately half of the selected resources which were selected for the learning passport are in the field of computer science, related to the topic of web 2.0, or ICT in a specific area (e.g. in management). The majority of the selected resources are mandatory or elective parts of existing degree-bearing programmes. This is relevant for quality control (see below).

All partners could list expected learning outcomes and work load, largely because respective university course information pages and repositories already required this information. In all but one case, information on the (open) license for the respective resource was available.

University partners responded that providing resources with information on the quality procedures[14] was (somewhat) difficult. However, due to the fact that the selected modules were part of existing degree-bearing programmes, they had passed the standard quality procedures for either on-campus or distance/e-learning provision as described for example:

- Standard processes for the didactic materials elaboration at the UOC are applied, elaborated and reviewed by an expert and cyclic revision
- This module is part of a course that has an OpenECB Check certificate for quality in eLearning
- The module was approved by the University Board of Studies and Senatus as part of the BSc Computer Science Degree. Marks in the course, and the final pass/fail is determined by an examination board with an external examiner. Degree programmes and their courses are reviewed every few years, not more than 5 years apart[15].
- The curriculum design of Edinburgh MOOCs must pass through a light-touch approval process based on that for on-campus taught courses, and will be given light touch quality assurance annually. No ECTS or University credits are offered but successful completion of all assessments can be awarded a certificate of completion.

Only few partners expressed much difficulty in providing information on the different activities required of the learner (e.g. following video-lectures, contributing to a wiki, online discussion with peers) and their

proportion across the full resource. A greater difficulty was expressed about specifying assessment components for the learner, for example as assessment of course-work, written test conducted online, or an oral test. The partners from the Open University of Catalonia comment on their selected resources that they are "[…] quite aligned to an OER course as understood by OERtest in relation to the pedagogical proposal, but are still lacking some elements, especially those related to contextualizing this module and the assessment and certification processes." None of the resources had assessment methods in place which were intended to be extended to independent learners from outside of their host institutions.

The learning passport requests a statement on the Level of Pedagogical Openness and Individual Freedom of the User to Practice Open Education from the OER Module provider, two concepts introduced by the Open Educational Quality Initiative OPAL. The observed difficulties noted by partners here might indicate a need for some additional explanation of the scale needed to ensure a more straightforward judgement.

In conclusion, providing fully compliant resources was not possible by any of the universities participating in the study. However, the OCW of open and distance universities do already cover most of the learning passport requirements, and Massive Open Online Courses (MOOCs) under development by one partner will also be very close to compliant. The feasibility of enlarging a transparent online clearinghouse of resources based on learning passport requirements and shared among all participating higher education institutions for granting credits to learners depends on their commitment to

a) refine resources and add elements as assessment methods which are suitable for independent remote learners;

b) 'opening up' closed resources of existing programmes and address licensing issues (traditional universities);

c) Ensure that open learning materials have been subject to existing quality procedures; and

d) 'Translate' into online formats teaching and learning

According to the Open Educational Quality Initiative, pedagogical elements can be classified as:

***"Low"** if objectives as well as methods of learning and/ or teaching are rooted in "closed" one way, transmissive and reproductive approaches to teaching and learning. In these contexts, teachers know what learners have to learn and transfer mainly knowledge.*

***"Medium"** represents a stage in which objectives are still pre-determined and given but methods of teaching and learning are representing more open pedagogical models which encourage dialogue oriented forms of learning or problem based learning focusing on dealing with developing "Know how".*

***"High"** degrees of freedom and openness in pedagogical models are represented if objectives of learning such as question or problems around which learning is ensuing are determined by learners, and teachers facilitate through open and experience oriented methods which accommodate different learning pathways.*

Individual freedom of the learner is classified using the same terms, namely:

***"Low"** – meaning that within a given learning/ teaching context no open educational practices are encouraged*

***"Medium"** – meaning that within a given learning/ teaching context islands of open educational practices exist but are not a shared and common reality*

***"High"** – meaning that within a given learning/ teaching context open educational practices are embedded into the reality of all learning and teaching.*

activities which are at present entirely based upon physical presence on campus, to access facilities or interact with tutors

5.6 THE LEARNING PASSPORT AND GUIDELINES – A TOOL FIT FOR PURPOSE?

Author: Rosana MontesSoldado

Participants in our evaluation stressed the importance of outlining minimum requirements and characteristics of the modules from a simple and clear structure, which should be shared between institutions to the largest extent possible. They highlighted that such criteria should be include reference to quality processes, and that they should promote a complex and complete holistic learning process. As such, broadly speaking, this serves as a validation of the learning passport approach adopted by the consortium.

The following section provides feedback to the guidelines, and by extension to the learning passport, structured by its constituent sections:

5.6.1 DESIGN STAGE

Within the design stage, evaluation participants stressed the importance of guaranteeing consistency and relationship between all steps. In particular, as stated by one participant, thus echoing the recommendations of Sangrà and Maina quoted in Section 4.4.1.2, "there must be a relationship between evaluation and the OER-module because, otherwise, what is the logic? If there is consistency and the OER-module gives relevance to their learning, they will look for an OER, extolling its value".

So as to enhance the availability of credits designed for Open Learning Recognition, participants put forward two proposals:

- The creation of a clearinghouse populated by credits for which open learning recognition is available, so as to increase their access to students, and increase the transparency in terms of limitations and opportunities for recognition of each individual credit

- The design of entire curricula (not just courses) around competences and learning outcomes, so as to facilitate the unbundling of curricula into courses and facilitate the design of multiple alternate flexible learning pathways

5.6.2 LEARNING STAGE

In terms of guidance, participants highlighted the necessity to distinguish between content and skills associated with expertise. Thus, it was felt that with respect to content, the student could be guided to undertake fully autonomous learning, while with regards to experiential skills, the guidance would need to provide a methodology whereby the student could gain the support of other people whether teachers, professionals, other students etc. Participants stressed that the guidance stage should wherever possible provider guidance on undertaking 'activities of collective participation'

With respect to the documentation step, participants stressed the need to clearly define the evidences that would be required from a student. It was recommended for students to use a learning portfolio to collect them, thus

facilitating the following steps in the process model. The creation of such a learning portfolio can be significantly automated, through reporting modules built into learning management systems / personal learning environments. To this end, participants suggested that some sort of standardisation of the reporting features of such platforms would be beneficial in facilitating later on recognition, verification and assessment.

5.6.3 ASSESSMENT STAGE

With respect to this stage, participants focused on three issues they considered essential for proper implementation of the learning passport:

Use of Multiple Assessment Methods

As described by one participant, "the learning methodology that arises in the course will shape the assessment strategies. It could be as many evaluation strategies as methodologies of learning. If we are thinking about experiential methodology, the strategy could be evidence at the scene, practices; and if we are talking about another type of methodology, as the official certification of knowledge, maybe we would talk about exams". Consequently, "to define just one evaluation method would be too risky". This implies the need to take into account a variety of assessment methods. Nevertheless, it would be complex to define an evaluation process depending on each specific OER-module. In this sense, a compromise solution would imply the selection of two or three representative methodologies and define its corresponding evaluation methods in an abstract and flexible way.

An Accent on Quality Assessments

Several participants stressed that the process of assessment requires specific expertise, such as that supplied by university academic staff, both in the definition of the type of assessment, as well as in the content-matter to be assessed. As such, participants considered it especially important that assessment remains in the domain solely of HEIs (and not, e.g. specialist assessment bodies), as only this would give the required consistency and legitimacy to the system. This is especially the case, considering the thorough quality assurance systems already in place for assessment in many institutions, quoting one participant "even the exams are evaluated themselves by an external agency of Quality in Education", as in the case of the Agencia Andaluza del Conocimiento in Andalusia, Spain.

Resources for Assessment

The issue of large-scale provision of 'assessment services' was repeatedly highlighted by participants. While simpler assessments such as multiple-choice tests can be provided in a fully automated and thus easy fashion, they are not able to cover all possible assessment scenarios. Thus, face-to-face tests such as oral exams, essays, etc., will often be necessary, requiring specialist expertise and staff resources. This in turn will have an impact on whether an institution chooses to assess a student's credit, and under what conditions.

Participants also highlighted that proper use of the learning passport will require the assessing institution to specify the measures it employs to ensure that the assessment has actually been done on the student's own work, and appropriate measures have been taken to dissuade cheating.

5.6.4 AWARDING STAGE

The accreditation and recognition step is closely linked to assessment. In one participant's words „what you are accrediting is the evaluation process. (…) Starting with the agreements between institutions, there is no problem if one institution assesses the student and another one accredits this learning. (...) The accreditation is only given faith (...), it is a formality. (...) If any institution evaluates, to accredit this learning you only need to establish institutional recognition".

In this regard, the participants validated the project's approach of providing a learning passport as a recognition, transparency and portability tool, rather than defining the means and nature of assessment. Thus, for example at the University of Edinburgh: "it would require for us to offer the European Diploma Supplement (EDS) alongside a certificate of credits earned. At the present time we do not do this systematically, (...) Thus offering a certificate of credits plus EDS will be normal practice. If the University decides to also offer the Learning Passport it could be made part of the EDS offering"

In particular, the learning passport approach is seen as being beneficial for aiding in recognition and certification due to the fact that:

- "what you can recognize and what you cannot is a difficult question". An „oriented accreditation", i.e. linked to the academic program within a specific institution, is proposed as a possible solution (the learning passport has specific fields to describe such links)

- processes need to be as systematic and concrete as possible, hence the validity of the process model approach

The main barrier to the use of the learning passport, as evidence by our validation participants, involves the pre-existing trust between the institutions. While the learning passport in itself is a powerful tool to enhance trust and transparency, multiple participants nevertheless stressed the necessity for exchange, cooperation and networking between institutions for the purposes of building trust around each others' credentialisation processes. One participant proposed starting at the regional level, due to increased familiarity of institutions "Society evolves through creating and acquiring knowledge. In order to create an OER credit concept to be recognised in the regional or even national level, it should be presented to the competent institution together with the other universities at the same regional level. This is the first step to get support before taking it to a national or international level".

6

OPEN LEARNING RECOGNITION THROUGH UNIVERSITY NETWORKS – WHAT IMPACT IS TO BE EXPECTED?

Authors: Anne-Christin Tannhäuser and Anthony F. Camilleri

The aim of this chapter is to analyze the potential impact the introduction of a properly elaborated system of OER module Provision, such as that envisaged byOERtest, would have in terms of contribution to the core missions of the HEI. The chapter shall look at the impact:

- In terms how HEIs are operated, their mission, business models and approach to teaching; and
- on learners themselves, more precisely on current university students, working professionals and life-long learners

In addition to the data collected by the feasibility study, we will also make use of results of a questionnaire issued during the OERtest workshop at the EFQUEL Innovation Forum 2012 in Granada, Spain.

Estimating the impact of the OERtest approach towards recognition of open learning or similar initiatives cannot be examined in isolation of related current developments by different players. During the past two years in which OERTest has run, a number of developments have taken place in the field Open Learning Provision, Assessment and Certification(many of them are descripted as game changers (Marcus, 2012)):

- The nonprofit open course provider Saylor Foundation partnered with two U.S. distance universities, which will grant credits to learners of the open materials (Fain, 2012).
- A number of universities have started to formally recognize learning outcomes achieved through courses at Udacity, e.g. the Colorado State University Global Campus (online arm of the university) and the University of Salzburg (2012). The U.S. institution requires the learner to participate in a proctored exam "because it overcomes some of the main concerns about the authenticity of students and the absence of cheating". The Austrian campus-based university has chosen to accompany learners by face-to-face tutoring at their own department. Also, the University of Freiburg, the Free University of Berlin, and the Technical University of Munich have already given credit for learning through Udacity courses.
- The EdX initiative has created an 'Open Courseware (OCW University) by bringing together the Open Education initiatives and select OCWs from Harvard, the Massachusetts Institute of Technology (MIT), the University of Texas System and the University of California at Berkeley. EdX has also contracted the education company Pearson, toproctor in situ exams through its global network of invigilated test centres,giving students the opportunity to be assessed on their OCW-learning and receive validated certificates (BBC, 2012).

The OER University is another well-known and much cited initiative, in this case bringing together higher education institutions (and non-profit organizations).

- The number of institutional participants in the OERu initiative has increased during the past years striving for open learning recognition amongst their members: "The opportunity to participate in an international network of accredited institutions is considered to be the most important driver

of institutional participation the OERu."(Murphy, 2012).

Given these developments, and the outcomes of our study we make seven projections, which concern the 1st and oldest mission of universities, namely the teaching dimension[17]. The impact on the non-formal sector is discussed at the end of the chapter. Each projection makes predictions of likely future scenarios in a specific area of OER Module-development, on the assumption that current trends in the field will continue.

Projection 1: High-quality open learning resources dominate open education

The overall number of OCW offerings has been growing steadily for the past 10 years. However, many of these have been unsuitable for high quality self-learning, since they were only samples of existing courses, lecture dumps, or materials from retired courses for use as marketing. Currently, we observe a 'second generation' of OCW being produced: custom-designed, high-quality Open Courses designed specifically for self-study. These are being driven by:

- the current boom of non-formal providers boosting open learning at no cost for learners, many supported by philanthropic funding;
- more public investment being dedicated to OCW in some countries;
- the steadily increasing membership OpenCourseWare consortium in some European countries and beyond;
- the high level policy recommendations by the OECD and the UNESCO on OERs
- the investigation by major universities of models for mainstream provision of OCW as part of the functions of a university, rather than use merely as a marketing tool

Our interview/focus group respondents at OERtest partner institutions were aware of the different quality range of OERs and OCW offered online. The reasoning of university staff which has gone ahead in recognizing learning from OER modules is almost exceptionally grounded in the high quality of the respective resources:

We found ourselves at Saylor's door [..][the Saylor foundation] doesn't get the cachet, but they have the quality (Ebersole[18], cited in Fain, 2012).

The University of Salzburg considers the recognition of Udacity

[17] Second mission: Research. Third mission: University-industry relations as contract research, industrial sponsorship of academic science and science-directed commercialisation

[18] President of Excelsior College.

[19] It should be noted that the EFQUEL Innovation Forum attracted individuals already interested in the area of open learning and the workshop participants had opted for attendance from several parallel sessions. Hence, we suspect a difference, if random higher education practitioners would have been asked.

courses as a chance to get the quality of our teaching even to a Stanford level.

The latter quote points directly to a not unlikely effect on HEIs teaching practices (see projection 6 below). It is easy to conclude, that no elaborated system of a multilateral approach to open learning recognition could get around setting standards for the open materials themselves. Consequently, universities will (need to) invest in redesigning and updating their material to meet standards and create the necessary trust. This effect is already prevalent among the anchor partners of the OERu, which are pedagogically and technically preparing/adapting their materials for open learning recognition.

In addition, from a user-perspective, we expect that select 'provider' brands such as OERu, EdX, OCW or possibly certain quality tools (such as a curated course repository), will increasingly gain mainstream public recognition, and account for an ever-greater proportion of learners making use of the offer.

Projection 2: Groups of interested universities will collaborate more on recognition of learning from OER modules with different universities taking on different roles depending on their profiles

The OERtest team set out to explore whether module-based formal learning provision is seen as appropriate for addressing key university priorities. We received positive feedback on the project aim among interview and focus group participants who indeed recognized the value of an approach as suggested by OERtest. As outlined in 4.3.1 General reflections on open learning recognition in many cases they spontaneously referred to the mission of universities. Furthermore, we noted a high interest in the topic amongst the technology-enhanced learning/distance learning community as received during workshops and webinars. It appears that institutions deploying OCW repositories and/or with open policies in place consider the recognition of module-based learning outcomes as an area to be explored.

We questioned 20 experts and innovative practitioners during a workshop on the matter[19]:

OER-based credits (e.g. through Massive Open Online Courses) contribute to the core mission of Higher Institutions.

Introducing OER-based credits/open learning certification fits with the current self-understanding of my university as reflected in institutional strategies and policies.

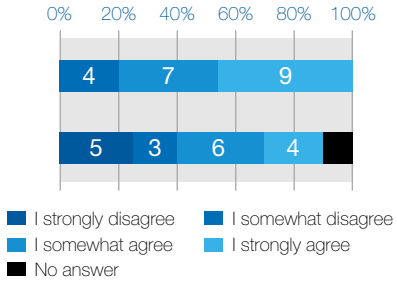


Figure 23 Results of the questionnaire 1

The results indicate that module-based credits (e.g. through Massive Open Online Courses) are considered as a contribution to the core mission of Higher Education institutions by the majority of participants. In line with the beliefs of the partner universities, module-based credit will foster learning for a wider range of students/life-long learners, more individual learning pathways, more diverse provision to HEI students and supports addressing the challenge of massification. As a consequence, we expect more approaches for provision of module-base credit to emerge over the coming years.

However, we envisage that this will remain somewhat of a niche activity in Higher Education, with only some universities with specific profiles engaging actively in open learning recognition in the medium term. The hypotheses is motivated by the much differing responses of workshop participants as to whether awarding credit for module-based learning is consistent with the current self-understanding of their universities as reflected in institutional strategies and policies (see figure above). Some universities strategies and policy do already fit the approach:

We strive to offer an affordable higher education to anyone who desires to achieve one. OERs open this opportunity to any person motivated to attain education

Yes, we have PLR and Challenge Exams

I think that many HE institutions are already more open and innovative than some of the rhetoric suggests

Albeit, other universities do not provide the institutional framework for open learning provision and are far from doing so in the future.

No awareness of benefits in investment

There is little or no understanding for or interest in OER in my university's leadership. The question isn't on the agenda at all, yet.

The ORION study (Murphy, 2012) backs up this projection. Out 84 respondents from all around the world with different institutional background, but all active in the field of OER, „[…] 6% of institutions currently provide assessment services for courses based solely on OERs and […] 18% are likely to provide them in the near future." As formulated by one OERtest workshop participant: "A new educational ecosystem with layers of education interacting" will emerge. Some universities "[…] will produce material, some will process/recycle, some will assess and certify and some will operate completely outside the formal system".

Projection 3: Recognition of OER module-based learning will enhance the flexibility of learning pathways for current students in HE, through the provision of a new pathway

Self-study of open learning resources offers a number of different options for students within HEIs to increase the flexibility of their learning pathways:

- it can complement credits received within the institution with additional credits obtained by the student in their own time – useful for students with family or work obligations requiring part-time study.
- Students can gain additional competence in niche subjects, not offered within their course of studies, e.g. a student studying insurance law might follow a credit in motorboat insurance offered by another university as part of his/her formal course
- Students can use OER Module credits as a means of complementing their knowledge on credits supplied their home

institution, effectively using the OER as study-materials.

The OERtest Scenarios describe some different possibilities for such provision, insofar as it involves formal education.

When asked about the potential of recognized learning from OER modules within Higher Education, participants in our survey gave the following answers:

OER-based learning (including MOOCs) and its certification have the potential to become...

.... an addtional learning pathway within Higher Education.

.... a core business of Higher Education institution.

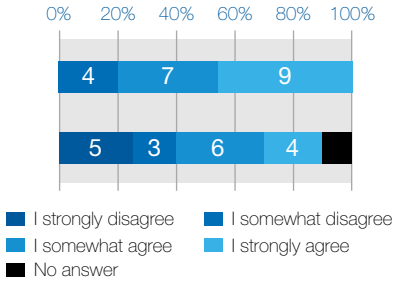


Figure 24 Results of the questionnaire 2

As can be seen, the option of an 'additional learning pathway' was considered somewhat plausible, but far fewer innovative practitioners find potential for learning from OER modules as a core business for higher education. Thus, we see a role for recognition of open learning mainly as a complement existing provision.

Projection 4: Wider awareness will grow on assessment methods suitable for learning in the 21st century

With regards to assessment of OER module-based learning, interviews and focus groups stimulated partners to imagine a range of different solutions – all of which are already being implemented by actors on the cutting-edge of the field, as described in the examples above[20]. We envisage that the elaboration of a system of OER Module provision, and the increasing demand for recognition of this learning, will lead to advances in the state-of-the-art with respect to assessment procedures and technical tools:

Prior learning assessment (PLA)[21]: The scenario of granting credit for open learning via PLA was considered early during OERtest workshops and was found to be pursued by some U.S. and Canadian universities. learning from OER modules recognition by PLA is compatible with European policy and most national agendas encouraging lifelong learning. In France, Netherlands and the UK many universities have procedures in place, but in other European countries prior learning assessment "remain[s] an aspiration rather than a reality […] although there are clearly examples of good practice and in some countries experimentation is going on"(Davis, 2009)". Hence, "Development of validation in

Europe is a multi-speed process. Countries are at different stages of practical implementation and overall acceptance" (Cedefop, 2007). PLA is typically "individualized, contextual and (partly) tacit nature [… and] is generally done on a case-by-case basis, and information and guidance services need to be customized to the situation and needs of different target groups" (Popa, 2012). Hence deploying the process for open learning recognition is costly and appears sustainable only universities gain fee-paying students - as laid out in 5.4 Towards a sustainable model for assessment and accreditation of OER module-based learning. We project that more PLA procedure will be streamlined and rationalized, particularly assuming adoption of a European Council Recommendation on the validation of non-formal and informal learning[22], and become cost-neutral/sustainable for a critical mass of learners of specific open learning materials. This will in turn support advancing PLA in general.

Automated assessment: Automating assessment has been viewed as cost-saving alternative to case-by-case PLA, an approach which is currently pursued and invested in for running Massively Open Online Courses (MOOCs) at the University of Edinburgh[23]. Since an automated assessment needs to only be developed once, and requires no staff intervention except for examination proctors, it requires radically less staff time, especially at higher student numbers, than PLA. At its current state of advancement, automated assessment can be used for assessment-types with a fixed range of answers, such as multiple-choice tests, blank-filling exercises etc. as well as for automated essay grading in simpler cases. The increased demand for such forms of assessment will lead to an increase in the development pace of all technologies linked to automated assessment including neural networks, voice-recognition, pattern-recognition, artificial intelligence, as well as associated pedagogical techniques.

Peer assessment: It is fairly safe to say, that not all assessment can be automated depending on intended learning outcome. If the aim is to foster competences, computer-based grading or ratings seem mostly inappropriate. Commercial non-traditional providers of MOOCs have started to look into peer assessment for low-cost, but still accurate assessment. (Thus, for example Coursera (2012) has built a peer-assessment approach based on the results of studies.) Given the potentially large number of learners, crowd-sourcing combined with novel grading techniques has the potential to overcome the inaccuracies of peer and self-assessment compared to tutor-led rating. This statement is somewhat backed up by a number of research-studies, although work in this field is still in its infancy[24].

Admittedly, the methods above are not new in terms of pedagogy,

[20] Participants were not necessarily knowledgeable of the initiatives in question.

[21] Also known as Recognition of Informal Learning or Validation of Informal Learning.

[22] The Commission made a proposal to the Council for such a recommendation on 5th September 2012. It is currently awaiting discussion in the Council.

[23] Passing assessment will lead to a certificate of completion, not University of Edinburgh credits.

[24] There is a tendency to under-marking oneself and over-mark peers as shown by: Papinczak, Young, Groves and Haynes (2007).

[25] This is not to diminish the value of these kinds of OER Modules, which are of value as resource for tutor-led courses, for instructional designers, learners not seeking formal recognition.

but open learning recognition will change the scale of operation and happen very publically. Thus, some greater awareness on their existence and validity will evolve.

The OERtest project did not suggest or prefer any of these assessment approaches, but rather designed a transparency, portability and recognition instrument, which would allow credit awarded by any of these assessment methods to be understood and recognized by other institutions and employers.

Projection 5: Credit-bearing provision to registered HEI students will be driven by OCW from prestigious universities and specialized providers of open learning material in niche subjects

Higher education students will be able to gain credit for learning with open materials organized into structured courses, suitable for independent study (Open courseware) rather than small units of OER scattered across the web[25].

We foresee that prestigious universities will (continue to) be conservative in terms of certification of learning – drawing a clear distinction between credit gained through Open Learning and credit gained through their traditional degree (or other qualification) courses. However, other Higher Education Institutions may be far more likely to accept – even encourage their students to acquire – such certifications, and would be willing to recognize them as equivalent to in-house learning. Reputation and availability of large funds for creating show-cases of highest quality is the key. Those arrangements will not be "blank cheques", but rather decided at the department level for selected materials which are found to complement own programmes with the aim of making them more attractive to students and reducing investment necessary for the creation of new learning materials.

It is furthermore assumed, that also open learning materials in very specialized subjects will encourage institutions to recognize learning outcomes from such providers. Thus, one could imagine learning materials produced by industry in specific products or techniques, being admitted as a credit-bearing part of a degree course in appropriate circumstances, or learning taken from a niche department in another institution being recognized by a students' home institution.

Projection 6: More campus-based universities will find value in online education as enrichment for their campus-based programmes.

Assume a higher awareness among campus-based universities about the value of open education. Resources, for which some universities will grant credit for independent study, will become more appealing amongst tutors in on-campus credit-bearing learning provision as study materials for learners. OER/OCW modulewill become more used and re-used.

Projection 7: More affordable certified learning increases equity of Higher Education, but does not eliminate cost-barriers

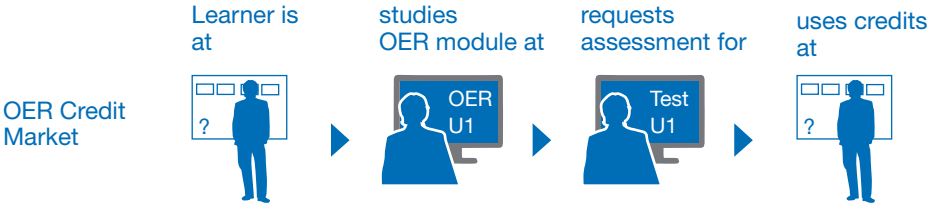
With reference to the above described recent developments, it appear that pure university partnerships as in OERtest have not been as quick to solve the arising challenges for recognizing open learning, yet. The reasons appear to be the same problems and hindrances (whether real or perceived) that have been determined by the feasibility study. In the meantime private industry players, have moved the sector forward at a breathtaking pace in recent years and months, having created advanced platforms for independent

study with open learning materials, and taken on crucial roles in alliances that started to make open learning recognition a reality (such as proctoring exams and different test locations or IT provision for student verification and identity management among universities).

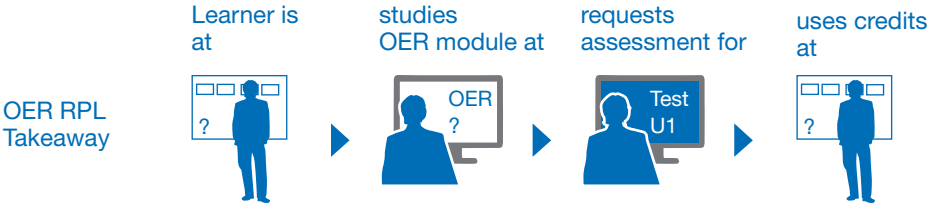
The competitive element introduced by the private sector will have two opposing effects. On the one hand, competitive forces will bring down the cost of provision of certain educational services. Under such a scenario, we foresee an increased democratization and accessibility of Higher Education for students. On the other, increased responsibilities of the private sector will create costs for learners to be paid for services around open learning recognition. Learners from higher socio-economic backgrounds will be able to take more advantage of these recognition (as opposed to learning) opportunities than those from lower socio-economic backgrounds without appropriate support for vulnerable groups.

Key uncertainties – Drivers, demand and assessment methodologies

The approach of the global OERu initiative emphasizes the value of a HEI networked recognition of open learning for the community service and outreach mission "to serve the wider interests of the communities in which they operate by sharing expertise and scholarship for the benefit of society" (Wikiedukator, 2012a). Partners strive for an "OER ecosystem [which] aims to serve both formal and informal learners by creating more flexible pathways for diverse student needs" (Wikiedukator, 2012b). However, none of the projections above makes strong assumptions for the informal sector, but rather foresees an impact on already registered HEI students. The originalOERtest scenarios for open learning recognition assumed two possibilities for reaching non-HEI learners.



First, the "OER Credit Market" scenario preferred as a path to open learning recognition by any of the OERtest partners. A challenge is learner identification. Not less importantly, it was pointed out during expert workshops and interviews that universities as we know them would not want to be reduced to a role of instructional design and assessment services.



Second, the presumed high costs of the "Recognition of Prior Learning" scenario in which the learner remains in the work place and does not register for a HEI programme, kept us also from projecting mainstream impact of OERtest or similar models.

Furthermore, we determined some key uncertainties which might or might not become drivers of the above projections but render a plausible projection of the impact on non-formal learners difficult:

- The OER movement and key players for internationalization in higher education will (not) collaborate stronger in the area of open learning.
- The emerging non-traditional providers of open learner which have moved quickly in exploring business models other than philanthropic funding prove (not) to be sustainable in the long term and will form stable partnerships with the formal higher education sector.
- Universities will (not) work more intensively towards approaches of large-scale cost-effective assessment of open learning.
- Business and industry will (not) accept certification - also including online badges or portfolios - of non-traditional providers as prove of skills and competences[26].The effect this will have on learners' demand for formal or open learning recognition by HEIs is hard to estimate.

Independently, the accessibility of open learning material for lifelong learners outside of HEIs is assumed to increase over the next years – whether with or without formal recognition will also be determined by the players in the private sector.

We will probably see the co-existence of different approaches to open learning recognition, most likely appealing to different national and linguistic contexts. OERtest partners University of Edinburgh joined an alliance with the commercial provider Coursera to offer MOOCs (The University of Edinburgh, 2012) which are driven by the OER movement. The Open University of Catalonia became the first European anchor partner of the OERu (WikiEducator, 2012c). The future will be developed and shaped by those professional communities, which will reshape the landscape of educational provision.

[26] A professor in computer science who pushed for the recognition of Udacity courses at the University of Salzburg for example states „Given the provided excellent quality, it is very likely that Udacity degrees are soon to be recognised by the industry, and might even be considered equivalent to a Stanford degree" (University of Salzburg, 2012).

7
LEARNING PASSPORT MODEL

SECTION 1: INFORMATION TO COME FROM INSTITUTION WHICH PRODUCED THE MODULE

INFORMATION ABOUT THE INSTITUTION and Credit

Name of Institution producing credit: _____

Name of Course Designer: _____

Name of Credit: _____

Subject Field/s addressed: _____

Context of Offering:
Is this a stand-alone credit, was it offered as part of a course (which course?), is it an essential or optional model, etc. What will the student get from studying the module, in terms of learning itinerary?

_____

_____

_____

Quality Procedures Applied:
Briefly describe the course-design methodology applied (e.g. instructional design and how it was used). Mention elements in the design process which ensure quality (peer review of the course materials / plan, external examiners, review by a senate/faculty committee etc.).

_____

_____

_____

Estimated Hours of Workload: _____

Prior Competences Required:
Outline any competences (in terms of knowledge, skills, attitudes) which would be required by the student to successfully initiate the credit.

INFORMATION ABOUT THE CONTENT OF THE MODULE

Learning Outcomes – Knowledge
List and describe learning outcomes

Learning Outcomes – Skills
List and describe learning outcomes

Learning Outcomes - Attitudes

List and describe learning outcomes

Module Composition by Learning Activity-Type

Ref	Type of Activity	Required Activity from User	Approx. Percentage of Workload
LA1			
LA2			
LA3			
LA4			
LA5			

Type of Activity: Outline the overall type of learning activity-types addressed, such as problem based learning, lectures, self-motivated study, practical work, apprenticeship etc.
Required Activity from User: Explain the input required from the user to successfully complete the task, e.g. watching video-lectures, contributing to a wiki, studying etc.
Approx. Percentage of Workload: Outline the timewhich will be spent on this type of learning activity as percentage of the entire workload of the module.

Nature of the Resource-Module

Level of Pedagogical Openness:

Individual Freedom of the User to Practice Open Education:

Credit Intended for Use in:	• OER traditional • OER Erasmus • OER Summer School • OER Credit Market • OER Anywhere • OER RPL

SECTION 2: INFORMATION TO COME FROM THE LEARNER

INFORMATION ABOUT THE USER AND TYPE OF EXPERIENCE

Name of User: _____

Contact Details: _____

Following credit as part of:	• OER traditional • OER Erasmus • OER Summer School • OER Credit Market • OER Anywhere • OER RPL

Period in which study occurred: _____

INFORMATION ABOUT LEARNING ACTIVITIES ENGAGED IN

Please describe how the learning actually took place (and how the learning activities may have differed from those above). Outline the sources where evidence can be obtained where applicable (records from LMS, learning diary, letter from report etc).

REF	Learner's Engagement in the Learning Activity	Evidence Source
LA1		
LA2		
LA3		
LA4		
LA5		

SECTION 3: INFORMATION TO COME FROM THE ASSESSING / CERTIFYING INSTITUTION

INFORMATION ABOUT THE INSTITUTION

Name of Institution assessing credit: _____

Contact Information of Responsible person / department: _____

INFORMATION ABOUT THE ASSESSMENT

Assessment Components:
An 'assessment component' is a specific form of assessment. Components may include: assessment of course-work, written test conducted online, written test conducted at test centre, supervised practical work, oral test

Learning Outcomes:
Outline the Learning Outcomes which were verified through the Assessed assessment, and making reference to Section 1 where appropriate.

Describe Quality Control Procedures for Assessment:
Who checks/regulates the assessment procedures, and how?

INFORMATION ABOUT THE CERTIFICATION

Name of Certification Awarded, and Grade: _____

Certification is Equivalent to (within institution):
Explain how (and if) the certification is equivalent to a normal certification of the institution. e.g. "certification is equivalent to any other ECTS certified from institution", "this is a special, RPL-only type of certification, which is broadly equivalent to an ECTS, but not automatically convertible", etc.

Position of certification within qualification framework:
Please map the certification to the qualification framework in use by your institution / country.

Grading scheme:
Describe the levels and descriptions of the grading scheme used for this award. In particular, be sure to indicate whether the grade awarded is a pass or fail grade.

8 ADDENDA

8.1 ABBREVIATIONS

CC	Creative Commons (Licenses)
cEVU	Collaborative European Virtual University
CMS	Content Management System
ECTS	European Credit Transfer System
EHEA	European Higher Education Area
ESG	European Standards and Guidelines for Quality Assurance
fEC	full Economic Cost
HEI	Higher Education Institution
IPTS	The Institute for Prospective Technological Studies
LMS	Learning Management System
MOOC	Massive Open Online Courses
OCW	Open Courseware
OER	Open Educational Resources
OERtest	Testing an Open Educational Resource Framework for Europe
PLA	Prior learning Assessment
QA	Quality Assurance
RPL	Recognition of Prior Learning
SATS	Standard Assessment Tests
SCORM	Sharable Content Object Reference Model
UGR	University of Granada
Unibo	University of Bologna
UniEd	University of Edinburgh
UNU	United Nations University
UOC	Open University of Catalonia

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