The OERTEST Project: Creating Political Conditions for Effective Exchange of OER in Higher Education

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This paper refers to the OERTest project and Open Educational Resources (OER) as support education materials that may be freely accessed, reused, modified and shared by anyone. In this paper we will try to answer the following question: how can the political conditions be created to foster an effective exchange of OERs between Higher Education institutions? The article presents several policy recommendations (intended as lessons learnt from the project) to ensure an effective recognition and exchange of OER between Higher Education Institutions.

1 Introduction

The term OER, coined at UNESCO's 2002 Forum on the Impact of Open Courseware for Higher Education in Developing Countries, designates teaching, learning and research materials in any medium, digital or otherwise, which exist in the public domain or have been released under an open license that permits no-cost access or use. The concept of OER describes educational resources, including: curriculum maps, course materials, textbooks, streaming videos, multimedia applications, podcasts, and any other materials that have been designed for use in teaching and learning, that are openly available for use by educators and students, without an accompanying need to pay royalties or licence fees.

Since the establishment of the European Higher Education Area, European Universities have expanded their activities within different areas of collaboration and cooperation around course provision and joint degrees. According to Miller (2011) the opportunity for faculty members and institutions to openly share content beyond traditional institutional boundaries has also grown into an international movement. This movement is not isolated, as we also see how the open access movement has gained increasing traction within universities, leading to the creation of numerous open educational resources repositories. These courseware repositories are offered to all learners worldwide through the use of internet, offering self-guided learning and sharing possibilities to teachers (Stanford, 2010; MITx, 2011).

The recognition of OER-based learning and its feasibility within European Higher Education institutions are the main objectives of the OERTest project (http://www.oer-europe.net/), a two-year initiative funded by the European Commission (EACEA, 2010), with participant institutions from across Europe.

2 OER areas of intervention

There are relevant international statements that move toward the concept of OER. Taking the Universal Declaration of Human Rights (Article 26.1) "*Everyone has a right to education*" as a starting point, the majority of documents related to OER have been developed during the last decade, including:
1. The 2000 Dakar Framework for Action that made a global commitment to provide quality basic education for all children, youth and adults;
2. The 2003 World Summit on the Information Society that declared its commitment "to build a people-centred, inclusive and development-

oriented Information Society where everyone can create, access, utilize and share information and knowledge";

3. The 2005 Convention on the Promotion of Cultural Diversity, which states that: "Equitable access to a rich and diversified range of cultural expressions from all over the world and access of cultures to the means of expressions and dissemination constitute important elements for enhancing cultural diversity and encouraging mutual understanding";

4. The 2007 Cape Town Open Education Declaration;

5. The 2009 *Déclaration de Dakar sur les Ressources éducatives libres*;

6. The 2011 Guidelines on Open Educational Resources in Higher Education.

Nowadays the EU governments are fostering awareness of OER though the promotion and use of these resources to widen access to education, whether formal, informal or non-formal, with an emphasis on lifelong learning, in order to contribute to social inclusion, gender equity and special needs education.

The main areas of intervention to be explored and implemented refer to the PARIS OER DECLARATION approved during the WORLD OPEN EDUCATIONAL RESOURCES event (UNESCO[1]) held in Paris, in June 20-22, 2012 and briefly reported below:

• Foster awareness and use of OER. Promote and use OER to widen access to education at all levels, both formal and non-formal, in a perspective of lifelong learning, thus contributing to social inclusion, gender equity and special needs education. Improve both cost-efficiency and quality of teaching and learning outcomes through greater use of OER.

• Facilitate enabling environments for use of Information and Communications Technologies (ICT). Bridge the digital divide by developing adequate infrastructure, in particular, affordable broadband connectivity, widespread mobile technology and reliable electrical power supply. Improve media and information literacy and encourage the development and use of OER in open standard digital formats.

• Reinforce the development of strategies and policies on OER. Promote the development of specific policies for the production and use of OER within wider strategies for advancing education.

• Promote the understanding and use of open licensing frameworks. Facilitate the re-use, revision, remixing and redistribution of educational materials across the world through open licensing, which refers to a range of frameworks that allow different kinds of uses, while respecting the rights of any copyright holder.

• Support capacity building for the sustainable development of quality

[1] http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/Events/Paris%20OER%20Declaration_01.pdf

learning materials. Support institutions, train and motivate teachers and other personnel to produce and share high-quality, accessible educational resources, taking into account local needs and the full diversity of learners. Promote quality assurance and peer review of OER. Encourage the development of mechanisms for the assessment and certification of learning outcomes achieved through OER.

- Foster strategic alliances for OER. Take advantage of evolving technology to create opportunities for sharing materials which have been released under an open license in diverse media and ensure sustainability through new strategic partnerships within and among the education, industry, library, media and telecommunications sectors.

- Encourage the development and adaptation of OER in a variety of languages and cultural contexts. Favour the production and use of OER in local languages and diverse cultural contexts to ensure their relevance and accessibility. Intergovernmental organisations should encourage the sharing of OER across languages and cultures, respecting indigenous knowledge and rights.

- Encourage research on OER. Foster research on the development, use, evaluation and re-contextualisation of OER as well as on the opportunities and challenges they present, and their impact on the quality and cost-efficiency of teaching and learning in order to strengthen the evidence base for public investment in OER.

- Facilitate finding, retrieving and sharing of OER. Encourage the development of user-friendly tools to locate and retrieve OER that are specific and relevant to particular needs. Adopt appropriate open standards to ensure interoperability and to facilitate the use of OER in diverse media.

- Encourage the open licensing of educational materials produced with public funds. Governments/competent authorities can create substantial benefits for their citizens by ensuring that educational materials developed with public funds be made available under open licenses (with any restrictions they deem necessary) in order to maximize the impact of the investment.

3 Scenarios for learning accreditation

In the framework of the project, several scenarios for the accreditation of learning acquired through Open Education Resources (OERs) have been settled, each with different degrees of 'unbundling' course design, provision and assessment between different institutions and building on concepts such as "Erasmus", "Summer School" and "Open Market".

The scenarios (Figure 1) were developed with the aim of supporting the mainstreaming of OER, addressing and overcoming perceived barriers to their large scale take-up. Guidelines produced by a multi-disciplinary, cross-institutional team in order to support the transfer of those scenarios into reality, is being finalized (a discussion space through periodic webinars is provided to reflect on the feasibility result of each of the scenarios - example: http://www.oer-europe.net/node/90)
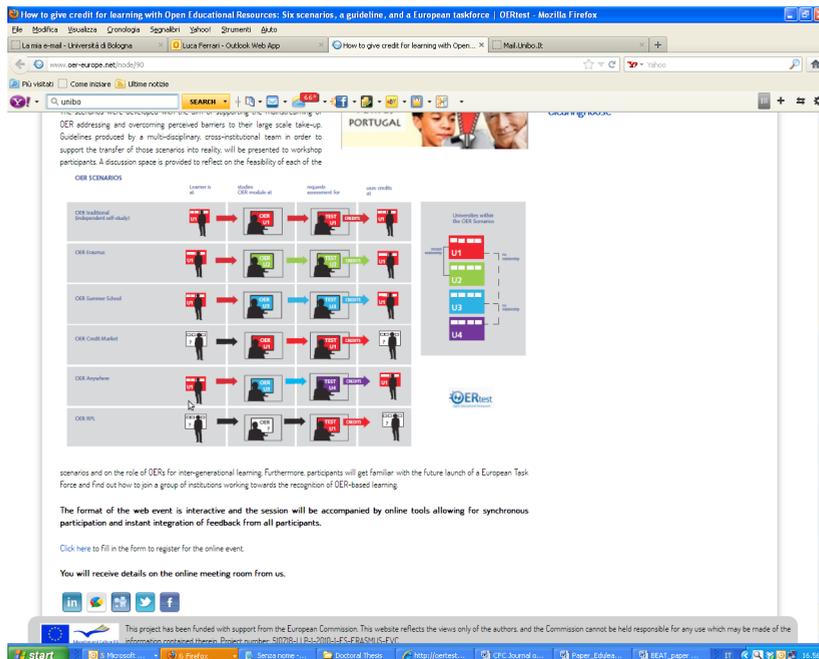
Fig. 1 - OER Scenarios

4 Set-up of an OER repository

In the framework of the project, the Consortium seeks the establishment of a European OER Clearinghouse (repository) for accessing, through a single portal, the OER course materials located in the local repositories of the universities and enabling the creation of an economic model for the commercialisation of OER-related services by Higher Education Institutions.

There are many available OER course repositories, but most of them are incomplete in terms of description, competences and assessment methods. In order to build a single portal to access the courses, we need to find a common structure and formalize the existing models in order to be valid in a formal

certification framework.

The University of Granada, one of the OERtest partners, has a specific case of repository indexed by the Clearinghouse. Following the OpenCourseWare initiative, the OCW-UGR repository hosted in Universia, an institution that groups Spanish American institutions within a university network, uses the EduCommons metadata schema for OCW Repositories. Some course statistics, descriptions and standards applied to the metadata of the OCW-UGR courses are shown.

For the design of principles for the Clearinghouse, the OERtest project has provided guidelines for assessment of OER that are concerned with entire course-modules offered as OER. The OER must be an entire course unit/module (this also means that the guidelines require an education system based on a system of credits to be properly applied), with full course materials, guides, supporting documentation, etc., equivalent to a unit/module offered in any HEI. The guidelines are intended primarily for units which have been made available online, primarily for self-study, and not necessarily tutor-supported. This strategy assumes the possibility of unbundling the course design, the teaching and the assessment, both within an institution and among the different institutions.
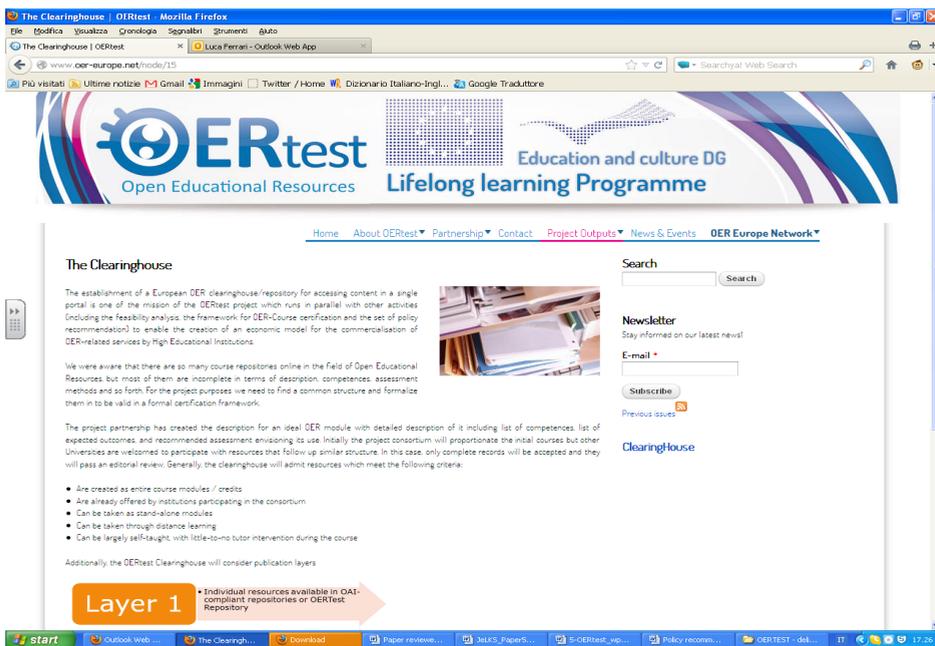
Fig. 2 - The OERTest Clearing house

The Clearinghouse will work through manual submission of individual resources by the participating institutions, whose submissions will be quality controlled for completeness and coherence before being published.

5 Lession learned from OERTEST project

The OERTest initiative has been investigating the feasibility of the provision scenarios briefly described above, through an analysis including interviews, focus groups with institutional decision makers, desk-research and economic modelling.

Taking into account that the OERTest Project explores a potential learning situation based on the use of OER, we adopted a **qualitative approach** since it facilitates the in-depth exploration of informants' perceptions and beliefs. Concretely, feasibility testing for OER-based learning consisted of 4 steps (Figure 3):

1. Identifying the key informants, that is, selecting experts linked to relevant areas or departments for the project.
2. Exploring and defining OER-based learning through the experts' beliefs and perceptions about the core issues of the project.
3. Exploring a sustainability model, taking into account the financial analysis.
4. Analyzing the feasibility of OER provision in HEIs.

Some actions taken prior to feasibility testing analysis impacted on its implementation. The general procedure for feasibility testing is illustrated in Figure 2.
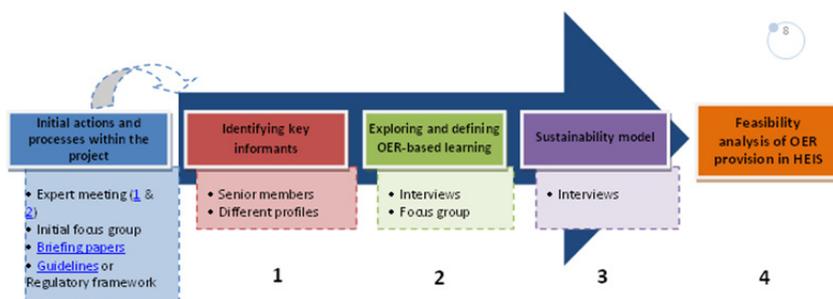

Fig. 3 - The feasibility study

The first results picked up from the analysis underlined the following points:

- The cost of recognition of self-study OER-modules through Recognition of Prior Learning (RPL) is prohibitive, since the costs of performing RPL are similar enough to the cost of actually taking a fully tutor-supported course (which seems to be the preferable option). Thus, this scenario will remain marginal unless automated/systemised testing procedures are implemented, which will allow for economies of scale to be generated.
- From the scenarios proposed, the most amenable to institutions seems to be that of 'OER Erasmus', which is similar enough to the two existing agreements as well as developed concepts of virtual mobility (Uvalic´-Trumbic´ *et al.*, 2007).
- Institutions emphasize the difference between 'cost' and 'value', stating that even if cost is brought down significantly, these savings would not necessarily be passed on in full for fear of cannibalising existing business models.

As a further result of the feasibility study the OERTest consortium has identified and discussed a set of policy recommendations (PR), that have been divided in two main categories: "macro level" (PR1-8), including general indications addressed to national and EU governments, organizations and competent authorities, developed by reviewing and updating the International and EU documents; "micro level" (PR9-18), including specific indications addressed to HEI, Universities and networks, developed through practical actions (analysis, action-research, test) and participatory exchanges (seminars, workshops, interviews) realized in the context of the OERTest project and related to problems still to be solved such as assessment and certification. In the following pages the PRs are shortly presented.

PR1. Develop specific policies for the production and use of OER starting from awareness raising: HE institutions have to promote the development of specific policies for the production and use of OER within wider strategies for advancing education. The adoption of this vision will facilitate the creation of an open, flexible, inclusive educational environment including support mechanisms.

PR2. Stimulate institutional and national partnerships: HE institutions are able to take part in educational collaborations, promote shared, collaborative teaching and provide reward systems for open education.

PR3. Promote the exchange of ideas and practices among OER European interest groups: collaborative agreements between universities are likely to be

the most productive approach (i.e. trust relationships as in Erasmus).

PR4. Reconsider the existing Intellectual Property Right and Copyright schemes: enact legislations, then enable 'fair educational use' of copyrighted digital learning materials. Whenever learning materials are produced with public funding, open licenses should be used.

PR5. Overcome fragmentation in learning resources: the creation of a repository of OER-modules based on quality criteria will facilitate learning processes. This implies the need for universities to share a common approach to training, which can call attention to the pedagogical potential of OERs, including the development of ICT skills (example: the OERTest Clearinghouse). The OERTest project set up a high-quality repository tested by 5 European universities, with commonly agreed standards for classification and scenarios in order to share the learning modules.

PR6. Improve transparency and accountability in teaching: the creation of a "Learning Passport", a European Diploma Supplement-compliant 'transcript', should be thought of as an opportunity through which HE institutions can record the learner's achievements against Learning Outcomes. Other specific recommendations to facilitate this process are:
- Include, when publishing your own OERs, an overview on the content (pre-structure), learning outcomes and suggested assessment methods. Think of the resources as one package which self-learners can use independently.
- Investigate whether assessment and recognition of your OERs would be feasible within your own institution, e.g. for students of your own university, e.g. students of HEIs with existing agreements with your department/university (exchange programmes), prospective students of your programme through existing procedures of recognition of prior learning.

PR7. Overcome the dichotomy between the perceived value of real and virtual learning: the adoption of OERs could contribute to: facilitating access to high quality content at university level and to the higher education system without the need to meet access requirements; promoting opportunities for professional improvement; encouraging the trend towards personalization and adaptation to the rhythm of student learning (just-in-time learning); reducing dropout rates, since the student has more information about the course; improving mobility and exchange between universities; providing an opportunity to rethink the university system in its most positive sense; enriching the learning

process (and the institutions themselves) by making content available to students from other universities; complementing the traditional university system of funding.

PR8. Promote the provision of Open Educational Assessment and quality procedures: HE institutions need to share barriers, opportunities and concrete practices in order to improve understanding of OER Assessment. To facilitate this, a possible regulatory framework was developed to allow for the unbundling of course design, provision and certification. In this framework the recommendation created in the OPAL project, the suggestion of integrating OEP into Institutional Quality Procedures is a relevant challenge: "traditional academic (and scientific) quality assurance procedures rely on a formal hierarchical system of peer-review and external assessment. Collaborative co-creation upends this quality model Recommendation: Develop specific quality schemes for Open Educational Practice, particularly by moving concepts from recent EU projects such as CONCEDE, OPAL, OERTest etc. from pilot into operational phases".

PR9. Open up assessment activity of HE Institution prior learning in order to include OER progressively: in OER-based learning, it is "essential" to support unbundled assessment & accreditation, to specify a "Learning Passport" and to create realistic assessment & certification scenarios that map onto current traditional higher education processes.

PR10. Allow different scenarios to facilitate the acquisition of an educational certification / qualification: different universities prefer different scenarios, depending on their charging models, legislative constraints, prior collaborative arrangements, flexibility in current assessment procedures. There are at least four concrete reasons for using these scenarios:
- as a showcase of a program within an institution;
- to validate credits as part of a program within an institution;
- as a supplement or complement to a degree course, that is, completing a program;
- specialization regarding a concrete topic or knowledge area or to fill gaps.

PR11. Adopt quality criteria to define the minimum requirements of an OER learning module to be eligible for assessment and certification: the definition of minimum requirements and characteristics of the modules from a simple and clear structure, and shared between institutions. These criteria have to make clear that the OER approach goes beyond the exhibition of content, in that it

promotes a complex and complete learning process.

PR12. Implement quality assurance assessment and certification: the implementation of a quality assurance assessment system and certification should be developed by management staff and it may involve teachers when accrediting the learning assessed in other institutions. In any case, these processes will be as systematic and concrete as possible as well as based on the reputation of institutions. The procedures for assessment and certification need to be clear and well formalized.

PR13. Promote a plurality of assessment methods: the need to take into account a variety of assessment methods represents the way to promote a plurality of assessment methods. Nevertheless, it would be complex to define an evaluation process depending on each specific OER-module. Suggestions from the international experts involved in the OERTest project pointed out the importance of choosing the "appropriate tests or procedures". Beyond the examinations (clearly insufficient), similar processes to the doctoral thesis or project evaluation could be followed. It is also suggested that "the assessment could be the same as that used with students who follow the present OCW", i.e. continuous assessment applied or adapted to those taking part in the learning process in an autonomous way.

PR14. Test informatics tools to improve the assessment process automation: different EU universities are testing informatics tools to support the assessment process. For instance when a student gathers a set of X evidences of X type, the system will inform that he or she is ready to be assessed; or in the case of accreditation, the system would offer the possibility of sending a certificate, recognizing it in the student record or sending the information to the university of origin. That is, linking the activity of the student to assessment and management, taking into account all processes and needs resulting from each phase.

PR15. Explore an alternative economic model for the adoption of OER: the implementation of an economic model of OER in HE institutions, requires us to understand:
- which inputs are available (internal and external to the institution)?
- when will they be available?
- who would benefit from them (the institution, the consortium, in percentages, etc...)?
- what inputs cover what expenses?

Regarding fees it is important to consider the processes that come into

play and the resources consumed: "the price, at a minimum, must cover the costs".

PR16. Support initiatives creating shared Open Courseware repositories: need to support - starting from the EU level – OER initiatives creating shared Open Courseware repositories among existing ERASMUS networks in specific subjects. Furthermore, creating a repository of OER-modules based on quality criteria will facilitate learning processes. This implies the need to share a common structure between universities. We are working in the OERTest Clearinghouse along this line.

PR17. Disseminate knowledge and existing good practices: the dissemination of knowledge about the existing good practices on identification and access management" requires universities to issue identity proofed online credentials and help build future partnerships among HE institutions.
PR18. Address quality assurance for distributed learning: it is crucial to address quality assurance for distributed learning involving different HEI at the national level but also between different countries and allow pioneer HEI institutions to experiment "safely".

Conclusions

If we accept to face the challenge of OER in HE, it is essential to change or modify our educational perspective, including finding creative solutions to shift from prescriptive educational methods towards open learning formats. The questions highlighted are central and aimed at analyzing efficiency benefits of OER, the relationship between OERs, and the reasons for teachers and learners to use OER materials.

In this article we have presented some evidence and results of the OERTest project. At the same time we have presented the lessons learned and the consequent policy recommendations which each HE institution needs to take into account for implementing OERs.

We conclude by calling for wider participation and input into the development, promotion and dissemination of a culture of sharing amongst the teaching community in Higher Education. We encourage readers to interact with the platform created in the framework of the OERTest project (http://www.oer-europe.net/node/15) and provide feedback and suggestions.

Acknowledgment

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