



Creating European standards for open education and open
learning resources – EU-StORe
Grant Agreement No.: 2014-1-R001-KA202-002985
Project No.: 2014-1-R001-KA202-002985
01- A3 – Research paper –
P6- LUMSA- Italy



EU-StORe

Research paper

Develop a research paper referring to open learning material and open education resource

Partner 6 – Libera Università Maria Ss. Assunta LUMSA University- Italy

Project Title: European Standard for Open Education and Open Learning Resources

Project Acronym: EU-StORe

Title of the task: Research on existing criteria for open education

Activity Code: O1-A3

Partner: *P6 Libera Università Maria Ss. Assunta (Italy)*

“This project has been funded with support from the European Commission.
This publication reflects the views only of the author, and the Commission cannot be held responsible for any
use which may be made of the information contained therein.”

State of the art of existing criteria for open education

Improving standards of literacy for adults and children is a primary goal constantly confirmed among the priorities outlined in the most recent documents produced by the European Commission¹. The importance of formal education and training for the development of transversal and basic skills such as literacy and numeracy is particularly crucial today more than ever. Moreover, “most countries need to increase participation in higher education, but higher education institutions generally have not so far been able to meet this challenge” (OECD, 2007). An opportunity to improve the higher education is represented by the Open Education and the concept of open education includes necessarily the development of Open Educational Resources (OER). Open Educational Resources (OER) reveal the quality of education, fostering knowledge sharing, capacity building and policy dialogue. The Open Educational Resources concept rely on the philosophical perspective that considers “knowledge as a collective social product” and, therefore, the possibility to make it a common joint possession (Downes, 2007). The term “open educational resources” was used for the first time in 2002 during a conference hosted by UNESCO and today are becoming a priority and global mainstream in education (Weller, 2014).

Open educational resources as a crucial step in the evolution of education are summarised in point A of the Paris OER Declaration, which recommends States to:

“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”. (UNESCO 2012).

The term “open educational resources” was defined as “the open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-commercial purposes” (Johnstone, 2005).

Currently, the mostly used definition of OER is: “digitised materials offered freely and openly for educators, students and self-learners to use and reuse for teaching, learning and research”.

The classification made by Johnstone of three types of OERs restricts them only to the following “contents”:

¹ HORIZON2020 (2011). Regulation of the European Parliament and of the council establishing Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020) SEC(2011) 1427-Vol 1, SEC(2011) 1428-Vol 1.



- 1- Learning resources and courseware, content modules, learning objects, learner-support and assessment tools, online learning communities;
- 2- Resources to support teachers – tools for teachers and support materials to enable them to create, adapt and use OER;
- 3- Resources to assure the quality of education and educational practices.

By contrast, in their definition of OERs, Atkins, Seely-Brown and Hammond suggest that OERs can include also developmental aspects such as those related to processes and techniques used (Atkins, Seely-Brown & Hammond, 2007).

In September 2013, the European Commission starting from the development of the portal elearningeuropa.info (available since 2002) established the portal “Open education Europe” with the project “Opening up education”, (<http://openeducationeuropa.eu/>). The portal provides a specific access for open educational resources in Europe. The portal is an example of the transformation of education through technology and it can be considered a privileged place for the analysis of change and innovation in teaching.

Atenas and Havemann (2013; 2014), in a detailed review, identify OERs key themes in the following actions: “Search, Share, Reuse, and Collaborate”. The same authors (Atenas and Havemann, 2014) reported the most frequent “Quality Indicators” used in literature to evaluate OERs' quality: “featured resources, user evaluation tools, peer review, authorship of the resources, keywords of the resources, use of standardised metadata, multilingualism of the repositories, inclusion of social media tools for sharing resources, specification of the type of creative commons licences per resource, availability of the source code or original files”. An additional level of analysis is nominated as ‘three-dimensional analysis’ because the desirability of implementing must be considered in relation to the three dimensions *priority*, *achievability* and *sustainability* (Atenas & Havemann, 2014).

A resource can be considered educational if it complies at least with one of the following three criteria reported by Camilleri and colleagues (Camilleri, Ehlers, & Pawlowski, 2014):

- “it has been produced / released specifically for use in formal or non-formal education;
- it is used as course-material in an educational course or programme;
- it is included in a repository of materials intended to support formal/non-formal education”.

OER inevitably includes the world of MOOC (Massive Open Online Courses), a phenomenon that has had a remarkable rapid expansion in the last years. In 2010 there were more than six million students (31% of students) who participated in an online course and course participation has grown by 358% since 2003 (Allen & Seaman, 2011).

The following 12 criteria were proposed by Conole (2013) in order to classify MOOCs: “open, massive, use of multimedia, degree of communication, degree of collaboration, learning

pathway, quality assurance, amount of reflection, certification, formal learning, autonomy and diversity”. Conole (2013) consider that the quality of MOOCs has to be a confluence of the following concepts: “efficacy, impact, availability, accuracy, excellence”.

A key criteria of Open Educational Resources (OER) is the concept of “learning object” (Camilleri, Ehlers & Pawlowski, 2014), a term which was originally coined by Wayne Hodgins in 1994 (Wiley, 2000). The learning objects refers to the fact that materials used to sustain learning can be mixed differently and reused in various context. Defining what precisely constitutes a learning object within the Open Educational Resources (OER) is an issue widely debated. McGreal (2004) summarized the different definitions presented in literature of learning objects: the Hewlett Foundation focuses on teaching and learning as a public domain², whilst the OECD underlines the free accessibility of digitized materials (Ischinger, 2007) and the Cape Town Open Education Declaration³ is based on “the freedom to use, customize, improve and redistribute educational resources without constraint”. Particularly, it specifies that educational resources should be “freely shared through open licenses which facilitate use, revision, translation, improvement and sharing by anyone. Resources should be published in formats that facilitate both use and editing, and that accommodate a diversity of technical platforms”. Learning objects are often considered as a single product (a file, a document, a video), a sort of single unit of content produced for learning purposes, that can be stored and transferred from one user to another.

Each learning object should directly refer to one or more learning objectives or learning goals, i.e. the expected outcome in terms of learner final behaviour and knowledge. The European Consortium for Accreditation recommends a number of quality criteria that should be taken into account when designing learning objectives for OERs (ECA, 2013). Among the others can be useful here to recall two of them:

- “Internal and external stakeholders should be involved in the process of designing and revising learning objectives;
- Learning objectives should be described in a comprehensible way. In particular, they should: be defined in clear and concrete terms (short and simple sentences), and focus on what students are expected to be able to demonstrate and describe observable abilities which can be assessed”.

Stating clearly the learning objectives of an OER is the first step for quality assurance and accountability processes.

² Definition on the Hewlett website, <http://www.hewlett.org/Programs/Education/OER/>
³ <http://www.capetowndeclaration.org/>

References

- Atenas, J., & Havemann, L. (2013). Quality assurance in the open: an evaluation of OER repositories. *INNOQUAL-International Journal for Innovation and Quality in Learning*, 1(2), 22–34. Retrieved from <http://papers.efquel.org/index.php/innouqual/article/view/30/12>
- Atenas, J., & Havemann, L. (2014). Questions of quality in repositories of open educational resources: a literature review. *Research in Learning Technology*, 22. doi:<http://dx.doi.org/10.3402/rlt.v22.20889>
- Atkins, Daniel E., John Seely Brown & Allen L. Hammond (2007). *A Review of the Open Educational Resources (OER) Movement: Achievements, Challenges, and New Opportunities*. Menlo Park, CA: The William and Flora Hewlett Foundation.
- Baraniuk, R. G. (2008). Challenges and opportunities for the open education movement: A Connexions case study. In T. Iiyoshi & M. S. V. Kumar (Eds.), *Opening up education: The collective advancement of education through open technology, open content, and open knowledge* (pp. 229 - 246). MA: MIT Press.
- Barbosa, E., Gimenes, I. M., & Barroca, L. (2012). Towards the development of open educational resources: challenges and issues. In *II International Symposium on OER: Issues for globalization and localization*. Rio de Janeiro. Retrieved from <http://www.br-ie.org/pub/index.php/wcbie/article/view/1889>
- Barbosa, E. F. and Maldonado, J. C. (2011). Collaborative development of educational modules: a need for lifelong learning. In Magoulas, G. D., editor, *E-Infrastructures and Technologies for Lifelong Learning: Next Generation Environments*, pages 175–211. IGI Global.
- Brown, J. S., & Adler, R. P. (2008, January 18). Minds on fire: Open education, the long tail, and learning 2.0. *Educause review*, 43(1), 16-32. Retrieved from <http://www.educause.edu/ero/article/mindsfire-open-education-long-tail-and-learning-20>
- Camilleri, A., Ehlers, U., & Pawlowski, J. (2014). *State of the Art Review of Quality Issues related to Open Educational Resources (OER)* (p. 57). Retrieved from <http://www.pedocs.de/volltexte/2014/9101/>
- Commission of the European Communities (2002). *Proposal for a Decision of the European Parliament and of the Council adopting a multi-annual programme (2004-2006) for the effective integration of Information and Communication Technologies (ICT) in education and training systems in Europe (eLearning Programme)*, COM(2002) 751 final, 2002/0303 (COD) 19.1.2002 Brussels.
- Conole, G. (2013, June). A new classification for MOOCs. *MOOC Quality Project*. Retrieved from: <http://mooc.efquel.org/a-new-classification-for-moocs-grainne-conole/>
- Conole, G., & McAndrew, P. (2010). A new approach to supporting the design and use of OER: Harnessing the power of web 2.0, M. In M. Edner & M. Schiefner (Eds.), *Looking toward the future of technology enhanced education: ubiquitous learning and the digital nature*. Retrieved from http://www.e4innovation.com/share/conole_mcandrew_shum_chapter_edner_book_v3.doc
- Downes, S. (2005). E-learning 2.0. *ACM eLearn Magazine*. Retrieved from <http://elearnmag.acm.org/featured.cfm?aid=1104968>
- Downes, S. (2007). Models for sustainable open educational resources. *Interdisciplinary Journal of Knowledge and Learning Objects*, 3, 29-44.
- ECA. (2013). *Learning Outcomes in Quality Assurance and Accreditation: Principles, Recommendations & Practice* (Project Report). European Consortium for Accreditation in Higher Education. Retrieved from http://www.eaconsortium.net/admin/files/assets/subsites/1/news/1372260000_eca-wg4-document-on-lo-final.pdf



- Farrow, R. (2014). OER Impact: Collaboration, Evidence, Synthesis. In *CWC Global 2014: Open Education for a Multicultural World*. Retrieved from http://cdlh7.free.fr/OCWC_2014/Final_papers/Paper_51.pdf
- Johnstone, S. M. (2005). Open Educational Resources Serve the World. *Educause Quarterly* (3), 15 -18.
- Kanwar, A., Uvalic-Trumbic, S. & Butcher, N. (2011) *A basic guide to open educational resources (OER)*. UNESCO. Retrieved from <http://unesdoc.unesco.org/images/0021/002158/215804e.pdf>
- Keller, P., and Mossink, W. (2008), Reuse of material in the context of education and research.
- Ischinger, B. (2007). Giving Knowledge for Free: The Emergence of Open Educational Resources. OECD.
- Hylén, J. (2006). Open educational resources: opportunities and challenges. In *Open Education: Community, Culture, and Content*, pages 49–63.
- McAndrew, P., Santos, A., Lane, A., Godwin, S., Okada, A., Wilson, T., Connolly, T., Ferreira, G., Buckingham Shum, S., Bretts, J. (2009). OpenLearn [CS4] research report 2006-2008. Retrieved from: <http://oro.open.ac.uk/17513/>
- McGreal, R. (2011). *Open Educational Resource Repositories: An Analysis*. Athabasca University, Ed. Retrieved from http://elexforum.hbmeu.ac.ae/Proceeding/PDF/Open_Educational_Resource.pdf
- McGreal, R. (2004). Learning objects: A practical definition. *International Journal of Instructional Technology and Distance Learning (IJITDL)*, 9(1). Retrieved from: <http://auspace.athabascau.ca/handle/2149/227>
- UNESCO (2012). *2012 Paris OER Declaration*. World OER Congress, Paris, June 2012.
- Nagashima, T. (2014). What Makes Open Education Thrive?: Examination of Factors Contributing to the Success of Open Education Initiatives. *Innoqual: International Journal for Innovation and Quality in Learning*. Retrieved from <http://www.papers.efuel.org/index.php/innoqual/article/view/156>
- Organisation for Economic Co-operation and Development-OECD. (2007) *Giving Knowledge for Free: The Emergence of Open Educational Resources*. Paris: OECD- Educational Resources Centre for Educational Research and Innovation.
- Peter, S. & Deimann, M. (2013). On the role of openness in education: A historical reconstruction. *Open Praxis*, 5(1), 7–14. <http://dx.doi.org/10.5944/openpraxis.5.1.23>
- Pirkkalainen, H., & Pawlowski, J. (2013). Global Social Knowledge Management: From Barriers to the Selection of Social Tools. *Electronic Journal of Knowledge Management*, 11(1). Retrieved from <http://www.ejkm.com/issue/download.html?idArticle=379>
- Richter, T., & Veith, P. (2014). Fostering the Exploitation of Open Educational Resources. *Open Praxis*, 6(3), 205–220. doi:<http://dx.doi.org/10.5944/openpraxis.6.3.139>
- UNESCO (2002), 'Forum on the Impact of Open Courseware for Higher Education in Developing Countries' in 2002, report available online at http://portal.unesco.org/ci/en/ev.php-URL_ID=5303&URL_DO=DO_TOPIC&URL_SECTION=201.html, last accessed 21/04/10.
- Vollmer, T. (2012, November 1). Keeping MOOCs Open - Creative Commons. Retrieved May 30, 2013, from <https://creativecommons.org/weblog/entry/34852>
- Weller M. (2014). *The battle for Open*. [<http://www.ubiquitypress.com/site/books/detail/11/battle-for-open>].
- Wiley, D. A. (1998). Open content. OpenContent.org.
- Wiley, D. A. (2000). Connecting learning objects to instructional design theory: A definition, a metaphor, and a taxonomy. In *The instructional use of learning objects*. Bloomington: Association for Educational Communications and Technology. Retrieved from <http://www.reusability.org/read/chapters/wiley.doc>
- Wiley, D. A. (2010). Openness as catalyst for an educational reformation. *EDUCAUSE Quarterly Magazine*, 45(4):14–20.