



Creating European standards for open education and open  
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# EU-StORe

## Research paper

**Research on open learning material and open educational resource**

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

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## 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 Commission<sup>1</sup>. 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”.

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<sup>1</sup> 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.



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

- 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](http://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 domain<sup>2</sup>, whilst the OECD underlines the free accessibility of digitized materials (Ischinger, 2007) and the Cape Town Open Education Declaration<sup>3</sup> 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”.

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



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

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