A Vision of Quality in Repositories of Open Educational Resources

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In the future, Open Educational Practices (OEP) will facilitate access to open materials by promoting collaboration among educators, who will share, reuse and evaluate digital pedagogical content using Repositories of Open Educational Resources (ROER).

Nowadays, Open Educational Practices (OEP) as defined by the ICDE [1] are based on supporting the development and quality of Open Educational Resources (OER). In our view, enhancing the quality of Repositories of OER (ROER) is a crucial link in this chain, which indicates there is a need to establish a series of good practices to standardise the functionalities afforded by such repositories. Basing our definition of OER on the one given by the Kanwar & Uvalic-Trumbic (2011)[2] we argue that in order to *both increase the sharing of, and facilitate access to* OER, it is vital to engage academics in a cultural shift towards embracing OEP and, at the same time, to improve on current models of ROER to ensure they facilitate, improve and simplify use of materials.

Until now, the OER movement has understandably tended to focus on the creation and sharing of resources, spurring the development of a large number of repositories worldwide into which such resources can be uploaded. For Windle et al. (2010)[3], there still unanswered questions about the reuse of OER and who is reusing them. These are important questions if we consider that at the heart of the OER ethos, as distilled in the Paris OER declaration 2012[4], is the idea of *reuse and adaptation* of materials by other educators. In this paper we report on the preliminary findings of three studies conducted in 2012, which aimed to evaluate the current panorama of the use and sharing of OER. Here we briefly consider the results of these studies with a view to envisioning how OER might in future be retrieved, used, organised and disseminated. The studies were:

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[1] According to the ICDE, 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*". http://www.icde.org/en/resources/open_educational_quality_inititiative/definition_of_open_educational_practices/

[2] According to Kanwar & Uvalic-Trumbic (2011), OER are "*In its simplest form, the concept of Open Educational Resources (OER) describes any 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*". http://oer.unescochair-ou.nl/?wpfb_dl=29, (p.5).

[3] For Windle et al (2010): "*to date the OER movement has mostly focused on the input or sharing aspect of this equation. A relatively large amount of funding has been made available for the creation of repositories, and the movement has had some success in encouraging individuals to share their resources. Much less is known about the reusability or reuse of the resources that have been accumulated. Who is reusing the resources? How much is being reused? What is being reused? Why are they reusing? What makes it easier or more difficult*?" http://jime.open.ac.uk/jime/article/viewArticle/2010-4/html.

[4] UNESCO, 2012 Paris OER Declaration: World Open Educational Resources (OER) Congress. http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/Events/Paris%20OER%20Declaration_01.pdf

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1. A survey of 217 academics from 35 countries who teach face to face, at a distance or in blended programmes, which aimed to understand how they use learning and social technologies and OER.
2. Analysis of the key literature on OER to identify a set of indicators for quality assurance (IQA) in the development of ROER.
3. Evaluation of 80 existing ROER initiatives, to understand if they uphold the quality indicators derived from the literature.

The vast majority of the academics (206) responded that they do make use of some teaching and learning, social and open technologies in their academic practices.[5] In the first instance, we asked them which types of teaching, learning and social technologies they used more frequently (see figure 1).

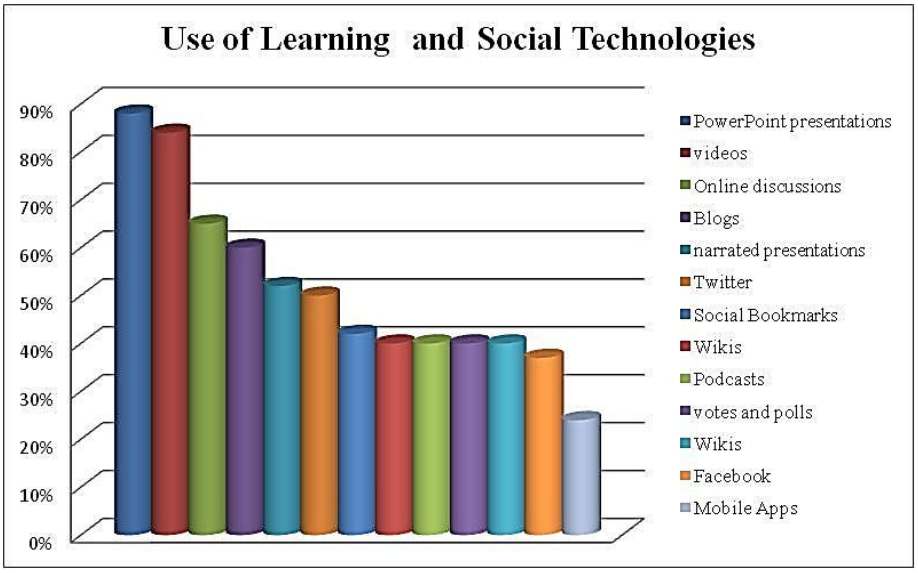

Figure 1

We further asked the academics whether they used or have used OER and which types of OER they have used (see figure 2).

[5] This might be considered quite a high rate, but as the participants were reached via blogs, Facebook and Twitter, they may have self-selected due to an existing interest in the topic; as such our sample potentially represents 'academics of the future' better than the average academic of today.

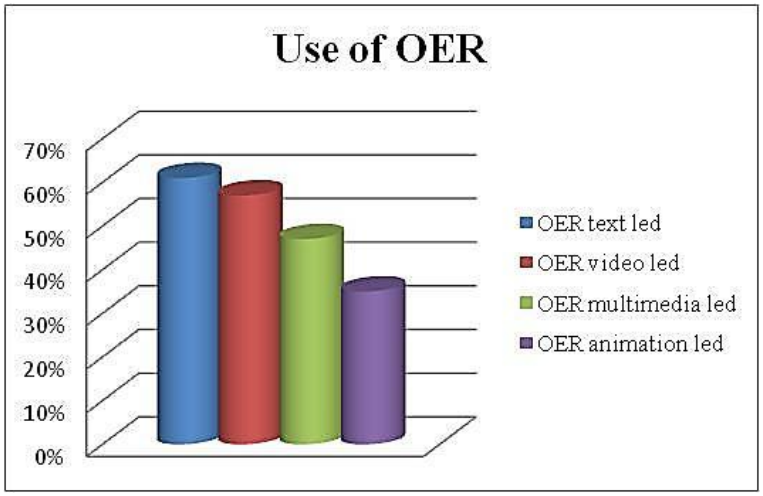

Figure 2

The participants who responded that they have used OER were asked about their personal opinions on finding and selecting OER. They reported back that the lack of training to support them in finding resources was a major issue, alongside a lack of clarity around the authorship of the resources, their pedagogical value, and the terms of licences to reuse, making the whole process time consuming. Another challenge encountered by academics which are not native English speakers is that the majority of the resources are not available in their language and the cost of translation becomes an obstacle to reuse or adaptation.

The academics were also asked about barriers they encounter when using OER, and their main concerns were about meeting their students' expectations, being sure of the real relevance of the materials, the quality of the resources, and the technical challenges they could encounter. They also mentioned difficulties with navigating between different repository interfaces, that the resources were often not easily customisable, and that they don't always comply with accessibility norms.

In parallel with this investigation of academic views, we also reviewed the OER literature to understand what the experts have said about the design and purpose of ROER, with the aim of developing a framework for evaluation and quality assurance. From this review we identified a set of ten *indicators for quality assurance* (IQA) in repository design and development, which are said to successfully support search, sharing, reuse and collaboration (see table 1 below).

IQA	Description
Featured resources	Ability of featuring resources that are potentially of high interest for teachers because of it design or content.
User evaluation tools	Tools for the resources to be evaluated by users aiming to rate a resource.
Peer review	Peer review as policy to revise and analyse each resource to ensure its quality.
Authorship of the resources	Analyse if the repositories include the name of the author(s) of the resources.
Keywords of the resources	Methodically describe the resources to facilitate the retrieval of the materials within certain specific subject areas

Inclusion of Metadata (Dublin Core - IEEE LOM - OAI-PMH)	Introduce standardised formats of metadata to describe OER such as Dublin Core - IEEE LOM - OAI-PMH to comply with international standards for quality making descriptions interoperable amongst ROER
Multilingual support	Design the interface of the in a multilingual way to widen the scope of users by allowing them to perform search of content in different languages.
Inclusion of Social Media tools for sharing resources	Introduce social media tools to enable the users to share the resources within social media platforms.
Specification of Creative Commons Licence	Specify the type of Creative Commons Licence per each resource or give information about the specific type of licence for all the resources.
Source Code or Original Files Available	Allow the download of the source code or original files for resources.

Table 1

Additionally, in order to understand if current ROER have integrated the IQA mentioned in the literature, we have reviewed 80 ROER initiatives.[6] Figure 3 (below) gives a snapshot of the incidence of the IQA across the repositories analysed. These results indicate significant patchiness across the sample, with some indicators very likely to be found, and others much more rarely found. While most of the repositories comply with some of the IQA, there is a lack of common practices, and low incidence of some key good practices, which in our view are likely barriers to OER usage and OEP adoption by academics.

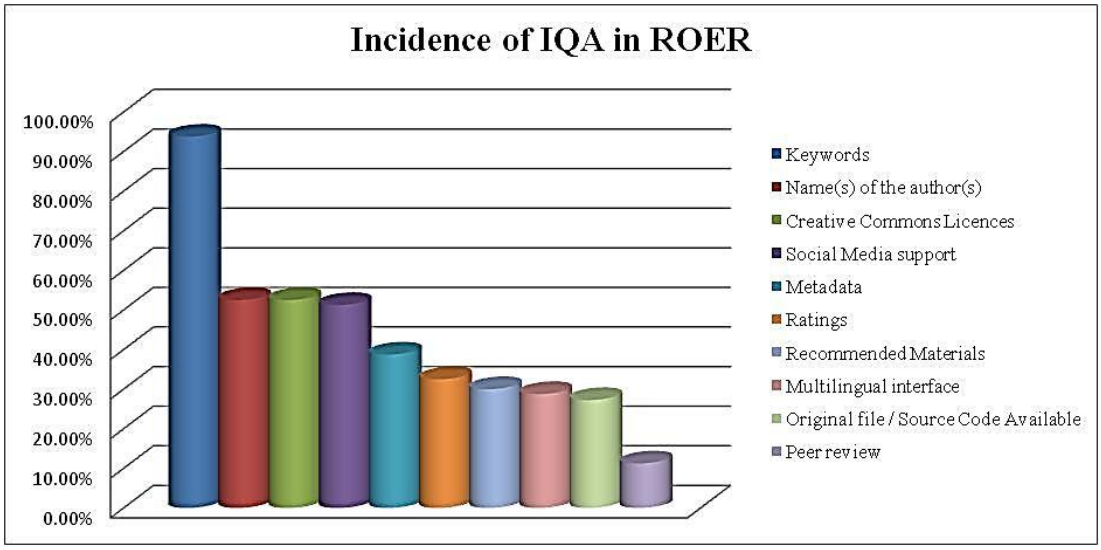

Figure 3

[6] We have based our definition of ROER on the one given by McGreal (2011) and therefore excluding other related but somewhat different platforms such as ITunesU, OCW, MOOCs or youtube.edu channels. See: '*Open Educational Resource Repositories: An Analysis'*, http://elexforum.hbmeu.ac.ae/Proceeding/PDF/Open Educational Resource.pdf

We understand and value the efforts of the OER community worldwide in their commitment to promote and engage with open education OER in scholarly communities, in no small part through these varied local repository initiatives. But we would contend that there is a need for the community to work toward adoption of a set of key common and good practices for ROER, as seen with institutional repositories in recent years.

Envisioning 2030

In the near future ROER interfaces will be designed to facilitate access, and encourage reuse, modification and (re)sharing within academics' digital communities of practice. Of course, there will continue to be a diverse ecosystem of projects reflecting cultural differences and local needs; but there will be a wider consensus around good practices in repository functionality and interface design, and in turn these good practices will be driving up OER quality and participation levels.

For example, academics will find it easier to search and retrieve relevant resources because of better content indexing by repositories, combined with the use of author-generated keywords and controlled vocabularies, or with metadata that has been added by librarians. Repositories will demonstrate trust in the knowledge of their user communities, allowing resource quality and usefulness to be evaluated via usage tracking, rating and commenting, rather than relying on more formal peer review procedures which can be expensive and complex to administer. It will be possible for users to download the source code or original files of the resources in order to update, remix or adapt it. It will also be possible to identify the author of the original resource and any additional subsequent authors who have adapted or translated it, as well as a clear statement of which Creative Commons licence is in effect. Repositories will enable multilingual navigation to support users who might not understand the default language; and will including social media tools to widen the spectrum in which the materials are shared and allow users to easily highlight recently high quality resources within their networks.

While the technology will therefore become more enabling, academic cultures will also need to evolve toward OEP. As some of the academics in our survey mentioned, there is a level of concern about the lack of professional recognition or reward for producing and sharing OER, contrasting with the high value placed on sharing their research findings in academic journals and even in their personal blogs.

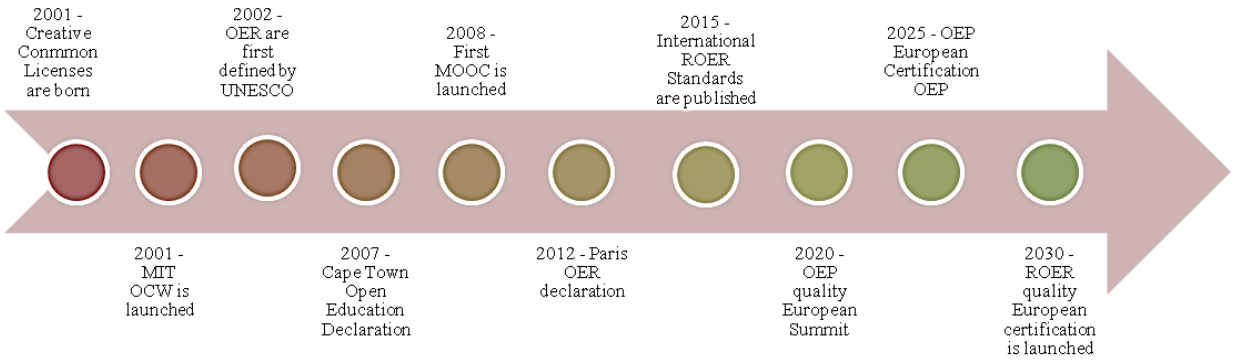

Figure 4

Our vision foresees the implementation of standards for the development of ROER and teacher training in OEP. Therefore we propose that in the near future academics could gain European certification and recognition for proficiency in developing OER and promoting openness in the academic community. This certification would become a key component in the continuing professional development of academics and a great and generous contribution to the knowledge society.

In the future we hope that academics will be recognised and rewarded for sharing and reusing their pedagogical materials, in the same way that the sharing of research is valued by the scholarly community. We expect that academics will include in their practices sharing and opening teaching resources and publications by opening up access to information through ROER and open access repositories, and by encouraging the reuse of learning materials to ensure the permanence of the democratic ideals of a quality public education for everyone.