

## The OERtest Clearinghouse

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### Abstract

One of the aims of the OERtest project is to test the feasibility of assessing learning exclusively achieved through the use of Open Educational Resources. Among other tasks, OERtest seeks the establishment of a European OER Clearinghouse that, through a single portal, allows the access to OER course materials located in the local repositories of the universities. There are many OER course repositories available but most of them are incomplete in terms of description, competences and assessment methods. To build a single portal to access the courses we need to find a common structure and formalize them in to be valid in a formal certification framework. 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. We show some course statistics, descriptions and standards applied to the metadata of the OCW-UGR courses.

### Keywords

OER, OCW, Metadata Schema.

### Introducing the OERtest Project

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 (OER) repositories. These kinds of courseware repositories are offered to all learners worldwide through the use of internet, offering self-guided learning and sharing possibilities to teachers (Standford, 2010; MITx, 2011).

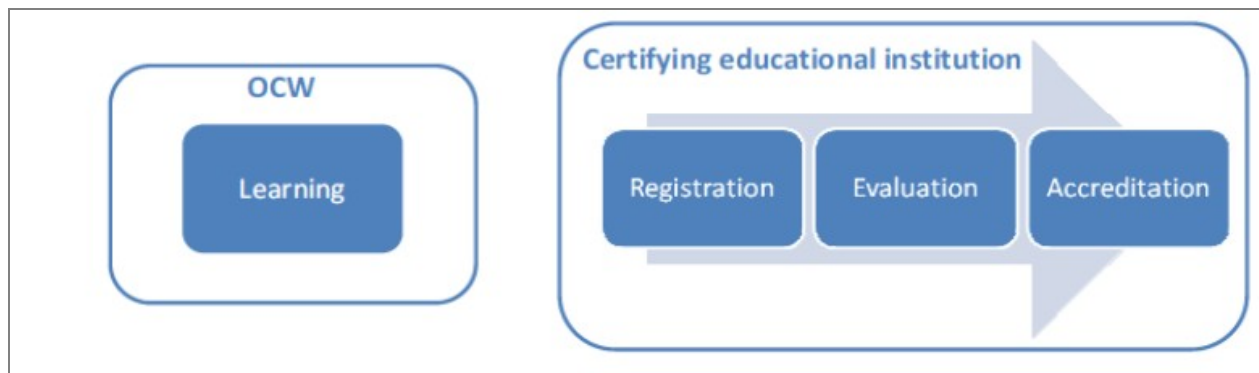
The recognition of OER-based learning and its feasibility within European Higher Education institutions are the main objectives of the OERtest project (OERtest, 2010), a two-year initiative funded by the European Commission (EACEA, 2010), with participant institutions<sup>1</sup> from across Europe.

In the OERtest project, we focus on opening up possibilities for assessment of resources, as a

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natural complement to the materials which are being made available. Mainly we move to the possibility of universities publishing courses as OER and also certifying students, maybe awarding ECTS. This posed two main areas of testing and development as we shown in the following image. The learning framework is concerned with entire course-modules offered as OER with full course materials, guides, supporting documentation etc., equivalent to a unit/module offered in any HEI. The certifying framework assumes the possibility of unbundled course design, assessment & certification possibilities, and accumulation & recognition procedures, both within an institution and between institutions participating in a consortium.



In this paper we focus on the characteristics of the Clearinghouse a meta-aggregator system that links existing institutional repositories with the desired elements for a OER-courses.

### **Other initiatives**

Every institution interested in disseminating their learning production and providing this kind of service uses a learning object platform. The most extended alternative is the open source alternative (MOODLE), but there are other commercial proposals (BLACKBOARD, EQUILLA) or even ad-hoc solutions designed and implemented within the institutions. This diversity is indeed good for users because experts are spread by different institutions and so it is their knowledge. In our opinion, the effort dedicated by institutions in providing open contents is huge, so replication of a centralized service is not an option but to re-use the original contents provided.

OpenCourseWare (OCW) is a large-scale electronic publishing initiative funded by the Massachusetts Institute of Technology (MIT) with the William and Flora Hewlett Foundation and the Andrew W. Mellon Foundation. The University of Granada is present with its own OCW site in Universia, an institution that groups Spanish American institutions within a university network, inside of a project in coordination with OCW-MIT Consortium. The initiative aims to provide free, simple and coherent access to course material for teaching staff in the not-for-profit sector, students and self-educators all around the world (UNIVERSIA, 2012).

The OCW-UGR site has 16 courses classified by six categories (Arte y Humanidades, Ciencias, Ciencias de la Salud, Ciencias Sociales y jurídicas, Arquitectura e Ingeniería y TIC). The categories are similar to the OCW Consortium Categories (OCWC, 2012) but they have been adapted to the reality of the courses from University of Granada. The course structure follows the MIT-OCW structure items as well (syllabus, calendar, readings, lecture notes, labs, assignments, exams, study materials, image gallery, project video, projects, discussion group, class trip,

related resources) but all of them aren't mandatory because the course teacher decide how to design their own courses. Some teachers prefer develop the syllabus concept while less of them choose the calendar (or a temporal distribution) for publishing their readings and assignments. The course content format are heterogeneous and the OCW site visitors can access to information in doc/pdf, video, podcast, html and SCORM format are present in the site. About the access statistics the visit average to the main site is near of 10000 each month with a record of more than 20000 visits last year.

For providing a mechanism to index the content of the OCW site there is a RSS feed with an item for each course. In addition, the courses have associated metadata that describe their content. The metadata schema chosen is the same that EduCommons OCW sites use for their courses (EduCommons. 2012).

Table 1. OCW Course Metadata Set.

Dublin Core Metadata Element Type	Dublin Core Metadata Element Name
Non-qualified Dublin Core	Title
Non-qualified Dublin Core	Creator
Non-qualified Dublin Core	Subject
Non-qualified Dublin Core	Description
Non-qualified Dublin Core	Publisher
Non-qualified Dublin Core	Contributor
Non-qualified Dublin Core	Date
Qualified Dublin Core	Created
Qualified Dublin Core	Issued
Qualified Dublin Core	Modified
Non-qualified Dublin Core	Type
Non-qualified Dublin Core	Format
Non-qualified Dublin Core	Identifier
Non-qualified Dublin Core	Source
Non-qualified Dublin Core	Language
Non-qualified Dublin Core	Relation
Qualified Dublin Core	Is Part Of
Non-qualified Dublin Core	Coverage
Non-qualified Dublin Core	Rights
Qualified Dublin Core	License
Qualified Dublin Core	Rights Holder

### Design Principles for the Clearinghouse

The OERtest project's guidelines for assessment of OER:

- ^ are concerned with entire course-modules offered as OER – the OER must be an entire course unit/module<sup>2</sup>, with full course materials, guides, supporting documentation etc.,

<sup>2</sup> This also means that the guidelines require an education system based on a system of credits to be properly applied.

- equivalent to a unit/module offered in any HEI.
- are intended primarily for units which have been made available online, primarily for self-study, and not necessarily tutor-supported
- assume the possibility of unbundling course design, teaching and assessment, both within an institution and between institutions

Current meta-data schemes, as applied to OCW, do not provide for (a) information about the completeness of the resource for self-study, (b) information about quality checks performed on the resource and (c) information about the possibilities for obtaining certification verifying completed learning.

Based on these observations, the OERtest Clearinghouse will create a directory of learning resources (hosting only meta-data, and linking to content in existing OCW repositories), where each resource is defined in line with the features outlined above (classified as Type: Collection in line with Dublin Core terminology). The classification terminology will use the Dublin Core, as its basis, mandating certain vocabulary restrictions to existing elements in the following cases, so as to enable its usage scenario:

<b>Term Name: Description</b>	
Label:	Description
Definition:	An Account of the Resource
Comment:	Description may include but is not limited to: an abstract, a table of contents, a graphical representation, or a free-text account of the resource. <i>In particular, it should contain a description of the learning outcomes of the resource in question.</i>
Type of Term:	Property
Refines:	<a href="http://purl.org/dc/elements/1.1/description">http://purl.org/dc/elements/1.1/description</a>

<b>Term Name: Rights</b>	
Label:	Rights
Definition:	Information about rights held in and over the resource.
Comment:	Typically, rights information includes a statement about various property rights associated with the resource, including intellectual property rights. <i>In particular, it should contain a clear statement as to permissions for re-use, and any limitations in its use as part of a certification process (including where such process is commercial in nature)</i>
Type of Term:	Property
Refines:	<a href="http://purl.org/dc/elements/1.1/rights">http://purl.org/dc/elements/1.1/rights</a>

<b>Term Name: Publisher</b>	
Label:	Publisher
Definition:	An entity responsible for making the resource available.
Comment:	Examples of a Publisher include a person, an organization, or a service. <i>Where the publisher has been authorised to publish by as a course module by</i>

	<i>another body, e.g. an accreditation agency this should also be indicated using the format &lt;NAMEOFPUBLISHER&gt; (As certified by &lt;NAME OF AUTHORIZING ENTITY&gt;)</i>
Type of Term:	Property
Refines:	<a href="http://purl.org/dc/elements/1.1/publisher">http://purl.org/dc/elements/1.1/publisher</a>

<b>Term Name: Audience</b>	
Label:	Audience
Definition:	A class of entity for whom the resource is intended or useful.
Has Range:	<a href="http://purl.org/dc/terms/AgentClass">http://purl.org/dc/terms/AgentClass</a>
Comment:	<i>The definition of AgentClass should be qualified in terms of different types of certification options, e.g. "students seeking certification via recognition of prior learning", "students seeking certification from providing institution", "students seeking certification from allied institution", "students seeking certification from other institution".<sup>3</sup></i>
Type of Term:	Property

The Clearinghouse will work through manual submission of individual resources by participating institutions, whose submissions will be quality controlled for completeness and coherence before being published. Records in the clearinghouse will in turn be exportable in standard xml formats. The intra-course level metadata could be provided within the SCORMS with LOM (Learning Object Metadata) format given that mapping to unqualified Dublin Core Metadata Element Set used for course level is already defined (IEEE, 2002:44).

### Discussion and Conclusions

The approach taken by the consortium is to link certifiability of learning resources to the standard meta-data description of such records, as described by the record publisher. The main limitation to such approach is that the licensing options of many such resources will allow for a variety of usage scenarios including those not necessarily intended by the resource publisher. Thus, from a learning-resource consumption scenario, the merits of a database of institutions offering certification of open learning resources, classified by type of certification offered, and types of learning resources certified merits further discussion and investigation.

We conclude by calling for wider participation and input into the creation of a standard for certification. Through this pilot, we investigate one of the options whereby this may be enacted. Through the creation of an OER-Europe network, we plan to offer a forum whereby repository manager, institutions and regulatory bodies can come together, and further refine and specify the work started. Finally, the pilot standard has been enacted as a live repository within the OERtest project. We encourage readers to interact with the platform and use it for dissemination of their certifiable resources.

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<sup>3</sup> The consortium is currently looking into options for standardising the number of possible interpretations of AgentClass linked to this type of definition.

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