Publishing Open Educational Resources: a roadmap

Robert Schuwer, August 2014

Introduction

Many higher education institutions have a database (repository) with digital learning materials. Sometimes this is the database of the electronic learning environment in use (eg, Blackboard or Moodle), or is it a database containing all video materials (e.g. web lectures). What actions should be performed now to open up the materials and publish it freely available for everyone under an open license? In this document a roadmap of the actions is described.

This roadmap contains information for the teacher who wants to share his or her learning materials, support services who may be entering and describing learning materials in a database (such as librarians) or staff members who want to get more insight into the consequences of publishing open educational resources.

Sketch of the context

One can distinguish between several types of databases to store digital learning material. In order to make learnibng materials findable and accessible for the outside world, it is important to look at the possibilities of the relevant database first. Roughly speaking, there are two options:

1. The database does not have sufficient capabilities to assign descriptions to learning materials and to share these descriptions with the outside world.

   This mostly applies to databases that are linked to an electronic learning environment, such as Blackboard or Moodle. We will see later that one of the steps in the provision of learning materials describing the material according to a certain standard. If the database does not allow to describe the learning materials according to that standard we will have to look for other ways to be able to share the learning materials with the outside world. In this roadmap, we will not dwell on such databases.

2. The database does have possibilities to describe learning materials and to share these descriptions with the outside world.

   Such a database, we will refer to as a **repository**. Often, such a repository is managed by a repository manager. In these situations, there is more insight into the quality of the available learning materials and the description of those materials in the repository.

HINT

Look for expert support for specific tasks (e.g. educational technology or copyright clearing). Look for collaboration with colleagues to profit of each other strengths.

Main activities

1. Determine which learning materials are to be published open.
2. Determine which open license will be used.
3. Rework the learning materials.
4. Clear copyrights.
5. Add metadata to make learning materials retrievable.
6. Publish the learning materials.

Step 1: Determine which learning materials are to be published open

The vast majority of institutions that publish OER make a selection from the available materials. Different units of an institution (faculty, department, academy) may take different viewpoints on this.

The following considerations may also influence the decision.

- Policy
    - Are there (minimal) quality demands learning materials should adhere to before published openly?
    - Are there specific areas in which the institution wants to be publicly present and to which open available learning materials can contribute?
    - Are there any specific policy issues to which open publishing of learning materials can contribute?
- Context
    - Is it a first experiment to gain experience with publishing open learning materials?
    - Is it targeted to a specific discipline (e.g. support for mathematics)?
    - Is it a specific type of learning materials (for example, only video or lecture notes)?
    - Do you want to make specific knowledge and expertise visible that is peculiar to the institution?
- The expected effort to get the material openly available (see step 3 and step 5).
- The expected cooperation of teachers involved

Step 2: Determine which open license will be used

Open learning materials may under conditions be reused, reworked, remixed, redistributed and republished.

All creative works of people are automatically protected by copyright. It is not necessary to use the © symbol or regulate. Formally, the Copyright Act arranges that control of creative works - and that includes most digital content - rests with the creator of the work of those to whom the author has transferred its rights.

This protection works well for people who want to retain complete control over their work, but what if you want to share your work with others under certain conditions? In that case you can use a **Creative Commons license**. With a Creative Commons license:

1. you maintain the copyright as creator and
2. you offer others the ability to edit your work, publish, copy and distribute as long as they abide by the conditions that you set yourself.

Creative Commons: four conditions

Creative Commons provides licenses based on four building blocks that specify which conditions you may set on reuse of your work.

Attribution

The "Attribution" (BY) option gives others the right to distribute your work, use and rework it as long as they mention the name of the author. This condition applies to all CC licenses. With the CC BY-logo people can see that they can reuse without asking permission, provided they clearly mention the name of you or your institution and the license used.
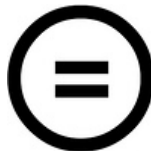
Non Commercial

With the option "Non commercial" (NC) you state that commercial use of your work is not allowed. Others may reuse the work, but they are not allowed to make money with it.

Share Alike

The option "Share Alike" (SA) requires people who reuse or rework your work to publish their work under the same license.

No Derivs

With the "No Derivs" (ND) option, you indicate that others may only reuse your work in its original form. No one may change the work, add to or edit it.

Six combinations

The four building blocks makes possible six different Creative Commons licenses.

Attribution	CC BY	
Attribution – ShareAlike	CC BY-SA	
Attribution – NonCommercial	CC BY-NC	
Attribution – NoDerivs	CC BY-ND	
Attribution – NonCommercial – ShareAlike	CC BY-NC-SA	
Attribution – NonCommercial – NoDerivs	CC BY-NC-ND	

HINT

The website of Creative Commons (http://creativecommons.org/choose/?lang=en) provides a neat tool to decide which license is the best use in your context.

Step 3: Rework the learning materials

Before the learning materials can be published open, it will often have to undergo edits. Play the following aspects.

Selfcontained unit

When the learning materials to be published are part of a larger work that will not be openly published in its entirety, the unit should be adapted in such a way that it is selfcontained. Think about:

- Adjusting references to other parts of the entire work that will not be published openly. For example, "in the next chapter, ...", when that next chapter is not part of the material to be published openly.
- Adapting references (hyperlinks) to websites that are not open accessible. The learning materials may for example contain a link to materials in the electronic environment that are only available for your own students. Such references should be adjusted.
- Addition of an introduction and epilogue to make the materials. In the introduction can for example formulated what preknowledge is expected, what the learning objectives are, etc.

Add instructions for the teacher

The usefulness of the learning materials is partly determined by the context. A portion of the context information is implicitly present. For example, the position in a curriculum and the faculty that uses the learning materials determines for which students in which phase of the curriculum the materials are intended. This implicit context information is not known when the learning materials are found by a third party. Addition of this type of information, therefore, helps to promote reuse.

Think about describing:

- **When**: the position in the curriculum for which the material is intended for.
- **Who**: the characteristics of the target group for whom the material is intended (e.g. expected preknowledge).
- **Vision**: the educational viewpoint and pedagogical approach behind the learning materials
- **Topics**: what topics are discussed in the learning materials. When an ontology for the field of knowledge exists, it is advised to use that terminology when describing the topics.
- **Learning activities**: which types of learning activities are expected from the learner (group work, individual learning, peer feedback, ...).
- **Role of the teacher**: the role of the teacher using the learning materials (are the learning materials teacher-centered or is the teacher assumed to be a coach or tutor).
- **Time**: the study load of the learning materials.
- **Assessment**: type of assessment assumed for the learning materials.

Verify copyright issues

Identify potential elements in the learning materials where copyrights of third parties are involved. To publish the material under an open license, you must have permission from the owners of these elements. Think of images, videos, audio, text acquisitions. This inventory is input for step 4.

Testing

Especially when the learning materials contain interactive elements (i.e. more than just text), the open version should be tested in the environment where the open version will be published.

Step 4: Clear copyrights

Based on the inventory in step 3, the copyrights for the components from the inventory must be cleared. This means that the owner of the component must give permission to publish the element under an open license. If this permission is not obtained, there are several alternatives:

- Replace the component by an alternative that has been published under an open license.
- If such a replacement can not be found: consider whether you can produce such a change themselves. For example, create your own image to replace an image in the learning materials.
- If both previous steps do not lead to a result: check if the element is indispensable for the learning process. If that is not the case, the element may be omitted (e.g., a picture which serves only as an illustration).

If you are unable to clear the copyrights of essential components of the learning materials, the learning materials are unsuitable for open publishing.

Make sure that the license to use is added at any of the components of the learning materials. It is not sufficient to only put it as information in the repository, because the learning materials can also be downloaded to a private area of the (re) user.

HINT

On http://search.creativecommons.org you can search for sources with a Creative Common License. Google allows you via the "advanced search" option to search for images and texts with a Creative Commons license. This option is also on YouTube and on the photo site http://www.flickr.com. On http://pixabay.com you find a wealth of images with an open license. A collection of open clipart is on http://openclipart.org.

Step 5: Add metadata to make learning materials retrievable

Adding metadata may improve the retrievability of the learning materials. Using metadata, the learning materials are described using several types of information (also called "labels"). More and more, search engines are developed which provides the ability to use these labels to search more specific for learning materials than only using a full-text search.

Several standards exists in which the labels are described. For each label, the standard provides the meaning of the label, type of input (free text or selection of one or more values from a predefined vocabulary), mandatory or optional et cetera.

Labels most used are:

- Title
- Description
- Language
- Keywords

When available, librarians can assist in this activity or even do this job for you.

HINT

The following standards for metadata are commonly used:
Dublin Core: http://dublincore.org/
Learning Object Metadata (LOM): http://www.imsglobal.org/metadata/mdv1p3/imsmd_bestv1p3.html

Step 6: Publish the learning materials

The final step is to ensure that the learning materials are accessible via the Internet for any person interested. This is called publication of the learning materials. There are several options, that are not mutually excluvise:

- Publish on the website of the institution. This option provides the most freedom in layout and features to offer to the interested parties (such as search functions), but also requires a lot of efforts to maintain the website.
- Publish on a platform, maintained by a community of users. Examples of these are MERLOT (http://www.merlot.org/merlot/index.htm), Curriki (http://www.curriki.org/) and OERCommons (https://www.oercommons.org/. In some cases, the learning materials should adhere to certain quality specifications prescribed by the platform.
- Publish via iTunes U, a platform from Apple. iTunes U offers tools to create and publish learning materials (mainly video). The learning materials can only be retrieved through iTunes. More information: http://www.apple.com/nl/education/itunes-u.
- Publish via Youtube. Youtube has an educational application with video intended for use in education. An institution can create their own channel where video material can be published. More information: http://www.youtube.com/education.

Regardless of the chosen option: provide adequate marketing to ensure that your target group are familiar with the availability of the open learning materials and where they can access them.

Colofon

This roadmap was created by Robert Schuwer (Open Universiteit, the Netherlands). If you have suggestions for improvement, please email them to robert.schuwer@ou.nl.

Heerlen, the Netherlands. August 2014