Open eLearning Content Observatory Services

Tutorial: PRODUCE & REMIX Open Educational Resources (OER): author and modify

December 2007

About the tutorials:

Please note, that this tutorial (December 2007) is based upon web based information (http://www.olcos.org/tutorials/). It could be that the contents and links in this tutorial change, e. g. for technological changes. The latest version of the tutorial can be found on the Internet: http://wikieducator.org/Open_Educational_Content

Open Educational Content – Introduction and Tutorials

A collaborative development with the OLCOS project consortium (www.olcos.org).

The term **Open Educational Resources (OER)** stands for are educational materials and resources offered freely and openly for anyone to use. The OLCOS Tutorials intend to support students and teachers in the creation, re-use and sharing of eLearning material. Management staff will find information about how to implement open learning policies and activitities in their institution.

OLCOS (Open eLearning Content Observatory Services):

This tutorial is based on the work of people within the project OLCOS (www.olcos.org).
The project aims at building an (online) information and observation centre for promoting the concept, production and usage of open educational resources, in particular, open digital educational content (ODEC) in Europe. OLCOS was co-funded by the European Union under the eLearning Programme (Duration January 2006 - December 2007). Please feel free to contact info@olcos.org if you have suggestions for, or questions about the tutorials.

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eLearning

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Objectives:

This tutorial provides information on and practical tasks in
- creating and modifying open content in an open process
- formats that can be published as open educational resources and tools, that support this process
- how to use standards and metadata

This tutorial invites to produce and modify open educational resources. For that, learners should have a general knowledge about creating learning materials (e.g. instructional designs, web-design). The tutorial will take about 60 minutes. Internet access is needed.

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1. Introduction

Hypatia of Alexandria. Public domain. Source: Wikipedia (http://en.wikipedia.org/wiki/Image:Hypatia.jpg)

Nothing is perfect. Tom needs to find learning materials about Hypatia of Alexandria for his students. Hypatia of Alexandria was a very exciting woman who lectured on mathematics and philosophy around 400 AD. Tom finds some information and articles about her, e.g. an article and hyperlinks about Hypatia from Jone Johnson Lewis, "Your Guide to Women's History" (http://womenshistory.about.com/od/hypati1/a/hypatia.htm; 2006-11-13). But none of his findings, however interesting, are fitting well to his class preparation.

So he decides to create a tutorial for his students, by using and re-mixing some of his findings. And he wants to give these learning materials "open content" status to enable other teachers and students using and updating his work. Tom feels he needs assistance to plan and fulfil this task.

He is also curious about the way open content is often - though not always or necessarily - collaboratively produced. A primary motivation behind the creation of open content is that it should be shared with others, learners and other content creators. For complex learning materials, which could be interesting to a lot of learners and/or teachers, collaboration can be useful and enhance the outcome of the project.

Perhaps Tom will find other persons who are interested in the creation of a tutorial about the popular Hellenized Egyptian philosopher? He thinks about his old astronomy teacher; perhaps he would like to collaborate? And then there was this interesting mailing list about famous women - perhaps some of the readers would join the collaborative creation of the tutorial? What should be considered? Are there any tools available?

Try to help him. Step by step :-)

2. Re-Using and Modifying of existing content - be aware of what is permitted

Tom is not allowed to mix up all texts, images and so on, that he has already discovered!

Tom has to search for an open educational resources (image) that has the following licenses:

- Resources from portals publishing content under the public domain.
- Resources under the GNU Free Documentation License, but with restriction that the end-product has to be published with the same license, even if the new product is used commercially.
- All Creative Commons licenses with reuse option. Be careful, all resources licensed with "no derivatives" can not be modified for own purposes.

But sadly, only a few of his favourite content (for which he has used the tips of the Tutorial: SEARCH & FIND OER; http://wikieducator.org/Open_Educational_Content/olcos/SEARCH) are licensed under a license which permits copying and modification. Tom has to choose the same or a compatible license as the author of his to-be-included-content when the copyright holder has chosen a share-alike license.

The figure below shows the compatibilities and incompatibilities of different Creative Commons Licenses. If you have a license which obliges you to publish under the same license, your collection has to have the same license as the prime/used resource. Some of the license rules to apply the same license.

	by	by-nc	by-nc-nd	by-nc-sa	by-nd	by-sa	nc-sampling+	publicdomain	sampling	sampling+
by	■	■	■	■	■	■	■		■	■
by-nc		■	■	■			■			
by-nc-nd			■							
by-nc-sa				■						
by-nd			■		■					
by-sa						■				
nc-sampling+							■			
publicdomain	■	■	■	■	■	■	■	■	■	■
sampling									■	
sampling+							■		■	■

CC-Compatibility. Under Creative Commons Attribution 3.0 license. Source: Creativecommons-Wiki FAQ (http://wiki.creativecommons.org/Frequently_Asked_Questions, 2007-03-20)

Another important issue is the possibility to use OER for commercial purposes. Again the license regulates if commercial reuse is allowed or not. If you want to use OER for commercial purposes (e.g. sell an online-course) you should exclusively look for resources that have the following licenses:

- Public Domain
- Creativecommons Attribution
- Creativecommons Attribution Share Alike (by-sa)
- Creativecommons Sampling
- Creativecommons Sampling Plus

It is not clearly defined yet where commercial use starts and ends and there has been a long discussion in the Creative Commons community. One result of this discussion is this flowchart (http://www.adamfields.com/CC-NC-allowed-uses-flowchart.pdf) from Adam Fields.

Tom is NOT permitted to re-use and mix-up resources without a license, or a license which does not permit copying and modifying.

- But he may ask the owner of the rights for a permission.
- And e may use a short (!) citation (which are permitted for scientific uses).
- He may hyperlink to that external source.

Tip:

If you doubt what to do, use the option of "hyperlinking to a resource"

Assignment:

Wikipedia (http://wikipedia.org/)is not only a encyclopedia, but also a rich source for images. Try to find out, if and under which conditions Tom may use images from wikipedia.

Web Resources:

– A flowchart of Adam Fields about commercial use (http://www.adamfields.com/CC-NC-al-lowed-uses-flowchart.pdf)
– FAQ of Creative Commons (http://wiki.creativecommons.org/Frequently_Asked_Ques-tions)
– Creative-Commons Comic: A spectrum of Rights (http://wiki.creativecommons.org/Spec-trumofrights_Comic1)

3. Using content formats that can be published as OER

Next, Tom should get information about the open standard, he can use to create open content. In Tom's tutorial, he needs text, illustrated with pictures, some hyperlinks...

Here are some examples of open standards (Wikipedia, Open Format; http://en.wikipedia.org/wiki/Open_format; 2006-10-12):

- for images: PNG, SVG, OpenEXR
- for audios: FLAC, Ogg Vorbis
- for videos: Ogg Theora, XVID
- for texts and documents: PDF (for documents), OpenDocument Format for Office Applications (for office documents and suites), LaTeX (a document markup language), TXT (an un-formatted text format), HTML/XHTML (a markup language), XML (markup language)

- and others: DVI (a page description language), SQL (Structured Query Language), 7z (data compression format)

Assignment:

– Find formats with open standards in respect to the media object Tom could need to create a tutorial.
– If you could not find a format in the list above, please look at the article about Open Format (http://en.wikipedia.org/wiki/Open_format) in Wikipedia to be sure, that it is not an open standard format. You can also look for the suffix (eg. ".txt") in Wikpedia, you can find nearly all formats in Wikipedia.

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4. Open content creation process

While planning his tutorial, Tom gets into contact to an attractive website from an Egypt teacher, living in Alexandria. He has already collect learning materials about Theos, Hypatias father, and is very interested in a collaboration.

Tom considers about the chances and challenges for an open content creation process and collaboration with this teacher - and perhaps others. There are a lot of theories about the origins of the mob violence that ended Hypatia's life, and some of them speculate about collaborations :-) But collaboration in an open creation process to create the tutorial should have some nice aspects, shouldn't it?

Assignment:

– Look at some really famous collaborative work: Wikipedia (http://www.wikipedia.org/)
– Be inspired by the articles about Wikipedia in Wikipedia (http://en.wikipedia.org/wiki/Wikipedia)
– Look for some other interesting projects of Wikipedia (http://en.wikipedia.org/wiki/Category:Wikimedia_projects)

After reading about these projects, Tom is fascinated by the results of such collaborations and in the same time a little bit confused about the social and technical problems which may emerge.

Are their any principles, which allow an effective work? Dereck Keats summerises success factors of open software development, which could be also important for collaborative development of open content. These factors are:

- "effective communication is crucial
- Version control is necessary
- Form collaborative virtual teams with a variety of skills and skill levels
- Trust is a key element of success
- Gatekeeper plays a vital role in quality management
- Peer review is a powerful means of quality assurance
- User feedback is essential
- Development is a cyclical process" (Derick Keats, Collaborative development of open content; http://firstmonday.dk/issues/issue8_2/keats/)

Tom knows now enough about social aspects of a collaboration. Next step is to be informed about technical aspects of creating open content in collaboration.

Tools that support this process

It would be a terrifying long checklist which application and technology use open standards! There are no rules, but you are on the "right track" if you are using open source tools.

Applications and technologies that support the requirements of open standards are

- Learning (Content) Management Systems
- Social Software applications such as Wikis
- HTML and SVG Editors
- Authoring tools for graphics, video and audio
- Sequencing and packaging standards like IMS content packaging and SCORM 1.3 for communication with LMS.
- (online) office type processing and presentation tools (Examples are: Mircosoft LiveOffice, Google Docs and Google Calendar, Open Office online)
- Authoring systems that allow content aggregation (e.g. learning objects to courses, modules to courses)

First, Tom gets nervous, and than he detects, that he has and use most of this software and applications. For example: He can use his text processing tool to create .html format.

Assignment:

−   Proof your tools in respect of the formats, it creates: Do they support open standards and produce data/products with open standard?

You will find more information about Open Source Tool in the Tutorial USE open source tools (http://wikieducator.org/Olcos/USE_open_source_tools)

Try it out: Using a Wiki

Within this section, we invite you to use Wikis. We recommend this tool, because it is very easy to handle by teachers and students.

Now, we introduce you to start and edit your own wiki "tutorial about Hypatia". If you are already familiar with the wiki-technology, you can skip this section.

All information is organized in articles (this tutorial is an article). First we show you how you can write, edit, or modify an article if you are a registered user.

- please open the Wikipedia Sandbox (http://en.wikipedia.org/wiki/Wikipedia:Sandbox)
- click on the "edit" button
- edit the article and
- push the "save" button

Assignment:

−   Please give it a go for yourself. Easy, isn't it?

Web Resources:

– If you need more guidance, have a look at Quick start for the WikiEducator (http://wikie-ducator.org/Quickstart_guide/basic_editing)
– or at the tutorial for the wikieducator itself (http://www.wikieducator.org/Wikieducator_tu-torial)

You will see, it is very easy to write in wikis. If you are using a browser like Mozilla, you can use the menu to change the formats. Writing a text in simple, plain text format makes it easier to collaborate and to update single pieces than highly constructed flash animations or demonstration systems.

You can also include videos or images. It is possible to take a look at the history of every article, so everybody can follow the development and changes that are made. Beside the articles, you find a discussion page for each article. Some more reasons for the handling of wikis, that Wikis are very easy to use for collaboration.

Before starting your own project: If you were not familiar with using a wiki before that tutorial, we recommend to take part on the Wikipedia (http://wikipedia.org/) -project (or an other project) before starting your own. Using wikis is not just a technical affair ;-)

There are many ways you can use a wiki in education. Wikis are very popular as a collaborations tool for learners, too. Many classroom projects are based on a wiki. Besides WikiEducator, some more repositories, like Opencourse (http://opencourse.org/), are using wikis.

Assignment:

With the help of the following literature, describe what Tom should consider, using a wiki for the creation of open content.
– Stafford, Tom & Webb, Matt (2006). What Is a Wiki (and How to Use One for Your Projects) O'Reilly Media 07/07/2006
(http://www.oreillynet.com/pub/a/network/2006/07/07/what-is-a-wiki.html)
– Pearce, Jason (2006). Using wiki in education
(http://www.scienceofspectroscopy.info/edit/index.php?title=Using_wiki_in_education)

Start your wiki

Now Tom is convinced, that he can manage such a project for creating open content. He is only wondering where and how to start a wiki about his antique favourite.

He has the options of a installation of his own wiki or to use a wiki-host server.

If you want to install a wiki, you have to deal with complex programs like Ruby, PHP, MySQL, Apache. For non-geeks it's not very easy how to set up or back up your wiki software. But if you like to start an own wiki, you may like the project "100,000 Wikis in the Classroom" (http://www.wikispaces.com/site/for/teachers100K). Here you can start an own project if you are a K12-teacher (kindergarten through secondary school). You just have to fill out a formula with eight fields and can begin. The wikis can be public, protected or just personal.

Assignment:

- please open the webpage 100,000 Wikis in the Classroom (http://www.wikispaces.com/site/for/teachers100K)
- look at the quite simple formula - and fill it out, if you like :-)

There are other organisations that host Wikis for free. You find some more hosts, that offers free hosting of wikis in the article of the wikibook "Wiki Science" "How to start a Wiki" (http://en.wiki-books.org/wiki/Wiki_Science:How_to_start_a_Wiki)

Assignment:

- Please open the article "How to start a Wiki" (http://en.wikibooks.org/wiki/Wiki_Science:How_to_start_a_Wiki)
- look for hosts that fit to your project

Tip:

Beware! Don't count on the backups of these service and make own copies. Some of the hosts make it easy to download and move the wiki somewhere else, others not.

Other ways to create open content collaborativly

So we decided to show you some more examples for creating open content in collaboration:

Web Resources:

– LeMill: Web community for finding, authoring and sharing learning resources (http://lemill.net/)
– Wikieducator: Wikibased free elearning content (http://www.wikieducator.org/Main_Page)
– others: see the list of Collaborative development projects (IPPP - UNESCO) (http://oer-wiki.iiep-unesco.org/index.php?title=OER_development_and_publishing_initiatives#Collaborative_development_projects)

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5. Converting content in open formats

Lecturer Susan holds her lectures with about 80 students. Now, she wants to publish her lecture notes, so that every student can download and print the content.

If Susan chooses a license which permits modifying her content, her students can publish other - perhaps commented or illustrated - versions.

• For that, Susan opens her lecture notes in her text processing software (e.g. Microsoft Word)
• and saves it as a html-Document.
• Then she changes some of the formats and fonts in html-standards.

Beside considerations about existing tools and time and effort for install others (open source) tools, Susan should also consider now about her decisions about permitting modifications of her work.

To facilitate modification she should use a format that facilitates modification . That means, she should create .odt or .html files instead of .pdf files.

There are also web-services existing, which allows and support to convert files automatically. But beware, that by using such services, you could be a victim of hackers.

Assignment:

Then, Susan wants to modify her presentation slides (now in an .ppt format of Microsoft Powerpoint) to an open format. Please give her a hint, which format she could choose by using her proprietary software and which other software and formats would fitting her ideas. Try it out with your own software with an existing .ppt-file!

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6. Remembering: Licensing, Metadata and ...

Regrettably, it is not enough for Tom, Susan an Peter (and for you, too) to take the right (open) format when creating open content. To facilitate the sharing of this new content by using suitable formats, licenses, educational metadata and marketing strategies. You will find more information about that in our Tutorial: "SHARE OER: publish and re-use" (http://wikieducator.org/Open_Educational_Content/olcos/SHARE).

7. Useful Material

- Exemplary Collection of Open eLearning Content Repositories (http://wikieducator.org/Exemplary_Collection_of_Open_eLearning_Content_Repositories)
- Exemplary Collection of institutions with OER policy (http://wikieducator.org/Exemplary_Collection_of_institutions_with_OER_policy)
- Exemplary Collection of open content licensing approaches (http://wikieducator.org/Exemplary_Collection_of_open_content_licensing_approaches)
- Exemplary Collection of tools and standards for producing open educational content (http://wikieducator.org/Exemplary_Collection_of_tools_and_standards_for_producing_open_educational_content)
- Learning about learning objects (http://www.learning-objects.net/)
- Examples of open formats (http://en.wikipedia.org/wiki/Open_format)

and all the other information and tutorial about Open Educational Content
(http://wikieducator.org/Open_Educational_Content)

8. Further Materials

Below you find further OLCOS tutorials. The materials are available in PDF format [pdf] or can be found online on the OLCOS wiki [wiki] .
Because the content of the OLCOS wiki (http://wikieducator.org/Open_Educational_Content) will be updated we recommend you to visit the wiki.

- Overview [wiki]

- Introduction: PLAN the use of OER [pdf] [wiki]

- Tutorial: SEARCH & FIND OER [pdf] [wiki]

- Tutorial: PRODUCE & REMIX OER: author and modify [wiki]

- Tutorial: SHARE OER: publish and re-use [pdf] [wiki]

- Tutorial: CHOOSE a license [pdf] [wiki]

- Tutorial: USE open source tools [pdf] [wiki]

- ORGANIZE: Collections

    - Exemplary Collection of Open eLearning Content Repositories [wiki]

    - Exemplary Collection of institutions with OER policy [wiki]

    - Exemplary Collection of open content licensing approaches [wiki]

    - Exemplary Collection of open formats, educational standard and tools for producing open educational content [wiki]