From content curation to Open Educational Practices: experiences in a medical curriculum

Introduction

In a medical curriculum innovation, one of the wishes was to reuse more OERs in the context of self directed learning. However, teachers were experiencing barriers in finding OERs and assessing the quality - and also they simply do not have enough time to search and curate. Last but not least teachers had difficulties to (re-)design OERs into Open Educational Practices (OEPs) and integrate those in the curriculum. For these reasons Radboud university medical center initiated a content curation research project and a project for creating OEPs for the curriculum.

The OER jungle hides a large number of repositories and websites where OERs in many formats are disclosed in various ways. The university decided to support the teachers with new content curation services (Kuipers, 2012; Kanter, 2012) and educational design services to overcome barriers, reuse OERs and move on to creating Open Educational Practices. This called for new roles for the library (von Neumann, 2014; van Wijngaarden & Vernimmen, 2015) and educational expertise center.

The presentation will elaborate on the content curation process and provide a deeper look into the curated collection. The transition from the teacher's intention to reuse to a well designed OEP will be evaluated; this turns out to be a slow and time consuming process.

Finally, national developments to set up a system and infrastructure for content curation, a referatory and sharing OEPs will be discussed.

The need to reuse OERs from a curricular viewpoint

In Radboud university medical center a curriculum reform (2015) was starting point to emphasize the need for reusing OERs. Self directed learning is the basis of the new curriculum, reusing OERs can help realizing this. It was decided to reuse OERs in four curriculum areas:

1. Recommended OERs for each course. Comparable to recommended literature, but now offering alternative instructional methods and content-resources for the student to choose from.
2. Additional remedial materials. When a (group of) student(s) scores too low on the periodical progression assessment.
3. Source for patient cases and information about disorders, to support students learning clinical reasoning.
4. Courses to choose from in the 10% individual choice space. Mainly MOOCs and Open Courseware covering topics we do not teach ourselves. This is mixed with local kick-off meeting, question hours, and local assessment.

The areas 3 and 4 yielded good results; and reuse of OERs is maturing slowly. Areas 1 and 2: teachers were too busy with the curriculum reform. In the next years the uptake will have a second chance: teachers will need more time and support which will need to be stimulated by policy.

The content curation process

A 2-step curation process was used, the first curation round by students, the second by teachers. Teachers do not have time to review a large number of OERs. From experiences in the Edinburg medical school (Riley, 2015) we learned that mature students can do the job quite well.
A grand total of 14000 medical OERs have been curated, around 2600 were approved (18.5%). "OERs" is used here as umbrella term: we looked into around 100 repositories for Open Educational Resources, Open Courseware, Open textbooks, and around 115 MOOC providers worldwide.

Inclusion and exclusion criteria were used to make the first selection: English language, level, content correct and up-to-date, culturally translatable, linkable to curriculum, attractive pedagogy and media use. Students were also asked if they would use the resource themselves.

From the accepted resources metadata were stored in a database and curation paradata were added (review, level, usability for different healthcare professions, usable for which courses in the curriculum).

Reports for medical specialisms (like cardiology or neurology) were created, each containing between 20 to 170 items. We expected this to be a number teachers could easily crunch in the second curation round. However, the workload was still too high and only a part of the reports got through the second round as yet. It will take some time before the complete collection of 2600 gets through the second round.

Content Curation results are now stored in a database and are opened up for teachers using a referatory website. The collection needs to be updated yearly, for MOOCs quarterly.

Analysis of results

The first curation round with four 3rd and 4th year student assistants took 750 hours. In the end 19% of the curated resources met the criteria, the rest was rejected. Main reasons for rejection were: level too low, cultural translation impossible, not up-to-date, boring pedagogy. On an average, 5 to 7% of the original 14000 resources is reviewed after the 2nd round as "can be used without modification". Partly usable or after redesign/remix is 5 to 10%.

The percentage of multimedia rich resources was high (>75%). From the collection, 98% is fit for the medical curriculum, 48% for the biomedical curriculum, 28% for nursing students and 12% for therapeutical professions. Most materials are Bachelor level (83%) with emphasis on 'basic content’ courses; 45% is fit for Master level, 7% suitable for continuing medical education.
The low Creative Commons usage is surprising (45%), where 20% of the items with a CC licence were labeled No Derivatives. Metadata were often incomplete or needed data cleaning. Remarkable was that from the three already curated collections around 55% was rejected because of cultural incompatibility.

**Setting up support services**

Next step was to support teachers reusing OERs and creating Open Educational Practices. New services needed to be set up.

The university library will implement several services:

- content curation workflow: will be supported in the referatory
- assistance for search and find in referatory
- metadata support: metadata are often incomplete or inconsistent with LOM standards or vocabularies. Data cleaning necessary. Services focus on checking metadata for correctness, completeness and consistency. Copyrights and CC-licence check.
- paradata support: metadata describe the OER but not the quality or clues how it can be used in the curriculum. For this reason the curation process adds extra descriptions (paradata): (peer) review based quality criteria, in some cases a quality mark, level of the content, indication in which parts of the curriculum the resource can be used, target populations for whom the resource is suitable (e. g. doctors, nurses, therapists).
- copyright clearance: many curated resources lack a proper CC-licence. The existing copyright clearance service is extended to open educational materials.
- subscription service: informing teachers of new entries in the curated collection in their fields of interest, they can subscribe to periodical update.
- digital literacy skills for OER, teacher training: instruction videos, e-learning, courses
- republishing enriched content

The educational consultants focus on other support services:

- redesigning and remixing OERs
- creating a good fit into the curriculum
- from OER to OEP
- instructional design, open pedagogy
- using OER authoring tools
- Creating enriched content
- policy development.

**National context, national developments towards a shared infrastructure**

The eight dutch UMCs have a rich tradition in sharing e-learning they produced, ranging back to 2004. A national platform for disclosing and sharing e-learning (www.medicaleducation.nl) now describes around 1500 resources – mainly Dutch in origin and language. These are available on top of the curated collection of OERs from international origin described above. Most resources in medicaleducation.nl however, are not (yet) shared with a CC-licence, sometimes they are available for a closed audience only, and metadata do not always follow modern LOM standards. The platform and some content is in need of an update to meet more contemporary standards for sharing OER.

A quick scan under the 8 Dutch university medical centers about readiness to start reusing OERs (van der Woert,2016) showed that all are ready for reuse and recognize the need to start. But only three have started reuse tentatively, and policy is also starting to crystallize in three UMCs. The need to start up national cooperation in the content curation process as well as the need for implementing a national referatory platform are shared by all. It is too much work for one UMC.
In the Netherlands other healthcare professions like nursing, physician assistant, nurse practitioner, and therapists are under the wings of universities for applied sciences. Some of them also expressed their interest to be included. For nursing education a separate project has started.

Time is right at this moment to go for a national platform instead of every party having to invent their own wheels. For this reason, a national program is now in the startup phase: COCURA – 'content curation, reuse and adoption of OERs'. COCURA builds forth on the experiences of Radboud universite medical center and medicaleducation.nl as described above. The Dutch association for medical education is interested and willing to play a role in the long term and sustainable setup of such a system.

The presentation will explain the chosen national approach briefly.


Von Neumann, J. (2014) Open Educational Resources (OER): Neue Herausforderungen für Bibliotheken. OERSYS blog, Open Educational Resources from a Systems Thinking Point of View
