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A model to release CINCH didactical materials as Open Educational Resources

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EXECUTIVE SUMMARY

Within the A-CINCH project, we were able to "carve out" a small section for a reflection about a phenomenon that, while recognized as interesting, prioritizing, and necessary, is not adequately applied in daily practice: Open Education. Everyone (or almost everyone) recognizes its revolutionary impact in terms of social and academic transformation, but many are about to fear of it – unfairly.

"There is currently a global movement toward open, digital, reusable educational resources. However, despite the often-existing infrastructure and resource capacities of many higher education institutions (HEIs), the introduction of Open Educational Resources (OER) has not yet become a normative practice in all faculties and disciplines. The reasons for this are not immediately apparent to HEIs, and it is difficult to assess how well a HEI is positioned with regard to OER."¹

"With the current emphasis on modernising and transforming higher education, embracing openness, and promoting engagement with OER can help to (re)professionalise teaching and learning by enabling open educational practices (OEPs) through effective open pedagogies, and increasing digital capacity through developing the educational technology and digital literacy skills required to create, reuse, and remix OER. However, despite the continued growth of OER, their potential to transform educational practice has not been fully realised"²

With this fourth project in the CINCH series, it has been realized that the huge number of didactical materials produced and shared online is of high quality and deserves to be accessed by those who are interested in them. Such material also deserves to have authorship acknowledged.

That is why a "model" was designed that can be adopted when there are a considerable number of educational resources, produced by many different authors, available online through different web systems (which follow different access rules).

In particular, this model meets the specific needs of the A-CINCH project but can be easily adapted to other contexts.

"Defining a model for the storage and release of OER is dependent on the specific context, motivation, and intended outcomes of OER projects. Factors such as the requirements of stakeholders, sustainability, existing institutional policies and practices, practical issues around technical infrastructure, staff skills and understanding (i.e., librarians, learning technologists, web officers, or academics), workflows for quality assurance, and copyright licensing impact on choosing and adopting a particular approach. As such, there need to be policies in place at the institutional and national level to promote the curation and dissemination of OER beyond the individual responsibility of academics."³

¹ Reinken, C., Draxler-Weber, N., Hoppe, U. (2022). A Maturity Model for Open Educational Resources in Higher Education Institutions – Development and Evaluation. In: Bach Tobji, M.A., Jallouli, R., Strat, V.A., Soares, A.M., Davidescu, A.A. (eds) Digital Economy. Emerging Technologies and Business Innovation. ICDEc 2022. Lecture Notes in Business Information Processing, vol 461. Springer, Cham. https://doi.org/10.1007/978-3-031-17037-9_7

² Risquez, A., McAvinia, C., Desmond, Y., Bruen, C., Ryan, D. & Coughlan, A. (2020). Towards a Devolved Model of Management of OER? The Case of the Irish Higher Education Sector. *International Review of Research in Open and Distributed Learning*, *21*(1), 100–112. https://doi.org/10.19173/irrodl.v20i5.4545

³ Cronin, C. (2017). Openness and praxis: Exploring the use of open educational practices in higher education. International Review of Research in Open and Distance Learning, 18(5), 15-34. doi:10.19173/irrodl.v18i5.3096





Our model is based on the main steps of a process of licensing:



Figure 1 – A "basic" process to release OER



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1 INTRODUCTION

During and thanks to the CINCH projects series, many courses have been designed. In some cases, they are not easy to be "used", especially for those who are not members of the partnership. The effort in this task has been to design the way to spread the already created and existing knowledge, released through different formats, systems and rules and to identify teaching and learning materials to be shared as Open Educational Resources and Practices (OER).

"CINCH" OER are free, openly licensed, digital, accessible to anyone, anytime via the internet, high quality university level educational materials, organized as courses. They don't require any registration and are not degree-granting or certificate-granting activities.

Sharing knowledge on NRC contributes to stimulating the **best educational use of the internet's potential** (Figure 2).

According to the defined model described in following sections, not all the CINCH didactical resources can be released as OER.



Figure 2 – Understanding Open Education to unlock Knowledge



2 STARTING FROM THE GAP ANALYSIS

The CINCH projects series (CINCH, II, MEET-, A-) has generated a large number of **teaching and learning materials** that differ in terms of **type**, **duration**, **teaching objectives**, **content**, **teaching models**, **authors**, **end-users**, **and the type of interaction** in which users are involved. They are also available on **different online systems**, **platforms**, **websites**. Sometimes an **enrolling procedure** is required, sometimes a **formal subscription**. With some other ones, the consultation is completely **free**.

Such a wealth of resources has been exploited through a Gap Analysis, which allows the material to be **analysed and categorised** according to certain **tags** and **metadata**; also, **criticalities** (technical, functional, content-related...) have been identified (Figure 3).



Figure 3 – Checking the resources and filling in the Gap Analysis

As described in Figure 4, Gap Analysis is the first step of our **model**, because it let us:

- 1. list all the produced resources (Gap Analysis)
- 2. identify accessibility, usability, availability, person in charge of each resource (Gap Analysis)



Figure 4 - Phases 1 - 2



3 TEACHER TRAINING

To raise authors' and teachers' awareness about OPEN Educational Resources it was necessary to enable interested partners to understand the complex phenomenon of OERs, but also its social and cultural impact as well as the simplicity of their application.

A training has been proposed during winter 2021; because of COVID-19 restrictions, all the activities have been organized online and shared through Teams platform:

- Introducing Open Educational Resources, 18 January 2022 trainer: dr. Paola Corti, POLIMI
- "CINCH OER": creating and releasing OER and transforming CINCH contents in open contents, 17 March 2022 trainer: dr. Paola Corti, POLIMI

The learning outcomes identified for the first appointment were:

- 1. Define Open Education, Open Educational Resources and Open Educational Practices
- 2. Frame OE goals at university level
- 3. Acquire basic knowledge of open licences
- 4. Identify OE strengths and weaknesses at a high level.

For the second appointment, Paola Corti, the trainer from METID - Politecnico di Milano, proposed to the participants to choose a CINCH resource and use together the Creative Commons beta tool, identifying the options and the following "consequences" for each resource analysed.

Among the main achievements, it is now clear that releasing a teaching material under an open license does not mean "losing it," but ensuring that the authorship of the work is always recognized:

ACCESSIBLE ≠ OPEN

OPEN ≠ **FREE** and **OPEN** > **FREE**

OPEN = FREE + PERMISSION

Figure 5 shows the next step in the Model.







4 IDENTIFICATION OF CONTENT IMPROPERLY REUSED OR MISQUOTED

The Gap Analysis carried out during 2020 pointed out that some resources are no longer reachable, that significant content is missing, that it is unsustainable to maintain numerous web systems hosting individual courses and resources (Figure 6) but did not delve into the analysis of individual educational resources, which is step 5 of the process.

Not only web systems need to be maintained, but also the online content, to avoid that outdated materials (videos, texts, quizzes, ...) do not drift in the "sea of the Internet."

All partners who have produced educational content are then involved in analyzing each one:

- To verify the issue of the resource revealed by Gap Analysis (column I of Gap analysis)
- To read and reflect about **comments and recommendations** emerging from Gap Analysis (column J).
- To add final decision for each resource (column K): the resource is obsolete and must be deleted / the resource is still useful but needs to be moved to an accessible platform / the resource is accessible on another platform / the resource is still useful, but it needs the following changes: ... / the resource is perfectly accessible and usable.
- To add **copyright owner** (column M).
- To check the author's name.
- To check if the complete source is attributed to all pictures/drawings/charts not created/produced/bought by the author and the permission to use them is declared (A good rule of thumb is to use the acronym TASL, which stands for Title, Author, Source, License https://wiki.creativecommons.org/wiki/Best_practices_for_attribution)



Figure 6 – Phases 1 - 4



5 TO IDENTIFY THE DIDACTIC MATERIAL TO BE RELEASED AS OER

The Gap Analysis excel file is now complete with all the information including those about contents, and it is easy to identify the resources that can be released under an open license (Figure 7-8).

The stringent but necessary constraints that make a resource releasable as open, significantly reduce the number of future CINCH OERs: all it takes is that a co-author can no longer be reached and therefore does not give his assent, or that the source of an image has not been cited correctly for the resource not to be released.



Figure 8 – Collaborating in sharing Knowledge about NRC

The author of each resource can then proceed indicating the ones he has chosen (column N) and the one, in particular, that he uses as a test.



6 TO FIND THE MOST SUITABLE REPOSITORY/HUB TO SHARE CINCH RESOURCES

Based on the resources identified and chosen to be released under an open license, TASK 3.2 team find the most suitable repositories/hubs to share CINCH test resources (Figure 9-10).

In the following list, some of the most known repositories / hubs / engines are shortly described and linked.

<u>OCW @MIT</u>

The most well-known repository of OER promoted by MIT since 2001.

OCW @TUDelft

The richest European university repository at the moment, maintained by TU Delft and launched in 2008.

<u>Merlot</u>

Interinstitutional repository launched in 1997 by the California State University Center.

It also provides a tool for creating resources and web pages where they can be shared.

Creative Commons - Search tool

Creative Commons' evolving search engine for resources to support activities

BC Campus OpenEd

Initiative promoted by the Canadian Ministry of Education (British Columbia-Cananda) dedicated to Open textbooks on different disciplines, with peer review already done. Specific support is offered to adapt, depending on license.

OpenStax

Initiative at Rice University, with the mission of developing access for students to education at a global level.

<u>PhET</u>

Repository at the University of Colorado of interactive simulations of science and math subjects, tested extensively and with student interviews regarding usefulness and clarity

UCI Open

OCW at the University of California, Irvine, which started with OpenChem on chemistry and is now expanding

<u>Libretexts</u>

Repository of textbooks on a wide variety of subjects, founded on an approach that fosters collaboration between students and faculty in creating and adaptating content.

Grasple

Repository of quizzes in statistics and mathematics areas, open to collaborative design, reuse and modification.

<u>MOM</u>

The MASON OER Metafinder is a cross-domain engine that allows searches in multiple OER repositories simultaneously, whether thematic or institutional.





In the meanwhile, **the partnership** is invited to **decide about the online systems:** policies, access, unification... in some case a repository can be transformed into a OER repository, adding a disclaimer (e.g. *"All contents are released under CC By... Except where otherwise <u>noted</u>, content on this site is licensed under a <u>Creative Commons Attribution 4.0 International license</u>").*



Figure 9 – Phases 1 - 6



Figure 10 – Looking for CINCH OER



7 TO RELEASE CINCH RESOURCES THROUGH A CC LICENSE

Releasing a resource under a Creative Commons license is really simple: it requires nor formal approval neither specialized skill (Figure 11).

The CC Commons website offers all the information and accompanies the author in choosing the most suitable licence for her/his resources.



7.1 Creative Commons⁴

"Applying a Creative Commons license to didactic material is a serious decision", we read in the CC Commons website, because it means to give permission to anyone to use that material for the full duration of applicable copyright and similar rights.

Before applying a CC license, it is necessary to be sure that:

- the **material is copyrightable**. If not, is it subject to <u>neighbouring rights</u> or <u>sui generis</u> <u>database rights</u>? CC licenses do not apply to material in the <u>public domain</u>. Different countries have different standards for what is in the public domain.
- The person who is releasing it **owns the material**. If not, she/he must be authorized to license it under the specific CC license.
- Be aware that CC licenses <u>are not revocable</u>: it is possible to stop offering material under a CC license at any time, but this will not affect the rights associated with any copies of the work already in circulation.

7.1.1 The Creative Commons License Options

Creative Commons legal tools give everyone from individual creators to large companies a simple, standardized way to grant copyright permissions to their creative work. They are designed to forge a balance inside the traditional "all rights reserved" setting that copyright law creates.

There are six different Creative Commons licenses (see https://creativecommons.org/about/cclicenses/).

⁴ This section is freely taken from CC Commons Website: https://creativecommons.org/

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Creators choose the option that is right for them, and then apply that license to their copyrighted work.

Anyone who wants to reuse the work of the creator in a manner that requires permission under copyright must comply with the terms of the license.



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Modifying Not Allowed (ND/ NoDerivatives) - No derivatives or adaptations of

the work are permitted.

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EXAMPLE 7 Commercial Use Not Allowed (NC/ NonCommercial) - Only non-commercial use of your work is permitted.

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BY NC SA Distributed on Same Terms (SA/ ShareAlike) - Adaptations must be shared under the same terms.

This license allows re-users to distribute, remix, adapt, and build upon the material in any medium or format, so long as attribution is given to the creator. The license allows for commercial use. If you remix, adapt, or build upon the material, you must license the modified material under identical terms.

7.1.2 The Licenses Chooser (beta) tool

The best way to understand which license to choose, is to use the Licenses chooser <u>beta tool</u>, which leads step-by-step to the identification of the right license for your case, through easy questions:



License Expertise Ineed help selecting a license.
Do you want attribution for your work? Yes. Anyone using my work must include proper attribution. No. Anyone can use my work, even without giving me attribution. BACK NEXT
3 Commercial Use
4 Derivative Works
5 Sharing Requirements
6 Confirm that CC licensing is appropriate
7 Attribution Details

At the end of the 6-steps process, the creator can fill in the Attribution Details.

Filling out this form is o	ptional, but helps others attribute your work to
you, and fills in machine	e-readable code.
Title of Work	
This work	
Creator of Work 🖲	
Jane Doe	
Link to Work	
https://janedoe.com	n/best-photo-ever.jpg
Link to Creator Profile	•
https://janedoe.com	n
Year Of Creation	
VVVV	

In the specific case of this document, the result is:

CC BY 4.0 Attribution 4.0 International

A model to release CINCH didactical materials as Open Educational Resources © 2022 by <u>Francesca Concia</u> is licensed under <u>CC BY 4.0</u>

If the creator prefers to choose the option Non-Commercial, the result is:



RECOMMENDED LICENSE



Attribution-NonCommercial 4.0 International

This license requires that reusers give credit to the creator. It allows reusers to distribute, remix, adapt, and build upon the material in any medium or format, for noncommercial purposes only.

BY: Credit must be given to you, the creator.



S NC: Only noncommercial use of your work is permitted. Noncommercial means not primarily intended for or directed towards commercial advantage or monetary compensation.

full license name: This work is licensed under Attribution-NonCommercial 4.0 International license abbreviation: This work is licensed under CC BY-NC 4.0



8 TO ADD THE LICENCE TO EACH RESOURCE

To indicate licenses, these may be added in the home page of a course, directly in the platform, if all the resources contained share the same license; it is useful to add the license to each downloadable resource (Figure 12).



Figure 12 – Phases 1 - 8



9 TO COMUNICATE THE NEW LICENCE TO EU COMMISSION

One formal step is to notify the EU commission of the change of license for some resources (Figure 13-14).



Figure 13 – Phases 1 - 9



Figure 14 – Final goal