



Open Educational Resources: recommendations

CIVIS Open science taskforce (OSTF) - September 2022

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The CIVIS universities are strongly committed to promoting European values and acting as a bridge between academia and civil society. Therefore, developing and promoting Open Educational Resources (OER) represents a key point in the alliance's aim to contribute to the social, cultural, and economic dimensions of the ecosystem of European higher education institutions. OER is a fundamental aspect of our values, which is transposed in a vision rooted in Open Science education.

Open Educational Resources (OER) are defined by UNESCO as “learning, teaching and research materials in any format and medium that reside in the public domain or are under copyright that have been released under an open license, that permit no-cost access, re-use, re-purpose, adaptation and redistribution by others.”¹ UNESCO has elaborated a specific recommendation, in which five objectives are addressed:

1. Building capacity of stakeholders to create, access, re-use, adapt and redistribute OER;
2. Developing supportive policy;
3. Encouraging effective, inclusive and equitable access to quality OER;
4. Nurturing the creation of sustainability models for OER;
5. Promoting and reinforcing international cooperation.

OER are recognized as beneficial to students, teachers and institutions.² Therefore the Open Science taskforce (TF OS) has decided to devote part of its work to this topic. OER is part of the CIVIS global strategy for OS, which states that “all educational material produced within the CIVIS project should be provided as OER”. Therefore, producers of educational material within the framework of CIVIS are encouraged to make them available under an open license.

There are successful examples of academic OER platforms, such as the MOOC³ Coursera, in which some CIVIS universities take part. Outside of CIVIS, we may mention a Canadian project which was launched in 2019 by three universities (Université de Sherbrooke, Université Laval and Université de Montréal), and which has subsequently attracted further members: fabriqueREL.⁴ Other examples in OER good practices include the OER Hub⁵ and OER Commons.⁶

¹ Recommendation on Open Educational Resources (OER) – UNESCO – 25 November 2019 http://portal.unesco.org/en/ev.php-URL_ID=49556&URL_DO=DO_TOPIC&URL_SECTION=201.html [consulted on April 1st 2022]

² As shown in the ENOEL toolkit <https://doi.org/10.5281/zenodo.5568483> [consulted on June 30th 2022].

³ https://joint-research-centre.ec.europa.eu/what-open-education/mooc-massive-open-online-course_en

⁴ <https://fabriquerel.org/> [consulted on June 30th 2022]

⁵ <http://oerhub.net> [consulted on September 20th 2022]

⁶ <https://www.oercommons.org/>



1. OER repositories in CIVIS

A repository is defined as the infrastructure and corresponding service that allows for the persistent, efficient and sustainable storage of shareable digital objects (such as documents, data and code) freely accessible for downloading and distributing; OER repositories host, and allow retrieval of, open educational material.

Some initiatives already exist among the CIVIS Alliance. Four universities have OER repositories: the National and Kapodistrian University of Athens (NKUA), the University of Tübingen (UT), the University of Glasgow (UG) and the University of Stockholm (SU) (see appendix).

Université Libre de Bruxelles (ULB), Sapienza Università di Roma (SUR), Aix-Marseille Université (AMU) and University of Bucharest (UB) have no OER repository but offer some MOOCs.

Universidad Autónoma de Madrid (UAM) has no OER repository, but has a project to build one. The project is being led by the Digital Resources Unit for Teaching with the support of the Library, because of its experience in construction and management of repositories. Talks have started with three universities in Madrid in order to agree on a common project, with a European budget if possible. Each university should have its own repository, sharing technical aspects to facilitate cooperation and interoperability, with Zenodo as the first option. The project should be launched no later than December 2022.

The CIVIS alliance should provide a repository for OER allowing to store and disseminate OER content. It should also provide access to existing OER material hosted in local repositories of the member Universities.

2. Guidelines

Although the UNESCO recommendations triggered development of institutional strategies, roadmaps and plans aiming to define policies and regulations, in practice there are not so many policies and services implemented in Higher Education institutions across Europe that we are aware of.

The Taskforce focuses on recommendations 3 and 4 dedicated to “encourage effective, inclusive and equitable access to quality OER” and “nurture the creation of sustainability models for OER.”⁷

⁷ Recommendations 3 and 4 are extensively quoted in the appendix.



2.1 Finding the right skills

According to a recent survey run by SPARC Europe,⁸ European Academic Libraries often lead or support Open Education using their expertise in metadata for indexing digital resources, information management, and information literacy. It should also be mentioned that the role of academic libraries is important in developing policies and infrastructures for OER creation, management and dissemination to the academic community, in particular as facilitators of access to information. Libraries provide information literacy and information discovery services, they possess know-how and infrastructures to develop repositories, they manage heterogeneous collections and they produce metadata to index digital resources. Additionally libraries focus on accessibility not only regarding their physical spaces (buildings), but also on the accessibility of their digital services and resources. Regarding OER, libraries have the expertise, but not always the responsibility - other departments such as teaching or innovation units, and Information Technology (IT) should be involved.

2.2 Diversity, equity and inclusivity (DEI)

Development of OER should be aligned with the principles of diversity, equity and inclusivity (DEI) at both institutional and alliance levels. Institutions need to run professional development programmes to raise awareness with staff so that DEI consideration is built into OER design and delivery.

2.3 Accessibility

These guidelines are based on the principle that the development of OER takes into account their accessibility and applicability to a diversity of learners. Thus the proposed guidelines are:

- The participant Universities should support the creation of OER by providing: (a) technical specifications for the required audiovisual equipment and software; (b) seminars and training on the principles for the design of OER; (c) guidelines for developing educational material of various types (PowerPoint, Word, Open Office, pdf) that meet the standards of accessibility for people with disabilities.⁹ To support people with disabilities the participating Universities should create multimedia OER that teachers can use.

⁸ [Open Education in European Libraries of Higher Education \(2021 report\). | Zenodo](#)

⁹ <http://project.opencourses.gr/en/institutes/institutional-policy/>



- The OER creation should be aligned with particular specifications, such as those suggested by NKUA¹⁰. Regarding the accessibility of educational material for people with disabilities, there exist guidelines for creating accessible educational material with the use of computer software such as LibreOffice 4.0, LaTeX and MS-Office. Furthermore, there exist software tools for the addition of subtitles to video recorded lectures (e.g. Subtitle Workshop <http://subworkshop.sourceforge.net/download.php>).
- Given the importance of multilingualism in the CIVIS environment, support should be provided for translating metadata or content when the OER is deposited in the OER repository.

2.4 Rights management and Licenses

These guidelines are based on the principle that in the development and utilization of open educational resources, copyright, data protection and ethical practices are respected. In particular the proposed guidelines are based on the Finnish National policy and executive plan by the Higher Education and research community for 2021-2025 for open educational resources¹¹ and are the following:

- In order to make educational resources open, the author should use a license suitable for OER. The author is also entitled to transfer the copyright to his/her employer organization, unless the rights have been separately agreed on before the educational resource is drafted. If the educational resource has more than one author, consent from all authors is required to open the educational resource. Common practice is to apply a Creative Commons (CC) license. So far, CC licenses are available in all CIVIS languages.

¹⁰ <http://project.opencourses.gr/en/instructors/specifications-of-open-courses/>

¹¹ [Open education and educational resources. National policy and executive plan by the higher education and research community for 2021-2025: Policy component 1 – Open access to educational resources | Tieteellisten seurain valtuuskunta](#)

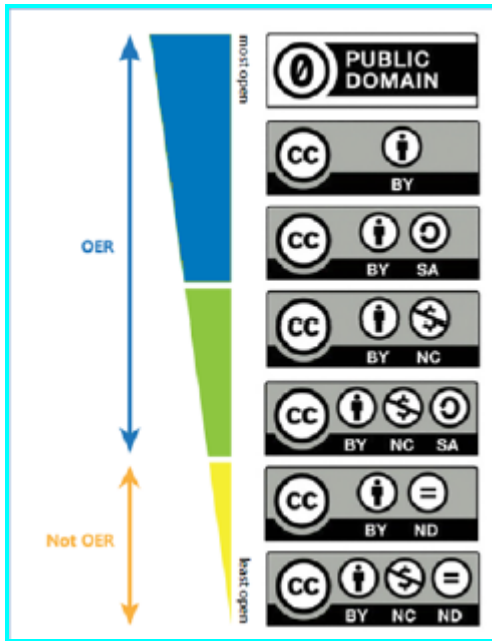


Figure 1: Aligning “openness” to the Creative Commons licences, [Guidelines on the development of open educational resources policies](#) , UNESCO (2019, p.15) - Source: adapted from Green (2017, p.37). Available under CC BY at <https://www.ubiquitypress.com/site/chapters/10.5334/bbc.c/>

- Teachers must ask the students for permission to use the materials they have created.
- If OER are jointly prepared and independent, copyright-protected parts of the output of different authors cannot be separated, it is important to agree on the rights to a jointly prepared work.
- If several organizations are involved in the creation and management of OER, they should agree on the use of the OERs and on the ownership and use of intellectual property rights. In particular the agreement should clarify (a) the rights to modify and update jointly produced material and the responsibilities thereto and (b) terms and conditions under which the materials are published.

In conclusion, cross-institutional collaboration and long-lasting partnerships are the main requirements for the development of OE solutions in CIVIS. It is recommended that communities of practice are created consisting of multiple stakeholders such as faculty members, Libraries, IT services and Services responsible for pedagogical and multimedia training.



3. Sustainability

Infrastructure for Open Educational Resources exists in CIVIS universities, and may imply cooperation on different levels (local, regional, national, etc.). In NKUA and UT's cases, the repositories have developed cooperative approaches: in Athens at the national level, in Tübingen at the level of the federal state of Baden-Württemberg. All models have the ambition to offer a sustainable framework for OER.

In order to do so, here are some prerequisites :

3.1 The responsibility of the repository has to be defined

The responsibility of the repository implies human and economic resources in order to provide:

- Technical support;
- Educational, legal and administrative support;

For instance, in Tübingen, the university library has undertaken to keep the OER repository running permanently, analogous to the institutional repository for the university's publications and the university press after the start-up funding from the Ministry of Science has expired.

Besides, higher education institutions are encouraged to appoint local contact persons or to create a so-called "OER Agency" which offers consulting and help for teaching staff willing to produce or publish OER. Regular meetings and training sessions are organized for the staff to exchange experiences or get new insights. An internal collaboration platform has been established to facilitate communication and exchange of materials.

In Greece, the Network Operation Centre (NOC) of each university hosts a local OER repository (based either on Moodle or eClass platforms). Additionally the NOC of NKUA has built the national platform opencourses.gr, based on a metadata aggregator and a repository. This hosts and curates a central OER metadata catalog. Moreover, the national infrastructure opencourses.gr cooperates with the IT departments of the Universities to provide support in creating and managing OERs.

The CIVIS platform should include OER and offer at least access to the content in the existing repositories.

For CIVIS a unit would be required to support faculty and staff in producing OER. It should provide dedicated technical, educational, legal, financial and HR support.



3.2 The OER principles have to be promoted

At the University of Tübingen, especially during the initial start-up funding period, an important effort was made to promote the idea of Open Educational Resources: creation of a website, creation and distribution of a printed information brochure, video production (http://hdl.handle.net/10900.3/OER_EZOUVEVYN), talks at conferences about digital teaching and learning models, presentation of the OER-repository at several higher education institutions.

In Greece, the national OER repository provides particular guidelines and specifications for creating OER (<http://project.opencourses.gr/en/instructors/specifications-of-open-courses/>).

The CIVIS alliance should disseminate its OER recommendations within the community by using various promotion tools and strategies.

3.3 Incentives for teaching staff in order to create and publish OER

Awareness of the importance of open science for research and teaching produced from public funding continues to grow in academia but the teaching community needs training and incentives to produce OER.

Teachers often see advantages for themselves in the use of Open Educational Resources, but have reservations about producing OER. They shy away from the effort involved (e.g. rights clearance), but also fear the loss of their authorship of the materials. Therefore there should be – apart from information and training in producing OER – incentives for the teaching staff, for example:

Funding opportunities or competition and prizes can trigger motivation among faculty: annual distribution of one or several prizes to individuals or groups for outstanding merits in developing OER should be implemented.

Another successful incentive can be *the temporary reduction of teaching duties* in order to give time to prepare teaching materials as OER.

Quality-assured OER should be evaluated in applications, at least for teaching positions, like publications in research positions.

OER Policies: CIVIS universities should make it clear to the teaching staff that the creation and publication of OER aligns with CIVIS open science strategy.



Lists of best OER practices: In order to convince teaching staff of the advantages of OER, a pool of quality-assured sample Open Educational Resources from different subjects and for different teaching and application contexts can help.

The CIVIS alliance should develop incentives to promote the creation of OER.

3.4 Incentives for citizens to access OER

It is to be advertised that OER is a means for citizens to learn new things free of charge.¹²

For example, they can be attracted by the use of an Open Badges system, which could be delivered to citizens acquiring skills through OER. Although badges have been informal so far, they are becoming recognized. They are part of the sustainability process as they encourage the use of OER, thus ensuring a higher demand.

The CIVIS alliance should develop incentives to promote the use of OER.

¹² Cf. "OE Benefits - ENOEL leaflets" by ENOEL, <https://zenodo.org/record/> [consulted on April 5th 2022]



Appendix

A/ Existing repositories

NKUA

Greece has a national policy on OER, and a national OER repository, which serves as a single entry point for the OER. The repository is accessible at the URL <https://opencourses.gr> and was developed by a national project aiming to create the National Open Course Search Portal as well as to support the Greek Universities in developing and providing open academic courses. The project was implemented by GUnet, the Greek Universities networking infrastructure. The main objectives of the project were:

- the upgrade of the structure and content of existing digital courses, based on international practices and standards, for the resulting open courses to become facilitators of face to face teaching;
- the promotion OER development;
- the definition of institutional policies for the open courses and OER;
- the handling of issues related to intellectual property and the creation of educational material accessible by disabled people.

The project developed the Open Delos platform (<http://opendelos.org/>), a rich media and lecture platform for education and upgraded the Open eClass platform (<https://www.openeclass.org/en/>) in terms of architecture, user interface and functionality in order to support open courses.

The open courses have rich metadata (mandatory and optional), while they are classified in three different categories according to their educational content:

- A- courses: provide the learner with course description and goals, keywords and glossary terms, educational material organized in course units, notes or/ and presentation slides, bibliography
- A courses: in addition to A- provide podcasts synced to presentation slides
- A+ courses: in addition to A- provide exercises and quizzes, digital resources and multimedia educational material. Thus only A+ courses include videolectures as part of the educational material.



The Table 1 presents the minimum specifications required per open course category:

Table 1. General Specifications for Open Educational Resources

Specifications	A-	A	A+
Course objectives description	✓	✓	✓
Keywords or basic terms	✓	✓	✓
Teaching material organized in thematic units or groups of lectures	✓	✓	✓
Objectives per chapter, unit or group	✓	✓	✓
Keywords or basic terms per unit	✓	✓	✓
Presentations, notes per unit or lecture	✓	✓	✓
Bibliography	✓	✓	✓
Self-assessment elements or exercises			
Use of digital library sources			✓
Multimedia material::			
i) Video lectures			✓
ii) Video lectures synchronized with slides			✓
iii) Podcast and slides		✓	

The repository is based on a metadata aggregator, which harvests the metadata of the courses, using the OAI-PMH protocol, from the educational platforms of the Greek Universities. Hence the architecture of the whole service is the following:

- The faculty members create their open courses according to particular specifications and following the instructions and the educational material available at <http://project.opencourses.gr>. For each course a list of metadata should be added.
- The open courses of each University are hosted by an e-learning platform, that is usually E-class and Moodle.
- The metadata are harvested by the metadata aggregator of the National Open Course Search Portal (<https://opencourses.gr>).
- The users can search and retrieve the National Open Course Search Portal and access the courses at the local platforms of the Universities (e.g. <https://opencourses.uoa.gr/> or <https://opencourses.ionio.gr/>).

Up to now the repository hosts 4234 Open courses, created by 4428 faculty members from 26 Universities.



Tübingen

The University of Tübingen has built and is running the Baden-Württemberg OER repository for all BW-universities and universities of applied sciences. The technical basis of the repository is Edu-sharing (<https://edu-sharing.com/>).

There is a growing cooperation with OER-repositories in other parts of Germany. Commonly established standards for metadata allow the exchange of data. Recently an OER-network of institutions in six federal states has been funded. With the ongoing support of the Ministry of Science, Research and Arts from Baden-Württemberg, the services provided for authors and users of the OER repository will be expanded and strengthened in the next few years.

Training and support is provided regularly: presentation of the repository, sessions on licences and copyright, CC licenses, etc.

Glasgow

The University of Glasgow has an OER repository for the university.

[MyGlasgow - Library - Staff - EdShare](#): EdShare is a resource for collaboration and sharing of materials used in teaching and learning at the University of Glasgow. The resource is for University staff and students who are involved in supporting students in their learning, to organise, manage, share and collaborate on outputs that they use in their teaching. The repository uses the open source software from Eprints. Other teaching materials and tools exist in the open-source learning platform Moodle and discussions are ongoing into further support for OER at Glasgow.

Stockholm

The University of Stockholm has an OER repository for the university.

[SU Open Educational Resource Database](#): This resource database is a form for exchange of ideas and resources for all involved in creating digital learning objects for students, PhD students and teachers in higher education. The technical basis of the repository is Figshare.

Stockholm University also offers some MOOCs for example:

<https://sdgacademy.org/course/planetary-boundaries-human-opportunities/>



B/ UNESCO recommendations on OER 3 and 4¹³

Recommendation 3 : Encouraging effective, inclusive and equitable access to quality OER

13. Member States are encouraged to support the creation, access, re-use, re-purpose, adaptation and redistribution of inclusive and equitable quality OER for all stakeholders. These would include those learners in formal and non-formal education contexts irrespective of, inter alia, age, gender, physical ability, and socio-economic status, as well as those in vulnerable situations, indigenous peoples, those in remote rural areas (including nomadic populations), people residing in areas affected by conflicts and natural disasters, ethnic minorities, migrants, refugees, and displaced persons. In all instances, gender equality should be ensured, and particular attention paid to equity and inclusion for learners who are especially disadvantaged due to multiple and intersecting forms of discrimination. Member States are recommended to consider the following:

(a) ensuring access to OER that most suitably meets both the needs and material circumstances of target learners and the educational objectives of the courses or subjects for which they are being provided. This would include offline (including printed) modalities for accessing resources where appropriate;

(b) supporting OER stakeholders to develop gender-sensitive, culturally and linguistically relevant OER, and to create local language OER, particularly in indigenous languages which are less used, under-resourced and endangered;

(c) ensuring that the principle of gender equality, non-discrimination, accessibility and inclusiveness is reflected in strategies and programmes for creating, accessing, re-using, adapting, and redistributing OER;

(d) ensuring public investments and incentivizing private investments in ICT infrastructure and broadband, as well as other mechanisms, to provide increased access to OER, particularly for low-income, rural and urban communities;

(e) incentivizing the development and research of OER; and

(f) developing and adapting existing evidence-based standards, benchmarks and related criteria for the quality assurance of OER, as appropriate, which emphasize reviewing educational resources (both openly licensed and not openly licensed) under regular quality assurance mechanisms."

¹³ http://portal.unesco.org/en/ev.php-URL_ID=49556&URL_DO=DO_TOPIC&URL_SECTION=201.html



Recommendation 4 : Nurturing the creation of sustainability models for OER

14. Member States, according to their specific conditions, governing structures and constitutional provisions, are recommended to support and encourage the development of comprehensive, inclusive and integrated OER sustainability models. Member States are encouraged to consider the following:

(a) reviewing current provisions, procurement policies and regulations to expand and simplify the process of procuring quality goods and services to facilitate the creation, ownership, translation, adaptation, curation, sharing, archiving and preservation of OER, where appropriate, as well as to develop the capacity of all OER stakeholders to participate in these activities;

(b) catalyzing sustainability models, not only through traditional funding sources, but also through non-traditional reciprocity-based resource mobilization, through partnerships, networking, and revenue generation such as donations, memberships, pay what you want, and crowdfunding that may provide revenues and sustainability to OER provision while ensuring that costs for accessing essential materials for teaching and learning are not shifted to individual educators or students;

(c) promoting and raising awareness of other value-added models using OER across institutions and countries where the focus is on participation, co-creation, generating value collectively, community partnerships, spurring innovation, and bringing people together for a common cause;

(d) enacting regulatory frameworks that support the development of OER products and related services that align with national and international standards as well as the interest and values of the OER stakeholders;

(e) fostering the faithful linguistic translation of open licenses as defined in this Recommendation to ensure their proper implementation;

(f) providing mechanisms for the implementation and application of OER, as well as encouraging the feedback from stakeholders and constant improvement of OER; and

(g) optimizing existing education and research budgets and funds efficiently to source, develop and continuously improve OER models through inter-institutional, national, regional and international collaborations."