



COMMONWEALTH of LEARNING

Learning for Sustainable Development



Understanding Open Educational Resources

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COMMONWEALTH *of* LEARNING

Understanding Open Educational Resources

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The Commonwealth of Learning (COL) is an intergovernmental organisation created by Commonwealth Heads of Government to promote the development and sharing of open learning and distance education knowledge, resources and technologies.



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Lesson 1

Introduction to Open Educational Resources

1.1 Introduction

The fact that you are reading this lesson suggests that you have heard of open educational resources (OER). Currently, there is a lot of buzz about OER. Some see them as totally revolutionising how we bring learning materials into our education system and use them, while others see OER from a more pragmatic perspective. Before we start looking at OER, including their origin, benefits and challenges, it is important to consider the problems that we are facing today in education. While these problems range, in different countries, from lack of access to poor quality, there is a common thread in most: low availability of good-quality educational materials. Although learning materials are available, the cost of access in many locations is very high and increases each year. For example, the cost of college textbooks in the United States increased 82 per cent between 2002 and 2013— three times the rate of inflation.¹ According to the College Board, in the 2014–15 academic year, students in the USA spent about USD 1200 each on textbooks.² Another study indicated that 65 per cent of U.S. students do not buy textbooks due to prohibitive costs, despite being concerned about grades.³ Is this not alarming? While there are many other reasons to support OER, the cost issue is a primary factor in their growing popularity amongst students and teachers.

In this lesson, we will explore OER in general to give you an understanding of what they are and who the key players are in the progress of OER. By the end of the lesson, you should be able to make an informed decision about the worth of OER and how they might add value to your work as an educator or materials developer.

¹ See <http://www.gao.gov/assets/660/655066.pdf>.

² See <http://trends.collegeboard.org/college-pricing/figures-tables/average-estimated-undergraduate-budgets-2014-15>.

³ See http://uspirg.org/sites/pirg/files/reports/NATIONAL_Fixing_Broken_Textbooks_Report1.pdf.



1.1.1 Learning Outcomes

On completion of this self-study lesson, you are expected to be able to:

- Define the concept of OER;
- List the major events in the development of the open movement;
- Identify the merits and challenges of using OER;
- Describe the roles played by various institutions in promoting the use of OER.

1.2 Definition of OER

A quick perusal of the Internet demonstrates that there have been numerous attempts to define the concept of OER. A few are presented below:⁴

The William and Flora Hewlett Foundation

“OER are teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge.”

OECD (Organisation for Economic Co-operation and Development)

“Digitised materials offered freely and openly for educators, students, and self-learners to use and reuse for teaching, learning, and research. OER includes learning content, software tools to develop, use, and distribute content, and implementation resources such as open licences.”

UNESCO

“Teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions.”

The Cape Town Open Education Declaration

“Open educational resources should be freely shared through open licences which facilitate use, revision, translation, improvement and sharing by

⁴ Adapted from Creative Commons. (2015). *What is OER?* Retrieved from https://wiki.creativecommons.org/What_is_OER%3F (CC BY).

anyone. Resources should be published in formats that facilitate both use and editing, and that accommodate a diversity of technical platforms. Whenever possible, they should also be available in formats that are accessible to people with disabilities and people who do not yet have access to the Internet.”

Wikipedia (Open Educational Resources)

“Open educational resources (OER) are digital materials that can be re-used for teaching, learning, research and more, made available free through open licenses, which allow uses of the materials that would not be easily permitted under copyright alone.”

OER Commons

“Open Educational Resources are teaching and learning materials that you may freely use and reuse, without charge. OER often have a Creative Commons or GNU license that state specifically how the material may be used, reused, adapted, and shared.”

While similar, these definitions do highlight different combinations of the key ideas. The grid below, also adapted from the Creative Commons article “What Is OER?”,⁵ identifies common elements and some differences across the definitions:

	Open copyright licence required	Right of access, adaptation and republication	Non-discriminatory (i.e., rights given to everyone, everywhere)	Does not limit use or form (this does not include non-commercial limitations)
Hewlett Foundation	✓	✓	✓	✓
OECD		✓		
UNESCO	✓	✓	✓	✓
Cape Town Declaration	✓	✓	✓	
Wikipedia	✓	✓	✓	✓
OER Commons		✓	✓	✓

⁵ Creative Commons. (2015). *What is OER?*. Available online at https://wiki.creativecommons.org/What_is_OER%3F (CC BY).

A definition of OER should mention a licence that is as open as possible, encourages right of access for everyone and mentions users' ability to repurpose or adapt the resource. The 2012 OER Paris Declaration states that OER are

teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. Open licensing is built within the existing framework of intellectual property rights as defined by relevant international conventions and respects the authorship of the work.⁶

OER are those teaching and learning materials that are available either in the public domain or under an open licence

Thus, OER are those teaching and learning materials that are available either in the public domain or under an open licence. "Public domain"⁷ in the context of OER means, teaching and learning materials for which copyright has expired or for which copyright has been explicitly forfeited by the author. While we will learn about open licences and copyright in this course, it is important to note that licensing is a concept within copyright law, and an open licence can allow the adoption/adaptation of a work under different circumstances.

OER can be seen as a subset of a broader term: open education. The William and Flora Hewlett Foundation has stated that open education "is the simple and powerful idea that the world's knowledge is a public good and that technology in general and the World Wide Web in particular provide an extraordinary opportunity for everyone to share, use, and reuse knowledge."⁸ OER play a significant role in bringing this idea to life.



Check Your Progress

1. Choose the right answer.

- 1.1 The abbreviation OER stands for
 - (a) open education resources.
 - (b) open educational resources.
 - (c) open education roundtable.
 - (d) open educational restrictions.
- 1.2 OER is a subset of the term
 - (a) open education.
 - (b) open courseware.

⁶ See http://unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/Events/Paris%20OER%20Declaration_01.pdf.

⁷ See http://en.wikipedia.org/wiki/Public_domain.

⁸ Ibid.

- (c) open access.
- (d) open software.

2. True or false?

- 2.1 The term “free” means the same as “open.”
- 2.2 The Internet was one of the factors that made OER possible.

1.3 Benefits of Open Education and OER

The benefits of open education include the following:

- Education open to anyone;
- Affordable—ideally, free;
- Students can try the course before signing up;
- Flexible study times not bound by weekly timetables or semester calendars;
- Students work at their own pace;
- Available from anywhere and not restricted by access to school or college;
- Access to huge amount of study materials;
- Intellectual capital is available for reuse.

Keeping in mind this open environment, OER are a significant component of making open education possible. As we have seen from the preceding definitions, OER:

- Are free;
- Are digital (also non-digital), accessible through the Internet and not bound geographically;
- Are adaptable, allowing others to repurpose them for new uses;
- Can support learning at one’s own pace;
- Allow access to huge amounts of data and information through OER repositories.

Open education is, however, not limited to just OER. Another component of open education is open courseware, often abbreviated as OCW. According to Wikipedia:

OpenCourseWare (OCW) are course lessons created at universities and published for free via the Internet. OCW projects first appeared in the late 1990s, and after gaining traction in Europe and then the United States have become a worldwide means of delivering educational content.⁹

⁹ OpenCourseWare. (2015). In *Wikipedia*. Retrieved from <http://en.wikipedia.org/wiki/OpenCourseWare> (CC BY-SA).

Another important open education concept is open access (OA), which describes unrestricted online access to peer-reviewed scholarly research. OA is primarily intended for scholarly journals but is also providing access to a growing number of theses, book chapters and monographs.¹⁰

Keeping in mind the large number of stakeholders within the education sector, the potential benefits of open education and OER extend beyond educators and materials developers. Additional benefits of OER include the following:¹¹

	Potential Benefits
Government Perspective	Advancing knowledge by unlocking information for the benefit of all
	Widening participation in higher education by expanding access for non-traditional learners
	Promoting lifelong learning
	Bridging the gap between formal, informal and non-formal
	Leveraging taxpayers' money by sharing and reuse between institutions
Institutional Perspective	Sharing knowledge is congruent with the academic tradition
	The public image of the institution may be enhanced and new students attracted
	Improving recruitment by helping the right students find the right programmes
	Providing a resource for students and faculty that supports learning and collaboration
	Attracting alumni as lifelong learners
Educator's Perspective	Personal gain through increased reputation
	Gaining publicity or reaching the market more quickly may result in an economic advantage
	Fostering connections with colleagues around the world
	Preserving a record of teaching innovations, allowing others to build upon them
	Leaving a legacy after exiting academia

¹⁰ Open access. (2015). In *Wikipedia*. Retrieved from http://en.wikipedia.org/wiki/Open_access (CC BY-SA).

¹¹ Adapted from Hodgkinson-Williams, C. (2010). Benefits and challenges of OER for higher education institutions. Retrieved from Commonwealth of Learning http://oldwebsite.col.org/SiteCollectionDocuments/OER_BenefitsChallenges_presentation.pdf (CC BY-SA).

Learner's perspective	An independent learner who has access to the Internet can access material from the best universities in the world
	OER can promote informal learning, wherein credentials are not needed
	Prospective students may access institutions by looking at their materials made available by other institutions

1.4 History and Development

OER and the open movement have recently evolved, and in many ways they challenge age-old educational traditions and conventions. The catalyst has been the pervasiveness of the Internet and the ability to copy and distribute digital content. In 1999, both the University of Tübingen (Germany) and The Open University (UK) released some educational resources for free. However, the most commonly known OER initiative came from the Massachusetts Institute of Technology (USA) in 2001; by 2002, it had released 32 courses with open licences and set a precedent in terms of openness of university courseware. Taking note of this development, UNESCO in 2002 convened the Forum on the Impact of Open Courseware for Higher Education in Developing Countries, where the term OER was coined. Since then, many other education service providers around the world have used open licences and the Internet to share teaching and learning resources.

The Cape Town Open Education Declaration (2008) and the Paris OER Declaration (2012) provided guidelines and encouragement for governments to release educational resources—especially those created using public funding—with open licences. The integration of OER into national policy is an ongoing and slow process, but there have been successes in countries such as the USA, South Africa, Kenya, Ghana, Poland, the Netherlands, and the United Kingdom.¹² In 2013, Antigua and Barbuda adopted an OER policy within the framework of its national policy on information and communication technology (ICT) in education. In 2014, the National Mission on Education through ICT (NMEICT) in India adopted an open licence policy¹³ for all of its outputs, releasing as OER all content generated with its funding.

Significant in terms of broadening the reach of education, Stanford University in 2010 offered a massive open online course (MOOC), attracting hundreds of thousands of students for a free course. The MOOC phenomenon has grown and now includes offerings from many education service providers via different MOOC platforms. While MOOCs continue to attract both praise and criticism, the concept still interests education experts, especially those developing strategies to support very large numbers of students.

UNESCO in 2002 convened the Forum on the Impact of Open Courseware for Higher Education in Developing Countries

¹² See the OER Impact Map at <http://oermap.org/hypothesis/587/hypothesis-j-policy/>.

¹³ http://www.sakshat.ac.in/Document/OER_Policy.pdf

The following timeline, which has been remixed and adapted further from David Kernohan and Amber Thomas¹⁴, David Wiley¹⁵ and Wikipedia,¹⁶ illustrates some of the milestones in the growth of the open education movement and OER in particular.

January 1999	University of Tübingen (Germany) publishes lecture video series on the Internet, considered the first instance of open educational resources.
2001	MIT OpenCourseWare announced in <i>The New York Times</i> . ¹⁷
July 2002	UNESCO Forum on the Impact of Open Courseware for Higher Education in Developing Countries coins the term “open education resources,” or OER.
September 2002	Massachusetts Institute of Technology (MIT) releases 32 of its courses through its OpenCourseWare platform.
November 2003	China Open Resources for Education (CORE) forges a relationship with MIT, aiming to provide resources for Chinese universities.
January 2005	Giving Knowledge for Free: The Emergence of Open Educational Resources report from the OECD released, outlining 20-month study of the uses of OER.
September 2006	Khan Academy launched online, providing free video materials for secondary school curriculum.
September 2007	University of Michigan Medical School and IT Department release dScribe, a method to provide pre-clinical curricula materials as OER.
January 2008	Cape Town Open Education Declaration calls on governments and publishers around the world to release education materials on the Internet for free.
February 2009	OER Africa , University of Michigan and four African universities receive a grant from the Hewlett Foundation to support free health education.
August 2009	Governor of California, Arnold Schwarzenegger, passes California’s Free Digital Textbook Initiative .
September 2010	Stanford University offers a free massive open online course (MOOC) that draws enrolment of over 160,000.

¹⁴ Kernohan, D., & Thomas, A. (2012). Open educational resources – a historical perspective. Retrieved from <http://www.infodocket.com/2012/10/10/new-conference-paper-open-educational-resources-a-historical-perspective/> (CC BY-SA).

¹⁵ Wiley, D. (n.d.). Brief history of OER. Retrieved from <http://www.hewlett.org/uploads/files/HistoryofOER.pdf> (licence not clear).

¹⁶ Open educational resources. (2015). In *Wikipedia*. Retrieved from http://en.wikipedia.org/wiki/Open_educational_resources (CC BY-SA).

¹⁷ See <http://www.nytimes.com/2001/04/04/us/auditing-classes-at-mit-on-the-web-and-free.html>.

April 2011	Bangladesh releases a full set of digital textbooks for grades one to 12.
May 2011	Commonwealth of Learning specifies a broad policy to promote and inform the development and use of OER.
July 2012	Paris OER Declaration is released, calling on governments worldwide to openly license publicly funded educational materials for public use.



Check Your Progress

3. Choose the right answer

- 3.1 Two OER declarations, one in Cape Town the other in Paris, encouraged national governments to
- pass laws that made all educational content open.
 - release publicly funded educational content as open.
 - create a generic set of texts that all countries could share.
 - ban publishing for profit.
- 3.2 The educational institution that has been releasing nearly all its teaching and learning content since 2002 is
- Oxford University.
 - The Sorbonne.
 - Massachusetts Institute of Technology.
 - Tübingen University.

1.5 Challenges of Using OER

Despite the noble intentions behind OER, it turns out that using OER is not always straightforward! Practitioners face various challenges when it comes to harnessing OER. Current frustrations for users of OER often include:

- **Sourcing appropriate OER:** This is an issue because there is no one-stop-shop for OER. They are scattered across the Internet (this problem is explored in lesson 3).
- **Understanding open licences:** Not everyone is familiar with different open licences and what they permit (to overcome this problem, see lesson 2).
- **Adaptation of OER requires new skills:** To adapt and repurpose OER, the practitioner needs more than basic ICT skills and also needs practice in revising and remixing resources.

- **Traditional mindsets predominate:** Many educators feel it is wrong to use other people’s work, and thus they protect, rather than share, their own resources.
- **Robust Internet connectivity and good ICT availability** are essential to access and adapt OER.
- Schools and universities seldom **incentivise lesson creation.**

Cheryl Hodgkinson-Williams’s 2010 paper¹⁸ identifies technical, economic, social and legal challenges to using OER:

	Potential Challenges
Technical Issues	Lack of broadband and other technical innovations
	Interoperability
	Metadata standards
Economic Issues	Lack of resources to invest in broadband, hardware and software
	Difficulties in covering costs for developing OER or sustaining an OER project in the long run
Social Issues	Absence of technical skills
	Unwillingness to share or give away intellectual property
	Unwillingness to use resources produced by someone else
	Assuring quality in open content
	Lack of time to produce shareable materials
	Research privileged over the development of teaching materials
	Lack of incentives
	Skills to select appropriate OER and reuse or remix them
Legal Issues	Prohibition against using copyrighted material without consent
	Lack of awareness among academics regarding copyright issues

However, the benefits seem to outweigh the challenges, and the adoption (and sharing) of OER is continuing to grow.

¹⁸ Hodgkinson-Williams, C. (2010). *Benefits and challenges of OER for higher education institutions*. Vancouver, Canada: COL. Retrieved from http://oldwebsite.col.org/SiteCollectionDocuments/OER_BenefitsChallenges_presentation.pdf, p. 8 (CC BY-SA).



Check Your Progress

4. Choose the right answer

- 4.1 One of the benefits of OER that particularly appeals to education managers is
- (a) tracking to see what students are doing online.
 - (b) automated systems that ease administration.
 - (c) using online communication channels to share data.
 - (d) cost savings in providing education content.
- 4.2 One of the main challenges in encouraging educators to adopt OER is
- (a) suspicion of other people's resources.
 - (b) concern over losing control of materials that have income-earning potential.
 - (c) lack of digital skills to exploit OER.
 - (d) all of the above.
- 4.3 One of the benefits to an institution that releases teaching materials as OER is
- (a) safeguarding their materials from being copied.
 - (b) enabling prospective students to ascertain whether the university is right for them.
 - (c) cornering the market for a particular subject; everyone else appears to be copying.
 - (d) increasing enrolments.
- 4.4 Some OER encourage "repurposing," which means
- (a) you can adapt the resource for new contexts.
 - (b) you must preserve the resource "as is."
 - (c) you must preserve the "purpose" of the resources.
 - (d) you must stipulate to the authors what you intend to do with the resource.

1.6 Institutions Promoting OER

The list of institutions, organisations and individuals involved with developing and promoting OER is ever expanding, and growth has accelerated in recent years. Below, however, are three globally active institutions that are worth highlighting.

1.6.1 The William and Flora Hewlett Foundation

The foundation established by the co-founder of the Hewlett-Packard Company, and his wife, has many philanthropic areas of interest, ranging from global development and population to the environment. Significantly, though, the foundation has invested heavily in education, particularly in supporting the open education movement. Interestingly, the 2002 UNESCO Forum on the Impact of Open Courseware for Higher Education in Developing Countries and the 2012 World OER Congress, organised by the Commonwealth of Learning (COL) and UNESCO, were funded by the Hewlett Foundation.

As its website¹⁹ indicates, The William and Flora Hewlett Foundation supports:

- Developing OER for K-12 curricula and community colleges;
- Assisting the expansion of OER networks, and developing guidelines and tools for the field;
- Promoting policies or strategies that create funds and incentives, or providing communications and technical assistance to policy makers, to thereby advance greater access to learning through OER;
- Researching and evaluating the impact of OER on teaching and learning;
- Developing innovative OER models.

1.6.2 UNESCO

The United Nations Educational, Scientific and Cultural Organization (UNESCO²⁰) believes that OER “provide a strategic opportunity to improve the quality of education as well as facilitate policy dialogue, knowledge sharing and capacity building.”²¹ The Paris OER Declaration, adopted during the World OER Congress held in June 2012 at UNESCO headquarters, was a significant step for the development of national policies supporting OER. The declaration’s ten points encourage governments to contribute to the awareness and use of OER and to develop strategies and policies to integrate OER in education. In 2013, UNESCO adopted an open access policy for all of its publications, in line with its commitment to promote and support OER and OA.

1.6.3 Commonwealth of Learning

COL²² is an intergovernmental organisation created by Commonwealth Heads of Government to encourage the development and sharing of open learning/distance

¹⁹ See <http://www.hewlett.org/programs/education/open-educational-resources>.

²⁰ <http://en.unesco.org>.

²¹ See <http://www.unesco.org/new/en/communication-and-information/access-to-knowledge/open-educational-resources>.

²² <http://www.col.org>.

education knowledge, resources and technologies. COL has for many years been at the forefront of the OER movement, facilitating numerous initiatives. It was the first intergovernmental organisation to adopt an open licence for all of its publications. COL encourages governments to officially recognise the importance of sharing OER, through policy development—either as a stand-alone policy or within the broader realm of ICT-in-education policy. COL has developed several resources on OER to build teachers' capacity and develop teaching and learning materials as OER. Many such resources are available on its website, and also that of its regional office in New Delhi: the Commonwealth Educational Media Centre for Asia (CEMCA²³).

1.7 Significant Projects/Initiatives

Many OER projects and initiatives are underway; the following sample will give you an idea of the array of different project interests. While the information presented here was accurate at the time of preparing the lesson, we recommend that you explore the project websites for more details and up-to-date information.

1.7.1 OER Impact Map

To better understand where OER are having an impact globally, the OER Impact Map,²⁴ researched and built by the OER Research Hub, provides a visual reference regarding both positive and negative impacts. Themes such as policy change, student impact, improved access and so on have been mapped. It is also possible to drill down to a specific region, country or city to monitor specific OER impacts. This tool is especially useful to policy makers and researchers.

1.7.2 OpenLearn

This short course platform from The Open University (UK) offers a selection of self-paced online learning opportunities drawn from the university's formal programmes. On the OpenLearn²⁵ platform, courses are offered free of charge. They are not facilitated by a tutor—so, while they might not be as rich in terms of interaction as the formal programme, they can be accessed at any time. Running in its current form since 2010, but stretching back to 1999 in different formats, OpenLearn has amassed a comprehensive list of courses and offerings, and new

²³ <http://cemca.org.in>.

²⁴ <http://oermap.org>.

²⁵ <http://www.open.edu/openlearn>.

courses are being added regularly. OpenLearn is useful for those wanting to study further or to try out OU's courses before enrolling for the formal programme, and for course developers, who can repurpose the openly licensed materials.

1.7.3 OERu

The Open Educational Resources universitas (OERu²⁶) is an education platform offering a number of MOOC-type, university-level courses and programmes. There are numerous academic partners and a growing list of courses, some of which offer credits towards further study and others badges. This initiative is useful for users looking to study further.

1.7.4 UNESCO–COL OER Chairs

Co-ordinated by UNESCO and COL, academic chairs²⁷ at higher education institutions in Canada, Malawi, Tanzania, Nigeria and Sri Lanka have been set up to champion OER and open education through research, strengthening regional co-operation and facilitating capacity building in their particular regions.



1.8 Summary and Conclusion

To summarise:

- OER are digital as well as non-digital educational materials that can be used, copied and distributed free of charge and without permission from the creator. In some instances, they can also be adapted to suit different contexts and uses.
- OER should be seen as a subset of the concept of open education, along with open access journals and open courseware.
- The potential benefit of open education is that by sharing, teachers and students from around the globe can have access to quality teaching and learning materials, thereby improving global education.
- As OER, by and large, are digital in nature, a challenge to their adoption has been the lack of access to digital devices and the Internet by some teachers and students. As well, those who might benefit from OER often lack the skills to find and adapt them.

²⁶ <http://oeru.org>.

²⁷ <https://www.col.org/programmes/higher-education/unesco-col-chairs>.

- Adoption is growing and has been gaining momentum since 1999, when the first university video lecture series was released on the Internet free of charge. Other institutions have followed suit, and two declarations—the Cape Town Open Education Declaration and the Paris OER Declaration—have encouraged some states to release publicly funded education materials to be released with open licences.
- Some significant institutions in the OER arena include The William and Flora Hewlett Foundation, UNESCO and COL.
- Interesting OER projects include the OER Impact Map, OpenLearn, OERu and the UNESCO– COL chairs.

This first lesson provided an overview of the OER concept. In the next lesson, the focus will be on copyright and open licensing that distinguishes OER from other resources.



Answers to Check Your Progress

- 1.1 (b) 1.2 (a)
- 2.1 False; while OER are free, the term “open” includes much more, such as repurposing and adaption.
- 2.2 True; the digital nature of OER and the Internet as a distribution channel were factors that allowed unprecedented sharing of educational resources.
- 3.1 (b) 3.2 (c)
- 4.1 (d) 4.2 (d)
- 4.3 (b) 4.4 (a)

Lesson 2

Copyright and Open Licensing

2.1 Introduction

Have you ever written something original of your own? Do you realise that you own the copyright to everything that you write? While many of you studying this course may answer “yes” to both questions, you might have unanswered questions about copyright in the context of writing educational materials. Knowledge of copyright is essential for everyone who develops learning materials or is in the writing profession, particularly to avoid committing copyright infringement. With the emergence of OER, understanding copyright has become especially important, as you can use learning materials produced by others if they are made available under an open licence. In this lesson, we will review the laws regarding copyright and open licensing (but without going into the details of relevant legal cases). In the process, we will learn about the Creative Commons approach to open licensing.



2.1.1 Learning Outcomes

On completion of this self-study lesson, you are expected to be able to:

- Identify what is meant by “copyright” in the traditional sense (i.e., full copyright, all rights reserved);
- Identify how open licensing presents options for educators who wish to share their resources;
- Ascertain how “open” a particular licence is;
- Select an appropriate Creative Commons licence using a licence generator; and
- Identify the components of an institutional policy (advocacy, capacity building, etc.) that encourages a culture of openness.

2.2 Understanding Copyright

Copyright is an exclusive, transferable right given by law to a creator/author for a fixed number of years to copy, print, publish, perform, film, record or otherwise control the use of literary, musical, dramatic or artistic works. Copyright is a legal protection given to the original creator of a work, which may be in any form. In this context, “work” means an explicit description or expression of an idea, not just the ideas themselves; the law only protects the specific and original *expression* of ideas.



Copyright²⁸

Copyright is a legal right created by the law of a country that grants the creator of an original work exclusive rights to its use and distribution, usually for a limited time, with the intention of enabling the creator (e.g., the photographer of a

photograph or the author of a book) to receive compensation for their intellectual effort. The exclusive rights are, however, not absolute and do not give the creator total control of their work, because the rights are bound by limitations and exceptions to copyright law.

Copyright is a form of intellectual property, applicable to any expressed representation of a creative work. The rights that copyright reserves include control over reproduction, derivative works, distribution and public performance, as well as “moral rights,” such as attribution.

Copyright does not prohibit all copying or replication. In the United States, the “fair use” doctrine, codified by the Copyright Act of 1976 as 17 U.S.C. Section 107, permits some copying and distribution without the permission of the copyright holder or payment to the same. The statute does not clearly define fair use but instead gives four non-exclusive factors to consider in a fair use analysis. Those factors are:

- 1) The purpose and character of one’s use;
- 2) The nature of the copyrighted work;
- 3) What amount and proportion of the whole work was taken; and
- 4) The effect of the use upon the potential market for or value of the copyrighted work.

In the United Kingdom and many other Commonwealth countries, a similar notion of “fair dealing” was established by the courts or through legislation.

²⁸ Adapted from Copyright. (2015). In *Wikipedia*. Retrieved from <http://en.wikipedia.org/wiki/Copyright>.

Although copyright law varies by jurisdiction, there is generally a clause that makes special permission for “fair use” or “fair dealing”; normally, this allows a written work (for example) to be copied for the purpose of private study, research, book review, reporting and similar non-commercial uses. Fair use does not give permission to use copyrighted materials in full. Moreover, the extent of the use is limited and not clear, which can lead to litigation.

Normally ownership of the intellectual property of an article or book resides with the author, except when the author’s employer claims ownership under the conditions of employment. This may be the case when teachers are employed by universities to write learning content. However, works for hire are handled differently in various institutions.

As long as the copyright of a work remains with the author, legally the author can undertake economic activity associated with the work. This economic right introduces conflict when certain types of works are developed using public funds. The issue of the “moral rights” related to the work arises when the right of the work is with the employer or the funding agency.

The existing copyright licensing system is problematic for educators. It is very restrictive and legally limits what resources a teacher can use in the classroom and what a student can use to support learning and demonstrate competence. It was to overcome this set of problems that the idea of OER emerged, a concept made possible by the creation of an alternative: open licensing systems.

For a detailed understanding of the history and development of copyright, see *Introducing Copyright*, by Julien Hoffman.²⁹



Check Your Progress

5. True or false?

- 5.1 If there is no copyright symbol or information on a resource, it is, by default, covered by full copyright.
- 5.2 The doctrine of fair use allows educators to take and use any resource as long as it is for educational purposes only.

2.3 Open Licensing

Copyright laws come with a licensing clause that gives authors the right to license their work for reuse. When the author is not traceable, the law provides mechanisms to obtain a licence from a designated authority.

²⁹ Available at http://dspace.col.org/bitstream/123456789/184/1/Introducing_Copyright.pdf.



The term “copyleft,” a play on the word copyright, has often been used to refer to licensing systems that encourage openness. A mirrored © symbol is sometimes used to denote “copyleft.” Over the last two decades, open-content licensing systems have been evolving and developing. Some have created sophisticated licensing options for authors. Some were initially established to support the release of open software, then were expanded to support the licensing of open content. Others focus exclusively on either software or content. The following are open licensing systems that you might encounter in your Internet searches:

- GNU General Public Licence (for software)³⁰
- GNU Free Documentation Licence (for manuals, texts) – also at the above URL
- Open Publication Licence (content)³¹
- Open Game Licence (computer games)³²
- Free Art Licence (art, images, graphics)³³
- Creative Commons (Content)³⁴

In the area of OER, which focuses specifically on educational content, the Creative Commons licences are the ones most extensively used. Open education purists, however, are quick to point out that not all Creative Commons licences can be considered completely “open.” In the next segment, we will study the Creative Commons licence options and their degrees of openness.

2.4 The Creative Commons Licensing System

In recent years, Creative Commons (CC) has, in education, become the most popular licensing system. Creative Commons has designed a collection of licences to ensure that there is a suitable licence for sharing content under various conditions. The advantages of using a Creative Commons licence are:

- There is almost certainly a ready-made licence that will suit the publisher’s requirements, saving time and effort in drawing up a custom licence.
- Creative Commons licences are easily understood and commonly used, so a potential reader or reuser of a work will immediately understand the conditions of the licence.
- The licences have machine-readable metadata to make it easier for others to find a CC-licensed resource on the Web.
- The Creative Commons licences are based on the following:
- Legal code: Expansive legal language, tested in several cases.

³⁰ <https://www.gnu.org/licenses/licenses.html>.

³¹ <http://opencontent.org/openpub>.



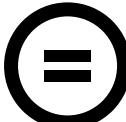

³² <http://www.opengamingfoundation.org/licenses.html>.

³³ <http://artlibre.org/licence/lal/en>.

³⁴ <http://creativecommons.org/>.

- Commons code: Simple, icon-based approach to recognise the features of a licence.
- Digital code: Enables search engines to locate resources using CC Rights Expression Language.³⁵





All Creative Commons licences are constructed from a combination of four specific “rights” or conditions that can be reserved by the creator or author of the resource. These include the following:³⁶

The types of Creative Commons licences		
Condition	Symbol	Explanation
Attribution		All CC licences require that others who use your work in any way must attribute it – i.e., must reference the work, giving you credit for it – the way you request, but not in a way that suggests you endorse them or their use of the work. If they want to use your work without giving you credit or for endorsement purposes, they must get your permission first.
NonCommercial		You let others copy, distribute, display, perform, modify (unless you have chosen NoDerivatives) and use your work for any purpose other than commercially. If they want to use your work commercially, they must get your permission first.
NoDerivatives		You let others copy, distribute, display and perform only original copies of your work. If they want to modify your work, they must get your permission first.
ShareAlike		You let others copy, distribute, display, perform and modify your work, as long as they distribute any modified work on the same terms. If they want to distribute modified works under other terms, they must get your permission first.



³⁵ See <http://www.w3.org/Submission/ccREL>.

³⁶ Adapted from Saide. (2012). *Copyright and licensing toolkit*. Available at http://saide.org.za/system/files/9320/oer-copyright-and-licensing-toolkitweb_0.pdf.

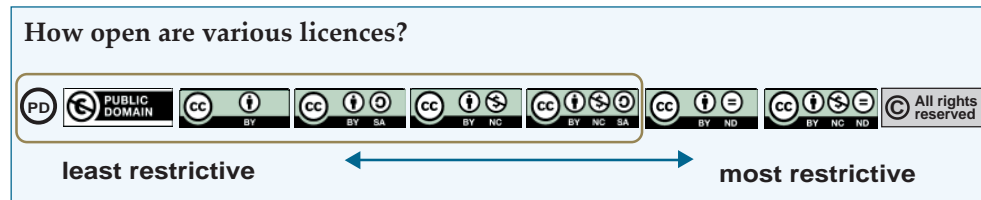
The most popular combinations of Creative Commons rights or conditions make up these six licences:³⁷

	<p>Attribution CC BY</p> <p>This licence lets others distribute, remix, tweak and build upon your work, even commercially, as long as they credit you for the original creation. This is the most accommodating of licences offered. Recommended for maximum dissemination and use of licensed materials.</p>		<p>Attribution-ShareAlike CC BY-SA</p> <p>This licence lets others remix, tweak and build upon your work, even for commercial purposes, as long as they credit you and license their new creations under the identical terms. This licence is often compared to “copyleft” free and open source software licences. All new works based on yours will carry the same licence, so any derivatives will also allow commercial use. This is the licence used by Wikipedia, and it is recommended for materials that would benefit from incorporating content from Wikipedia and similarly licensed projects.</p>
	<p>Attribution- NoDerivs CC BY-ND</p> <p>This licence allows for redistribution—commercial and non-commercial—as</p>		<p>Attribution- NonCommercial CC BY-NC</p> <p>This licence lets others remix, tweak and build upon your work non-commercially, and although their new works must also</p>

³⁷ Adapted from Creative Commons. (2015). *About the licenses*. Available at <http://creativecommons.org/licenses>.

<p>long as the work is passed along unchanged, in whole and with credit to you.</p>	<p>acknowledge you and be non-commercial, they don't have to license their derivative works on the same terms.</p>
 <p>Attribution-NonCommercial-ShareAlike CC BY-NC-SA</p> <p>This licence lets others remix, tweak and build upon your work non-commercially, as long as they credit you and license their new creations under the identical terms.</p>	 <p>Attribution-NonCommercial-NoDerivs CC BY-NC-ND</p> <p>This licence is the most restrictive of the six main licences, only allowing others to download your works and share them with others as long as they credit you, but they can't change them in any way or use them commercially.</p>

While all of these six Creative Commons licences are more open than full copyright (i.e., all rights reserved), some are more open than others. The diagram below illustrates the relative restrictiveness of each licence:³⁸



It is up to the author or creator of the resource to determine how open the new resource's licence should be and to choose the appropriate licence. The less restrictive the licence, the more useful the resource can potentially be for other educators.

It is worth trying out the Creative Commons' online licence generator to help you work out what is the most appropriate licence for you. The generator provides licence information and appropriate licence graphics that can be pasted into any electronic document—or, alternatively, HTML code that can be embedded into

³⁸ Adapted from Saide. (2012). *Copyright and licensing toolkit*. Available at http://saide.org.za/system/files/9320/oer-copyright-and-licensing-toolkitweb_0.pdf.

your website or blog. With the answer to just two questions, the generator can ascertain the most suitable licence for your resource:³⁹

License Features

Your choices on this panel will update the other panels on this page

Allow adaptations of your work to be shared?

Yes No
 Yes, as long as others share alike

Allow commercial uses of your work?

Yes No

At this stage, please see the licence chooser video⁴⁰ to learn about how to choose a licence for a resource.



Check Your Progress

6. True or false?

6.1 Creative Commons licences are all open licences.

7. Choose the right answer:

7.1 What does the right or condition “no derivative works” mean?

- (a) You can make changes to the resources.
- (b) You must use “as is” and not make changes.
- (c) You cannot sell it and make money from the sale.
- (d) You must acknowledge both the author and the publisher.

7.2 CC BY-NC-SA means

- (a) acknowledge the original.
- (b) don’t sell for profit.
- (c) any derivative works must use the same licence.
- (d) all of the above.

7.3 CC Zero has not been discussed here, but logic and the readings suggest that

- (a) it is not a creative commons licence.
- (b) it is the same as all rights reserved, similar to full copyright.
- (c) it is the same as no rights reserved, similar to public domain.
- (d) it means the licence is still pending.

³⁹ Adapted from Creative Commons. (2015). *Choose a license*. Available at <http://creativecommons.org/licenses>.

⁴⁰ See <https://owncloud.colfinder.org/public.php?service=files&t=2b8cfd6379774cfd034c771a24490b5>.

2.5 Promoting Open Licensing: Policy, Advocacy and Capacity Building

Each new OER contributed to the pool of open resources provides opportunities for others, yet the pool could be enlarged considerably if we encourage adoption of open licences at an institutional level. Instead of individual items trickling in, all resources produced by employees of an institution could be released as OER. To achieve the adoption of open licensing at this level, however, requires a co-ordinated plan of policy review, advocacy sessions and capacity building.

2.5.1 Policy

When reviewing institutional policy that has a bearing on OER, consider the following issues:⁴¹

Policy changes needed for institutions to make more effective use of OER:

To be effective and sustainable, institutional decisions to harness OER will likely need to be accompanied by policy reviews. There are at least four main policy issues:

- 1) Clarity on intellectual property rights (IPR) and on copyright of works created during the course of employment (or study), and how these works may be shared with and used by others.
- 2) Human resources guidelines on whether the creation of certain kinds of work (e.g., learning resources) constitutes part of staff members' job description, and the implications for development, performance management, remuneration and promotion.
- 3) ICT policy guidelines regarding access to and use of appropriate software, hardware, the Internet and technical support, as well as provision for version control and backup of any storage systems for an institution's educational resources.
- 4) Materials development and quality assurance guidelines to ensure appropriate selection, development, quality and copyright clearance of works that may be shared.

A good starting point is to have clear policies in place regarding IPR and copyright. To achieve this, educational institutions need to answer the following questions:

- 1) To what extent do current policies motivate educators to invest at least a portion of their time in ongoing curriculum design, the creation of effective

⁴¹ Adapted from Saide & OER Africa. (2011). *OER policy review and development toolkit*. Available at http://saide.org.za/system/files/9320/oer-copyright-and-licensing-toolkitweb_0.pdf.

teaching and learning environments within courses and programmes, and the development of high-quality teaching and learning materials?

- 2) Does the institution have a defined IPR and copyright policy in place?
- 3) Do institutional policies and practices reward the creation of new materials more highly than the adaptation of existing materials? How much is collaboration valued?
- 4) What is an appropriate starting point for initiating a sharing culture and encouraging movement towards OER publishing?
- 5) Do staff members understand copyright issues and the different ways in which they can harness openly licensed resources?
- 6) Are there compelling reasons to retain all-rights-reserved copyright over curricula and over teaching and learning materials?

It is important that the policy review be co-ordinated by senior management, as this sends a signal to stakeholders that management endorses the review process. However, it is equally important that it should not follow a top-down approach but instead encourage stakeholders' consultation and allow their participation in the discussion and debates. As the policy revision will affect everyone, the whole educational community should be involved in the review and revision processes. COL works with governments and institutions to develop appropriate OER policies at national and institutional levels. To this end, COL has created guidelines for developing government national policy on OER.⁴² CEMCA, COL's regional office in New Delhi, has developed an institutional OER policy template that can be adopted quickly and easily.⁴³

2.5.2 OER Advocacy

How might you spread awareness and win over management, staff and students to the OER movement? Context is key, so each institution or organisation will need a different OER advocacy strategy. There is plenty of advice about advocacy available on the Internet, but nearly all models include at least six steps.

1. **Identify a goal:** What is it you want to achieve in terms of adoption of OER and open education at your institution?



⁴² See http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/oer_country_policy_template.pdf.

⁴³ See http://www.cemca.org.in/ckfinder/userfiles/files/DRAFT OER POLICY template_revised.odt.

2. **Analyse a need:** What needs to be done to change perceptions and provide capacity so that adoption is possible?
3. **Plan a set of activities:** Devise a set of interventions or actions that respond to the needs identified. These could be policy review and consultation, advocacy or awareness presentations, specific training on Creative Commons licensing, showcasing work released by colleagues with open licences and so on.
4. **Carry out activities:** Act on the plan.
5. **Monitor progress:** After some time, check to ascertain the success, or not, of your advocacy initiatives.
6. **Refine the goal:** If necessary, rework the goal and initiate another cycle of advocacy.

OER advocacy is also needed at the national level to promote the use of OER. Along with COL, UNESCO and several other organisations are working to advocate actively in support of OER. The William and Flora Hewlett Foundation has been supporting advocacy for OER at the international level by funding projects undertaken by COL and UNESCO. The 2012 Paris OER Declaration was an outcome of sustained regional advocacy supported by the Hewlett Foundation.

2.5.3 Capacity Building

Training and support for staff to source, adapt and develop new OER will be an important component of the strategy. Ideally, the use and development of OER should be encouraged in most professional development courses, and OER should be systematically incorporated into any initiative that provides skills for educators to perform their duties. The following publications can help you develop a strategy:

Resources and Case Studies:

- McGill, L. (2013). OER management considerations.⁴⁴ (CC BY SA)
- Menon, M., & Ali, P. K. M. (2012). Learning from advocacy: A case of OER policy implementation in the Wawasan Open University.⁴⁵ (CC BY)
- Naidu, S., & Mishra, S. (2014). Case studies on OER-based eLearning.⁴⁶ (CC BY SA)
- Carey, T., Davis, A., Ferreras, S., and Porter, D. (2015). Using open educational practices to support institutional strategic excellence in teaching, learning and scholarship.⁴⁷ (CC BY)

⁴⁴ Available at <https://jisc.ac.uk/guides/open-educational-resources> .

⁴⁵ Available at https://oerknowledgecloud.org/sites/oerknowledgecloud.org/files/OERAsia_Symposium_Penang_2012_Proceedings-15.pdf.

⁴⁶ Available at <http://oasis.col.org/handle/11599/561>.

⁴⁷ Available at <http://conference.oeconsortium.org/2015/wp-content/uploads/2015/02/final-paper-for-Open-Ed-Global-2015-Open-Educational-Practices-to-Support-Institutional-Strategy-for-TL-Excellence-1.pdf>.



Check Your Progress

8. True or false?

- 8.1 In terms of professional development, both the use and the creation of OER require the same skills.
- 8.2 Advocacy is the process of winning over colleagues or the institution to a particular way of operating.

9. Choose the right answer.

- 9.1 Intellectual property rights refers to
- who owns the rights to resources developed within an institution or organisation by its employees.
 - who or what owns the property on which an institution is founded.
 - rights associated with having a unique idea.
 - proving you have ownership of third-party resources.
- 9.2 What would be a compelling reason to retain all-rights-reserved copyright over resources developed by the institution?
- To safeguard the institution's reputation in education circles.
 - To ensure the institution's reputation spreads widely.
 - The resources will allow the institution to develop new courses quickly and cost-effectively.
 - The resources constitute a real opportunity for the institution to generate income.



2.6 Summary and Conclusion

This lesson covered the following key points:

- Traditional all-rights-reserved copyright places key restrictions on educators. Fair use or fair dealing agreements do allow educators to use a portion of copyrighted materials for teaching and learning, but the practice is thwarted by uncertainty, as the agreements are not always clear, nor is the policing of the agreements uniform.
- Alternate, open licensing systems have arisen, and Creative Commons has become the predominant system for licensing OER.
- Creative Commons allows authors to reserve a combination of rights, in

contrast to traditional copyright, which reserves all rights. Creative Commons “rights” designations include: Attribution, NonCommercial, NoDerivatives and ShareAlike.

- An institutional OER strategy aimed at increasing OER contributions should include reviewing intellectual property policy and building staff awareness and capacity to find and adapt existing OER, as well as releasing new OER.



Answers to Check Your Progress

- 5.1 True. According to copyright legislation, all works are copyrighted, even if the author has not posted copyright information on the resource.
- 5.2 False. “Fair use” is still restrictive. When it does allow educational use, the agreement permits only a fraction of the original work to be used, never the entire work.
- 6.1 True. However, the degree of openness varies due to restrictions in some of the licences.
- 7.1 (b) 7.2 (d)
- 7.3 (c)
- 8.1 False. Different skills are required to search for and adapt existing OER than are needed for licensing and distributing your own materials.
- 8.2 True.
- 9.1 (a) 9.2 (d)

Lesson 3

Finding and Evaluating OER

3.1 Introduction

In the first lesson, we identified some challenges when using OER. These included difficulties in sourcing and knowing how to adapt OER within the parameters of the open licence applied to a particular resource. We also discussed open licences in the second lesson. We saw that different licences have different levels of openness, which introduce restrictions upon the work's use. In this third and final lesson, we will look at the practicalities of sourcing, evaluating and adapting OER. This lesson will help you to adapt and share OER appropriately. We will also investigate how to check your newly adapted resource for quality so that it not only helps students to learn, but also reflects well on both the new authors and the institution.



3.1.1 Learning Outcomes

On completion of this self-study lesson, you are expected to be able to:

- Identify different types of OER;
- Navigate to and use different OER directories, platforms and repositories;
- Use advanced searching to filter results by licence type;
- Evaluate the usefulness of OER;
- Determine from the licence what can be done with the OER; and
- Assess OER for quality.

3.2 Types of OER

OER can be divided into as many “types” as there are needs within the education sector. While assets—such as worksheets, lesson plans, lesson resources, reference articles and so on—are perhaps an obvious category, you will remember from lesson 1 that the term also encompasses open courseware (OCW). Although there is no consensus regarding OER categories, Creative Commons⁴⁸ has a useful list that includes the following types:

- Digital learning objects (individual digital assets);
- Digitised object libraries (online collections of assets);
- OER encyclopaedias (collaborative written reference materials);
- Open online archives (repositories of collected OER);
- Open textbooks (free and adaptable texts);
- OER courseware (open online university courses and programmes);
- OER courses (short courses);
- Open course archives (libraries or indexes of courses);
- Online tools that support the open community.

Other organisations, such as Montgomery College, also include media categories:⁴⁹

Types of OER

OER can be separated by content type into four groups: text-led, video-led, animation-led and multiple media. Types of OER include: full courses, course materials, modules, learning objects, open textbooks, openly licensed (often streamed) videos, tests, software, and other tools, materials or techniques used to support access to knowledge.

It is useful to keep these categories in mind when searching for OER on the Internet, as each will generate different results. For example: object libraries are more likely to identify individual assets; an OER encyclopaedia will yield definitions and descriptive content; OER courseware repositories will have course materials loosely linked together so that one could, theoretically, run the course again; and OER courses provide both content and a learning pathway through the materials.

⁴⁸ Creative Commons. (2011). *Different types of OER meet different needs*. Retrieved from https://wiki.creativecommons.org/Free_to_Learn_Guide/Different_Types_of_OER_Meet_Different_Needs (CC BY).

⁴⁹ Adapted from Montgomery College. (2015). *Types of OER*. Retrieved from <http://cms.montgomerycollege.edu/elite/oer/types> (CC BY).

3.3 Directories, Platforms and Repositories

Another way of organising or categorising OER is according to the level of functionality offered by the OER website. For example;

- **Directories:** A directory provides lists of OER and links to resources available elsewhere on the Web. Examples include COL's OER Directory⁵⁰ and, in the case of open access journals, the Directory of Open Access Journal (DOAJ),⁵¹ which links to research articles in the same way.
- **Platforms:** By platform, we mean specific digital tools designed to “do” something with the OER. This could include tools to develop new, or adapt existing, OER. Alternatively, the platform could be designed to license new OER with an open licence. An example of the former is WikiEducator,⁵² which provides an online environment for authoring new resources. We saw in the previous lesson an example of the licensing platform designed by Creative Commons.⁵³
- **Repository:** A repository is a database or collection of OER, usually ones developed by a particular institution. A well-known example of an institutional repository is the MIT's OpenCourseWare Repository.⁵⁴

Of course, some organisations and institutions offer combinations of the above functionality, so it is quite possible to find a mix of these functions within the same OER website. The following tables⁵⁵ identify a few examples of directories, platforms and repositories. It is worth investing some time to familiarise yourself with the different types of OER offered by each.

A. Directories	
Public Library of Science ⁵⁶	PLoS specialises in identifying scientific research journal articles.
COL OER Directory	COL's directory identifies quality OER in the fields of higher education, open schooling, teacher education and technical and vocational skills development (TVSD).
Directory of Open Access Journals	This is a general directory that identifies research articles in a broad range of subjects.

⁵⁰ Visit COL's OER Directory at <http://doer.col.org>.

⁵¹ Visit DOAJ at <https://doaj.org>.

⁵² Visit WikiEducator at http://wikieducator.org/Main_Page.

⁵³ Creative Commons. (2015). *Choose a license*. Retrieved from <http://creativecommons.org/choose> (CC BY).

⁵⁴ Visit MIT Open Courseware at <http://ocw.mit.edu/index.htm>.

⁵⁵ Creative Commons. (2011). *Different types of OER meet different needs*. Retrieved from https://wiki.creativecommons.org/Free_to_Learn_Guide/Different_Types_of_OER_Meet_Different_Needs (CC BY).

⁵⁶ <https://www.plos.org/>.

OER Commons ⁵⁷	OER Commons identifies education subjects, ranging from pre-school to adult education to graduate levels. Its directory listings are particularly strong in the K-12 area.
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B. Platforms , including OER encyclopaedias and other authoring tools	
Wikipedia ⁵⁸	This well-known online encyclopaedia is in reality a platform for collaborative writing. The entries have been written and peer-reviewed by members of the public. All entries are licensed as CC BY-SA.
OER Commons	Besides offering directory services, mentioned above, this site also includes authoring tools to help teachers design and build new OER online.

C. Repositories , including open textbooks, open courseware, OER short courses and open online archives	
OpenStax ⁵⁹	This repository is a collection of post-secondary textbooks.
Siyavula ⁶⁰	This repository is a collection of open textbooks for primary and secondary school subjects, including mathematics, physical science, natural science and technology. The content is offered as textbooks and/or online interactive resources.
MIT Open Courseware ⁶¹	A repository of MIT course materials collected over many years. It includes course schedules, lecture notes/texts, tests and solutions, and student work exemplars from a wide range of courses.
MichiganOpen ⁶²	A repository of materials from a range of university courses, covering many subjects.
John Hopkins School of Public Health Open Courseware ⁶³	A collection of public health resources from the university's Bloomberg School of Public Health.
NOW Nottingham ⁶⁴	A collection of university courses covering many subjects from the University of Nottingham, UK.

⁵⁷ <https://www.oercommons.org/>.

⁵⁸ https://en.wikipedia.org/wiki/Main_Page.

⁵⁹ <http://cnx.org/>.

⁶⁰ <http://www.siyavula.com/>.

⁶¹ <http://ocw.mit.edu/index.htm>.

⁶² <http://open.umich.edu/>.

⁶³ <http://ocw.jhsph.edu/>.

⁶⁴ <http://unow.nottingham.ac.uk/>.

Open University OpenLearn ⁶⁵	A repository of short courses, mostly at the introductory level, for a range of post-secondary study options, written originally for distance education students.
Saylor Academy ⁶⁶	A collection of predominately post-secondary short courses across a wide range of subjects.
Khan Academy ⁶⁷	A repository of predominately secondary and post-secondary instructional science and mathematics videos, it also has resources for computer programming, art and economics.
Internet Archive ⁶⁸	A repository of open media, including e-books, digital movies, software and digital music.

3.4 Searching for OER

The lists above cover only a small sample of what is available and are by no means comprehensive. To find OER to suit specific needs, various web search techniques are required. The Internet is dense with resources, the majority of which are not open, so searching requires a little know-how and skill.

3.4.1 Dedicated OER Search Tools

A number of search engines have been designed to search specifically for OER. A few of these are:⁶⁹

- CC Search – is a customisable search engine designed and hosted by Creative Commons that offers image, media, video, music and web content search tools.⁷⁰
- Jorum – identifies OER for learning and teaching from British higher education institutions. It allows searches to be refined by subject and topic.⁷¹

⁶⁵ <http://www.open.edu/openlearn/>.

⁶⁶ <http://www.saylor.org/>.

⁶⁷ <https://www.khanacademy.org/>.

⁶⁸ <https://archive.org/>.

⁶⁹ Adapted from JISC. (2013). *Finding OERs*. Retrieved from [https://openeducationalresources.pbworks.com/w/page/27045418/Finding OERs](https://openeducationalresources.pbworks.com/w/page/27045418/Finding%20OERs) (CC BY).

⁷⁰ See <http://search.creativecommons.org>.

⁷¹ See <http://www.jorum.ac.uk>.

- OER Commons – can be used to find free-to-use teaching and learning content from around the world. It also provides tools to organise high school lessons and college courses based on core OER.⁷²
- Temoa – is a Spanish/English portal that includes search tools for school and college OER.⁷³
- XPERT – can be used by learners and educators to search a growing database of open learning resources suitable for students at all levels of study, in a wide range of different subjects. The tool has been developed by the University of Nottingham and JISC.⁷⁴
- OER Dynamic Search Engine – an Edtechpost wiki page containing OER sites as well as a search engine that is designed to search different repositories simultaneously.⁷⁵
- Flickr’s photo search also allows you to sort results according to the copyright licence, and it includes the Creative Commons licences.⁷⁶

3.4.2 Advanced Search

Besides specialised search tools, which will not provide an exhaustive set of results, one can also use Google’s advanced search,⁷⁷ which allows the user to adjust the usage rights field to receive results that include only OER. Follow the steps below to filter results according to licence type using this advanced search tool.⁷⁸

Step 1: Start a Google advanced search

Google is one of the most commonly used search engines in the world, but it is also possible to use Google to find only Creative Commons (CC) licensed content. Google advanced search looks for CC material by keyword and refines the results to show only material available under certain CC licences.

Google’s advanced search options are accessed at www.google.com/advanced_search.

⁷² See <http://www.oercommons.org>.

⁷³ See <http://www.temoa.info>.

⁷⁴ See <http://xpert.nottingham.ac.uk/>.

⁷⁵ See <http://edtechpost.wikispaces.com/OER+Dynamic+Search+Engine>.

⁷⁶ See <https://www.flickr.com/search>.

⁷⁷ See http://www.google.com/advanced_search.

⁷⁸ Adapted from ARC Centre of Excellence for Creative Industries and Innovation, National Copyright Unit, & Creative Commons Australia. (2010). *How to find Creative Commons materials using Google, for teachers and students*. Retrieved from http://smartcopying.edu.au/docs/default-source/creative-common-pdf/google_.pdf?sfvrsn=2 (CC BY).

Step 2: Filter results for what you want to do

By default, Google search results are not filtered by licence. To have it do so, you need to make adjustments to the “usage rights” field, the very last editable item on the page. It is possible to select a filter that corresponds with the different CC licences. For example, all CC licences grant users the right to use and distribute the licensed content. Therefore, selecting the “free to use or share” option, will return content available under any of the CC licences. The table identifies the various options and how they relate to the different CC licences:

		Filtering options				
		Not filtered by license*	Use or share	Use or share, even commercially	Use, share or modify	Use, share or modify, even commercially
Results by license	BY	✓	✓	✓	✓	✓
	BY-NC	✓	✓	✗	✓	✗
	BY-ND	✓	✓	✓	✗	✗
	BY-SA	✓	✓	✓	✓	✓
	BY-NC-SA	✓	✓	✗	✓	✗
	BY-NC-ND	✓	✓	✗	✗	✗

* Please note that although this option will theoretically return results under a Creative Commons licence, these will be amongst potentially millions of returned results that are not CC licensed.

Step 3: Combine search criteria

It is possible to combine other fields on the Google advanced search page to refine the search even further—for example, searching for CC content within a particular site or domain, or in a particular language, or in a particular file format.

Watch a video on OER search here.⁷⁹



⁷⁹ See <https://owncloud.colfinder.org/public.php?service=files&t=207c17ff7b246cadd87f392c4aeaff63>.



Check Your Progress

10. Choose the right answer.

- 10.1 Which licences do NOT allow “use and/or sharing commercially”?
- (a) CC BY
 - (b) CC BY-ND
 - (c) CC BY-SA
 - (d) CC BY-NC-ND
- 10.2 When would someone want to use a repository of OER?
- (a) When searching for OER for a specific subject.
 - (b) When searching for a particular resource type.
 - (c) When searching for OER from a particular institution.
 - (d) When searching for a particular licence.
- 10.3 An example of a directory is
- (a) Saylor Academy.
 - (b) Creative Commons Search.
 - (c) MIT OpenCourseWare.
 - (d) OER Commons.
- 10.4 The field that needs to be selected in Google advanced search to find resources with a CC BY licence is
- (a) not filtered by licence.
 - (b) free to use, share or modify, even commercially.
 - (c) free to use or share, even commercially.
 - (d) free to use or share.

3.5 Evaluating OER

After you have sourced a pool of OER using the repositories and tools above, your next step in the process of using OER to support teaching and learning is to evaluate this selection. According to Achieve.org, a good OER will:

- Be aligned to the curriculum or standards;
- Describe the subject matter;
- Support the teaching process;

- Offer assessment opportunities;
- Offer technology interaction;
- Provide exercises and other practice activities;
- Provide extension opportunities;
- Be accessible to all learners.

In reality, the chances of finding such resources are negligible. Nearly all would require some level of customisation to suit the new context in which they will be used. One way to determine the level of adaptation required is to use an evaluation check-list or rubric. An example rubric, on evaluating subject matter, is presented below.⁸⁰

Rubric II: Quality of Explanation of the Subject Matter

This rubric is applied to objects designed to explain subject matter. It is used to rate how thoroughly the subject matter is explained or otherwise revealed in the object. Teachers might use this object with a whole class, a small group or an individual student. Students might use the object to self-tutor. For objects that are primarily intended for teacher use, the rubric is applied to the explanation of the subject matter, not to the planning instructions for the teacher.

Rubric II Scoring Guide:

3: An object is rated **superior** for its explanation of subject matter only if all of the following are true:

- The object provides comprehensive information so effectively that the target audience should be able to understand the subject matter.
- The object connects important associated concepts within the subject matter. For example, a lesson on multi-digit addition makes connections with place value, rather than simply showing how to add multi-digit numbers. A lesson designed to analyse how an author develops ideas across extended text makes connections among the various developmental steps and the various purposes the author has for the text.
- The object does not need to be augmented with additional explanation or materials.
- The main ideas of the subject matter addressed in the object are clearly identified for the learner.

⁸⁰ Adapted from Achieve.org. (2011). *Rubrics for evaluating open education resource (OER) objects*. Retrieved from <http://www.achieve.org/files/AchieveOERRubrics.pdf> (CC BY).

2: An object is rated **strong** for its explanation of subject matter if it explains the subject matter in a way that makes skills, procedures, concepts and/or information understandable. It falls short of superior in that it does not make connections among important associated concepts within the subject matter. For example, a lesson on multi-digit addition may focus on the procedure but fail to connect that procedure with place value.

1: An object is rated **limited** for its explanation of subject matter if it explains the subject matter correctly but inadequately. This cursory treatment of the content is not sufficiently developed for a first-time learner of the content. The explanations are not thorough and would likely serve as only a review for most learners.

0: An object is rated **very weak or of no value** for its explanation of the subject matter if its explanations are confusing and/or contain errors. There is little likelihood that this object will contribute to understanding.

An evaluation of sourced OER will allow you to weed out resources that either require too much adaptation or are not closely enough aligned with your intentions in terms of design and teaching methodology, not to mention subject matter.



Check Your Progress

11. Choose the right answer.

- 11.1 When evaluating OER, which of the following does NOT need to be ascertained?
- (a) Contact details to ask permission.
 - (b) The OER is aligned to curriculum standards.
 - (c) The subject matter is suitable.
 - (d) The OER includes assessment opportunities.

12. True or false?

- 12.1 When one is evaluating the usefulness of an OER, “student accessibility” includes the level and pitch of the resource’s language.

3.6 Using OER

While the Creative Commons licences indicate what is permissible in the way of using a particular OER, there are really only three different ways. These techniques are often referred to as “reuse,” “revise” or “remix.”

3.6.1 Reuse

The first option is to reuse the resource with no changes, “as is.” If an OER fits all the evaluation criteria identified, then it can be deployed directly into the learning environment with no changes. The only requirement is to acknowledge (“attribute”) the source as required by the open licence. Typically, many openly licensed video resources fall into this category.

3.6.2 Revise

Often, an OER needs to be adjusted to align it better with the new learning environment. Examples include reworking the wording so that it can be understood by local learners, replacing case studies with ones that refer to contexts closer to home, and swapping out images and photos with local examples. The OER might also have to be translated into a different language. Besides revisions, the OER might benefit from enhancements such as the addition of questions, interactivity, opportunities for peer discussions, and so on.

If making these revisions is to be allowed, the licence needs to permit repurposing. Does it allow adaptation? For example, if it is a Creative Commons licence, does it include “NoDerivatives” (ND) as a reserved right? If so, then repurposing is not permitted. Many OER do encourage revisions, but it is important to review your OER selection and make sure that permission is granted.

3.6.3 Remix

The process of assembling a number of OER into a completely new learning resource is called remixing. This actually makes great sense because remixing enables you to use the best parts of multiple OER. Look at the structure of these course materials that you are currently reading, for example, in which multiple resources have been adapted and integrated to create a new product. How the three lessons that make up this course were constructed is an example of remixing OER.

















In terms of licensing, however, you do need to be judicious when combining OER. Not all combinations of rights as stipulated by an open licence allow any or all of an OER to be mixed. Only certain combinations work. For example, any licence with ShareAlike as a reserved right excludes mixing with other licences that are not identical in nature, with only a few exceptions. NoDerivatives, too, excludes any type of remixing, as preservation of the original is paramount.

The following table shows which combinations of licences allow remixing and which do not.⁸¹

⁸¹ Adapted from Creative Commons. (2015). *Frequently asked questions*. Retrieved from <https://wiki.creativecommons.org/FAQ> (CC BY).

Can I combine material under different Creative Commons licences in my work?

Combinations below with a tick are permissible; those with a cross are not.

	 PUBLIC DOMAIN	 PUBLIC DOMAIN						
 PUBLIC DOMAIN	✓	✓	✓	✓	✓	✗	✓	✗
 PUBLIC DOMAIN	✓	✓	✓	✓	✓	✗	✓	✗
	✓	✓	✓	✓	✓	✗	✓	✗
	✓	✓	✓	✓	✗	✗	✗	✗
	✓	✓	✓	✗	✓	✗	✓	✗
	✗	✗	✗	✗	✗	✗	✗	✗
	✓	✓	✓	✗	✓	✗	✓	✗
	✗	✗	✗	✗	✗	✗	✗	✗

Adapter's Chart

The chart below details the CC licence(s) that can be adapted. When creating an adaptation of material under the licence identified in the left-hand column, you may license your contributions to the adaptation under one of the licences indicated on the top row if the corresponding box is green. CC does not recommend using a licence if the corresponding box is yellow, although doing so is technically permitted by the terms of the licence. If you do, you should take additional care to mark the adaptation as involving multiple copyrights under different terms so that downstream users are aware of their obligations to comply with the licences from all rights holders. Dark grey boxes indicate those licences that you may not use as your adapter's licence.

Adapter's license chart		Adapter's license						
		BY	BY-NC	BY-NC-ND	BY-NC-SA	BY-ND	BY-SA	PD
Status of original work	PD	Dark Grey	Dark Grey	Dark Grey	Dark Grey	Dark Grey	Dark Grey	Dark Grey
	BY	Dark Grey	Dark Grey	Dark Grey	Dark Grey	Dark Grey	Dark Grey	White
	BY-NC	White	Dark Grey	Dark Grey	Dark Grey	White	White	White
	BY-NC-ND	Light Grey	Light Grey	Light Grey	Light Grey	Light Grey	Light Grey	Light Grey
	BY-NC-SA	Light Grey	Light Grey	Light Grey	Dark Grey	Light Grey	Light Grey	Light Grey
	BY-ND	Light Grey	Light Grey	Light Grey	Light Grey	Light Grey	Light Grey	Light Grey
	BY-SA	Light Grey	Light Grey	Light Grey	Light Grey	Light Grey	Dark Grey	Light Grey

3.6.3.1 Remix Game

The Remix Game's interactivity allows you to experiment with combining licences and supplies immediate feedback about your choices. Play the game as many times as is necessary, paying attention to the feedback it provides, to ensure you know the combinations of Creative Commons (and GNU) licences that support remixing.

You can access the Remix Game at <http://www.opencontent.org/game>.⁸²

Note: The licences of the OERs remixed to create lessons in this course are all either CC BY or CC BY-SA.

3.7 Quality Assurance of OER

Quality assurance of materials developed as OER is recommended before releasing them to the public. This is particularly true if OER have been assembled into a course or programme. Courses constructed using OER are not necessarily different, in educational substance, from those constructed using other resources, such as proprietary content. A good course, no matter from what it is constructed, needs to assure quality in terms of:

- Content – knowledge and skills;
- Pedagogy – sound teaching and learning methods;
- Motivational strategies – intrinsic and extrinsic rewards for students;
- Degree of student autonomy;
- Access to the learning environment (including issues of cost, technology and culture);
- Management strategies, including administration.

However, courses constructed using OER require further attention.

3.7.1 TIPS Framework: Quality Assurance Criteria for OER

The TIPS framework for quality assurance is a handy tool for ascertaining the quality of a course developed from OER. Besides providing criteria for issues such as pedagogy and access, it also includes specific criteria to determine how the

⁸² BYU Independent Study & Wiley, D. (n.d.). *The OER remix game*. Retrieved from <http://www.opencontent.org/game>.

OER have been used. Version 2 of the TIPS framework⁸³ consists of 39 criteria under four headings:

- Teaching and learning processes (16 criteria);
- Information and material content (7 criteria);
- Presentation, product and format (8 criteria);
- System, technical and technology (7 criteria).

The TIPS framework is not prescriptive, and users in different contexts may be looking for OER from different perspectives. For example, a student's view may be different from a teacher's view of an OER. Therefore, the list of criteria can be used in your own context to develop specific criteria that meet the needs of different users in different contexts. We urge you to explore the TIPS framework and develop your own quality assurance criteria.



Check Your Progress

13. Choose the right answer.

- 13.1 An OER is to be combined with others. This is an example of
- reuse.
 - remix.
 - revise.
 - retain.
- 13.2 A specific quality assurance criterion for OER is:
- Does it display its open licence clearly?
 - Can you link back to or access the original OER?
 - Is it easily discoverable on the Internet?
 - All of the above.

14. True or false?

- 14.1 "NoDerivatives" in a CC licence means that you cannot make copies of the OER.
- 14.2 The GNU GPL licence is an example of an alternative open licence.

⁸³ See <http://oasis.col.org/handle/11599/562>.



3.8 Summary and Conclusion

This final lesson outlined how OER can be sourced, evaluated and used via the reuse, revise and remix techniques. It also introduced a framework to assure the quality of the new OER.

Lessons 1 to 3 were designed to give you an introductory overview of a field that initially looks complicated. Familiarity with the concept of OER, the world of copyright and open licensing, along with an awareness of how to source, evaluate and create new open resources, will assist you as an educator in the use of OER to support teaching and learning.

On completion of this introductory course, you should appreciate that the OER concept is not difficult to grasp and offers a wealth of creative educational opportunities. We hope you have enjoyed working through the course.



Answers to Check Your Progress

10.1 (d) 10.2 (c)

10.3 (d) 10.4 (b)

11.1 (a)

12.1 True. Student accessibility includes language difficulty.

13.1 (b) 13.2 (c)

14.1 False. NoDerivatives means one cannot make adaptations of the OER.

14.2 True. The GNU General Public License is an older open licensing system than Creative Commons.

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