OER Starter Kit

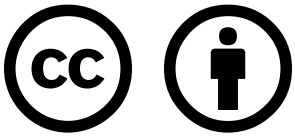
OER Starter Kit

A Guide to Open Publishing at the University of Manitoba

University of Manitoba Libraries

University of Manitoba Libraries

Winnipeg, Manitoba



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Publication Details

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The web version of this resource has been designed to meet Web Content Accessibility Guidelines 2.0, level AA. It follows all guidelines in the BCcampus Checklist for Accessibility.

Cover template by Kirk Warren.

The University of Manitoba campuses are located on original lands of Anishinaabeg, Cree, Ojibwe-Cree, Dakota and Dene peoples, and on the National Homeland of the Red River Métis.

We respect the Treaties that were made on these territories, we acknowledge the harms and mistakes of the past, and we dedicate ourselves to move forward in partnership with Indigenous communities in a spirit of Reconciliation and collaboration

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Credits

This publication is adapted from *The OER Starter Kit*, by Abbey K. Elder, and a version adapted for a Canadian audience by the University of Alberta, *The OER Starter Kit*, both licensed under a Creative Commons Attribution 4.0 International License.

Additional adapted resources include:

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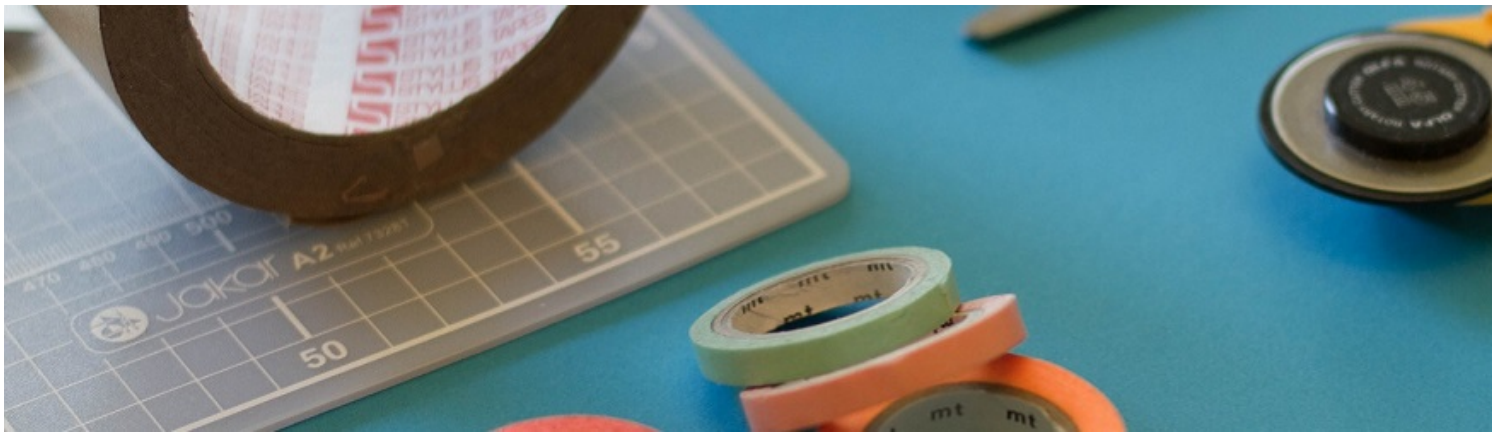
Preface



This starter kit has been designed to equip instructors with the skills they need to confidently find, use, or even create open educational resources (OER). To do this, the book has been broken up into five major sections covering important aspects of working with OER:

- Getting Started
- Copyright
- Finding OER
- Teaching with OER
- Creating OER

In each chapter, learning objectives are provided to explain what the reader will learn and, in many cases, interactive exercises and examples are available as well.

Getting Started

Introduction to Open Educational Resources

Learning Objectives

By the end of this chapter, you will be able to:

- Provide a definition of open educational resources.
- Explain the difference between OER and other free educational materials.
- Describe the challenges and benefits of using OER in a class.

The purpose of this handbook is to get you involved in the adoption, creation, and use of open educational resources (OER). In this chapter, we will introduce you to the concept of OER and the benefits and challenges of using them.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://pressbooks.openedmb.ca/oerstarterkit/?p=25#oembed-1

Attribution: "OER Basics" from Open Oregon [Youtube] is available under a Creative Commons Attribution License.

Background

The open education movement was originally inspired by the open source community, with a focus on broadening access to information through the use of free, open content. As Bliss and Smith explain in their breakdown of the history of open education:

> "much of our attention focused on OER's usefulness at providing knowledge in its original form to those who otherwise might not have access. The implicit goal was to equalize access to disadvantaged and advantaged peoples of the world – in MIT's language, to create 'a shared intellectual Common.'"
> Bliss, T.J. and Smith, M. "A Brief History of Open Educational Resources." In *Open: The Philosophy and Practices that are Revolutionizing Education and Science,* edited by Rajiv Jhangiani and Robert Biswas-Diener, 9-27. London: Ubiquity Press, 2017. DOI: https://doi.org/10.5334/bbc.b.

Following the rise of open education in the early 2000s, growing interest in open courseware (particularly open textbooks) catapulted the movement to new heights; however, the movement toward greater OER awareness among instructors is growing at a slow and steady rate. In a survey done in the U.S. in 2018 indicated that 47 percent of instructors had never heard of OER, whilst the remaining instructors had some degree of familiarity with the concept. There is still quite a large number of instructors are unaware of OER, but the percentage has shrunk by 19 percent since 2014, showing that awareness is growing.

Seaman, J.E., and Seaman, J. (2019). *Inflection Point: Educational Resources in U.S. Higher Education.* (pp. 25-26)

What is an OER?

Open educational resources (OER) are openly-licensed, freely available educational materials that can be modified and redistributed by users. They can include any type of educational resource, from syllabi to full courses.

- Openly-licensed: You can read about this more in the Copyright and Licensing chapter.
- Freely Available: The resources must be freely available online with no fee to access. Physical OER may be sold at a low cost to facilitate printing.
- Modifiable: The resource must be made available under an open license that allows for editing. Ideally, it should also be available in an editable format.
  Although all OER are openly licensed, many are released in formats that do not easily allow for adaptation.

The most comprehensive definition of OER available today is provided by the Hewlett Foundation:

> "Open Educational Resources 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."
> William and Flora Hewlett Foundation. "Open Educational Resources." Accessed June 15, 2019. https://hewlett.org/strategy/open-educational-resources/

With a definition so broad that it includes any educational material so long as it is free to access and open, it might be easier to ask, "What isn't an OER?"

What is Not an OER?

If a resource is not free or openly licensed, it cannot be described as an OER. For example, most materials accessed through your library's subscriptions cannot be altered, remixed, or redistributed. These materials require special permission to use and therefore cannot be considered "open." **Table 1** below explains the difference between OER and other resources often misattributed as OER.

Table 1: Components of an OER

Material Type	**Openly Licensed**	**Freely Available**	**Modifiable**
Open educational resources	Yes	Yes	Yes
Free online resources under all rights reserved copyright	No	Yes	No
Materials available through the University Library	No	Yes	No
Open access articles and monographs	Yes	Yes	Maybe

Note: Although some materials are free to access for a library's users, that does not mean that they are free to access for everyone (including the library). Similarly, while some open access resources are made available under a copyright license that enables modification, this is not always the case.

Check Your Understanding

Consider the free materials you currently use in your classes. Do these materials meet the definition of OER? Why or why not?

Benefits of Using OER

Benefits for Students

When you choose to share course materials openly, you are providing students with the opportunity to engage with your content before, during, and after your course. Because OER are always free to access online, students who are interested in taking a course you teach can read up on the course ahead of time and ensure that they are ready and interested in the material. Moreover, students who have already taken your course can rely on the fact that their course materials will not evaporate at the end of the semester, and that they can continue to review the materials you provided to them for years to come. With an increase in "inclusive access" models from major publishers, temporary access of educational materials are becoming more common. This type of access may reduce the entry cost for students to access a textbook for one semester, but, access to the resource is revoked after the term completes.

The students who benefit from access to OER are not just the ones in your classroom. OER are free for anyone in the world to access, whether they have a university affiliation or not.[11] This encourages learners and students to explore educational content without having to commit the time and money they might not have to attend post-secondary.[12]

Benefits for Instructors

Although cost savings are a major talking point in favour of adopting open educational resources, instructors can begin to integrate OER into their courses without removing the paid resources they find useful.[13] While creating an entire OER textbook can seem like a daunting task, the gradual integration of small OER as supplementary resources can be built up over time. Over a few years, instructors may find that they have tailored so many small OER to their course content that these resources are more effective in supplementing the course than the paid resource they were previously using. In fact, the freedom to adapt OER to instructional needs is often the most attractive aspect of OER. Since OER are openly licensed, educators are free to edit, reorder, and remix OER materials in a variety of ways.

Use, Improve, and Share

Many instructors report that they use their required course textbooks in different orders than suggested, or skip entire portions of the textbook altogether.[14] The use of OER allows instructors to adapt and

revise existing versions of openly-licensed textbooks in order to better fit their course material. Supplementary resources may be easily added directly to the text, streamlining resource access for students, and giving a clear course outline that aligns with the syllabus. Instructors may also easily update an existing OER to provide modern and culturally relevant examples.

Network and Collaborate with Peers

A major worry with open resources is that they may be seen as less reliable than traditionally published materials that go through rigorous editing processes. However, by opening up resources, it makes it easier for peers across universities to review and edit another instructor's work. The ability for others to edit and re-share work also allows you to explore the reviews and gain a deeper understanding of the available resources. Not to mention, creating open resources is a great chance to build a team of peers to help build a new and valuable learning tool.

Lower Costs to Improve Access to Information

One of the most popular reasons for creating and reusing OER is that it allows every student to have easy access to course resources. This, in turn, benefits instructors, for all of their students will have all the tools needed to succeed in the course, regardless of financial or accessibility barriers. Open course resources may also lead to more passionate and engaged students; as students will have the chance to explore course material before enrolling in the course.

Challenges of Using OER

There are many benefits to using OER in the classroom; however, there are also some drawbacks. The biggest challenge that instructors face when adopting OER is best encapsulated by the phrase "availability may vary."

Subject Availability

Many of the largest OER projects funded over the past fifteen years targeted high-cost, high-impact courses to save students money. Because of this, most of the OER available today are for general education courses such as Psychology, Biology, and Calculus.

This does not mean that there are no OER available for specialized subject areas or graduate level courses; however, there are more resources to choose from for instructors who teach *Introduction to Psychology* than for those who teach *Molecular Plant-Microbe Interactions*.

While this remains an issue, the increasing awareness surrounding open education has lea to a greater production of materials across all subjects. See our Finding OER chapter for more resources.

Format and Material Type Availability

As with subject availability, the format and types of OER that have been developed over time have largely been targeted at high-enrolment courses which could see substantial cost savings for students. There are many open textbooks available today, but fewer options for ancillary materials. You can find

lecture slides, notes, and lesson plans online, but ancillary content such as homework software and test banks are harder to find.[15]

Time and Support Availability

Although the other challenges to OER use are inherent to the resources themselves, this final drawback is a concern for you as a user and creator. It takes time and effort to find OER that might work for your course, and if you want to create and publish new resources, that takes exponentially more time.

Time constraints are always going to be an issue for instructors who want to try something new in their course. Luckily, there are resources available to help you locate, adopt, and implement OER. The University of Manitoba has a wide variety of resources can help you find and create OER, such as subject librarians, who can help you find and adopt OER, expertise from Libraries' OER Lab, support from the Centre for the Advancement of Teaching and Learning, and free Pressbooks access and publishing services through a partnership with Campus Manitoba.

This chapter has provided a brief overview of what OER are, why they are used, and the movement surrounding them. In the next chapter, we will review some items you should keep in mind when adopting or creating an OER for the first time.

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://pressbooks.openedmb.ca/oerstarterkit/?p=25#h5p-1

Considerations for Using or Creating OER

Learning Objectives

By the end of this chapter, you will be able to:

- Assess your teaching materials for the potential to release as OER.
- List three key considerations to keep in mind before adopting an OER.

Transforming your course to include OER can be as simple as switching one material for another or as radical as completely changing your teaching style. This chapter outlines some key considerations and questions you should ask yourself before adopting or creating OER.
Attribution: This chapter was adapted from "Considerations before using or creating an OER" from The ABOER Starter Kit, by Technologies in Education at the Faculty of Education, the University of Alberta, available under a Creative Commons Attribution 4.0 International License.

How will using OER improve your course?

When integrating OER into your course, you have the opportunity to critically evaluate your methods and alter them to better meet your needs. One way to go about this is to use backward design for your project.

Backward design is a framework for planning your course around its intended outcomes.
AvenuesdotOrg. "Grant Wiggins - Understanding by Design, Part 1." Youtube video, 10:51. February 28, 2013. https://www.youtube.com/watch?v=4isSHf3SBuQ
There are three stages to the backward design process:

1. Identify desired results,
2. Determine acceptable evidence, and
3. Plan learning experiences and instruction.
   Wiggins, Grant and McTighe, Jay. *Understanding by Design.* Alexandria: Association for Supervision and Curriculum Development, 2005.

You might notice that this approach does not end with "create and/or curate educational content." Instead, it ends with more planning. The purpose of backward design is not to be done with your course transformation in a quick three-step process. Instead, it asks instructors to question the processes and materials they currently use and to start over by plotting out what is needed to meet your course outcomes.

Considerations

- What do I want my students to learn?
- How will I communicate to students that the concepts I present are valuable?
- How will I assess my students' understanding of core concepts? (See our Assessing Course Outcomes chapter for help.)

Thinking critically about the purpose of your course and the learning outcomes you want your students to meet is one way to ensure that you provide an excellent learning experience for your students.

Who is your audience?

Once you've decided that you're ready to use OER in your course, it's important to consider your target audience(s).

Considerations

- Do you have a primary audience? For example, majors or non-majors.
- Does your audience belong to a specific geographic location or ethnicity?
- Are there cultural differences you need to consider before creating your OER? (See our Diversity and Inclusion chapter for help)

Although your OER may be used by educators around the world, you can create it with your local audience in mind. One of the great things about open licenses is that it grants users the right to adapt your work. Because of this, educators in other countries can translate your OER into their native language or add examples relevant to their cultural context.

Does the OER you need already exist?

It is generally a good idea to look around at what content is available for your course before creating

something new. There are two reasons for this:

1. The OER you want to create/use may already exist in the format you want.
2. Your own teaching materials could be adapted for use as OER. For example, lecture notes can be an invaluable teaching aid for courses with no excellent textbooks available.

Considerations

- What changes would you need to make to share your own content as an OER?
- What types and formats of OER are you looking for?
- Where should you begin your search? (See the Finding Open Content chapter for help)

How will you disseminate your course OER?

Whether you are using an OER as-is or creating something from scratch, one of the first considerations you should take into account is how you will share the resource(s).

Considerations

- Will you host created OER in an institutional repository or a third-party platform?
- How will you make evident when you (or other creators) post updates to the content?
- During your class, how will students access the OER?

What expertise is required to use or create OER?

Creating an OER can be a considerable amount of work, especially if you're starting from scratch. It's important to consider all aspects for your project including instructional design, technology, and graphics before you jump in.

Considerations

- What aspects of the project are you most and least comfortable with?
- What support is available at your university to help you structure, develop, and disseminate your project?
- Is there support available to make your OER accessible in multiple formats?

Integrating an existing OER into your curriculum doesn't need to be a one-person job. Instructional designers and librarians can provide guidance to help you incorporate open resources into your course. Please reach out to UM Libraries or to the Centre for the Advancement of Teaching and Learning to learn more.

Could your OER be easily reused or repurposed?

One of the primary benefits of OER is that they are reusable. When adopting an existing OER, you'll want to choose one that isn't so specific that it can't be adapted to your needs. Similarly, if you create your own OER, making it easy to adapt will broaden its use among other instructors.

Considerations

- In what formats could you make your OER available? (See our Tools and Techniques for Creating OER chapter for help)
- What formats are you used to working with for your own work?
- Is your chosen OER designed in such a way that you can pick and choose what content to use?

This chapter outlined some considerations to keep in mind when transforming your course to use OER. One aspect of OER not covered here, however, is how to make an OER "open" and what that means. To answer that question, in the next chapter we'll discuss the role that copyright plays in an OER's development and dissemination.

II

Copyright

Copyright and Open Licensing

Learning Objectives

By the end of this section, you will be able to:

- Define open licenses and how they relate to OERs.

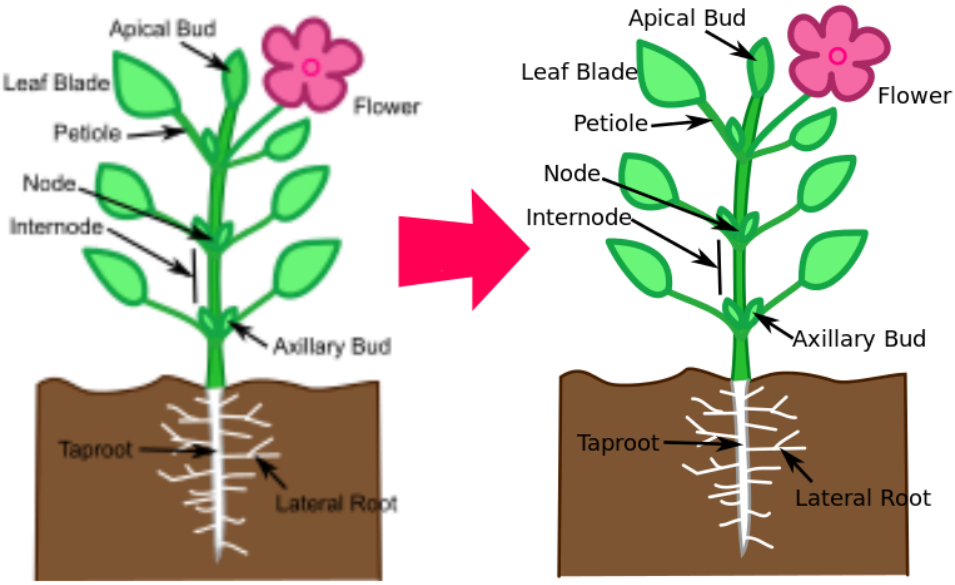
Open Licenses

All OER are made available under some type of open license, a set of authorized permissions from the rightsholder of a work for any and all users. The most popular of these licenses are Creative Commons (CC) licenses, customizable copyright licenses that allow others to reuse, adapt, and re-publish content with few or no restrictions. CC licenses allow creators to explain in plain language how their works can be used by others.
By assigning an open license to your work, you allow any user to exercise the rights allowed under the license, and cannot restrict reuse by certain individuals or parties without changing the license itself.

Creative Commons licenses will be explored in more detail in the next chapter.

Why Open Licenses?

Open licenses are an integral part of what makes an educational resource an OER. The adaptability and reusability of OER make it so that they are not just free to access, but also free for instructors who want to alter the materials for use in their course. For example, in the figure below an openly licensed image has been traced to make it more readable for users.



CC 0 Universal Public Domain License
Kelvinsong

CC 0 Universal Public Domain License
Kelvinsong
(adaptation for readability)

"Adaptation in action" by Abbey Elder, licensed CC 0 1.0, was adapted from "Copyrighted source to tracing" by Kelvinsong, also licensed CC 0 1.0. This image was originally used to represent an improper recreation of a copyrighted work via tracing. In this example, it shows how an already open work can be *legally* recreated via tracing for readability.

One of the tenets of OER laid out early on in the open education movement was the idea of the 5 Rs (originally the 4 Rs) introduced by David Wiley.
Wiley, David. "Defining the 'Open' in Open Content and Open Educational Resources." *Open Content blog,* 2014. http://opencontent.org/definition/.
These five attributes lay out what it means for something to be truly "open," as the term is used in open education. The 5 Rs include:

- **Retain** = the right to make, own, and control copies of the content.
- **Reuse** = the right to use the content in a wide range of ways
- **Revise** = the right to adapt, adjust, modify, or alter the content itself
- **Remix** = the right to combine the original or revised content with other open content to create something new
- **Redistribute** = the right to share copies of the original content, your revisions, or your remixes with others

While the "redistribute" and "revise" rights are the most commonly exercised rights in open education, each of the five plays an important role in the utility of an open educational resource. For example,

without the right to “remix” materials, an instructor who teaches an interdisciplinary course would not be able to combine two disparate OER into a new resource that more closely fits their needs.

In the next chapter, we’ll look at Creative Commons licenses and how they facilitate the expression of the 5 Rs in unique ways.

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://pressbooks.openedmb.ca/oerstarterkit/?p=31#h5p-2

Creative Commons Licenses

Learning Objectives

By the end of this section, you will be able to:

- Describe the four different Creative Commons License components.
- Explain why some CC-licensed content might not be considered OER.

As we mentioned in the previous chapter, Creative Commons (CC) licenses allow you to explain, in plain language, how your creative works can be reused. These licenses act as explicit, standing permissions for all users.
Attribution: This chapter was adapted from The ABOER Starter Kit by Technologies in Education at the Faculty of Education, the University of Alberta, available under a Creative Commons Attribution 4.0 International License.

The Four Components of Creative Commons Licenses


Attribution (BY) Proper attribution must be given to the original creator of the work whenever a portion of their work is reused or adapted. This includes a link to the original work, information about the author, and information about the original work’s license.


Share-Alike (SA) Iterations of the original work must be made available under the same license terms.


Non-Commercial (NC) The work cannot be sold at a profit or used for commercial means such as for-profit advertising. Copies of the work can be purchased in print and given away or sold at cost.

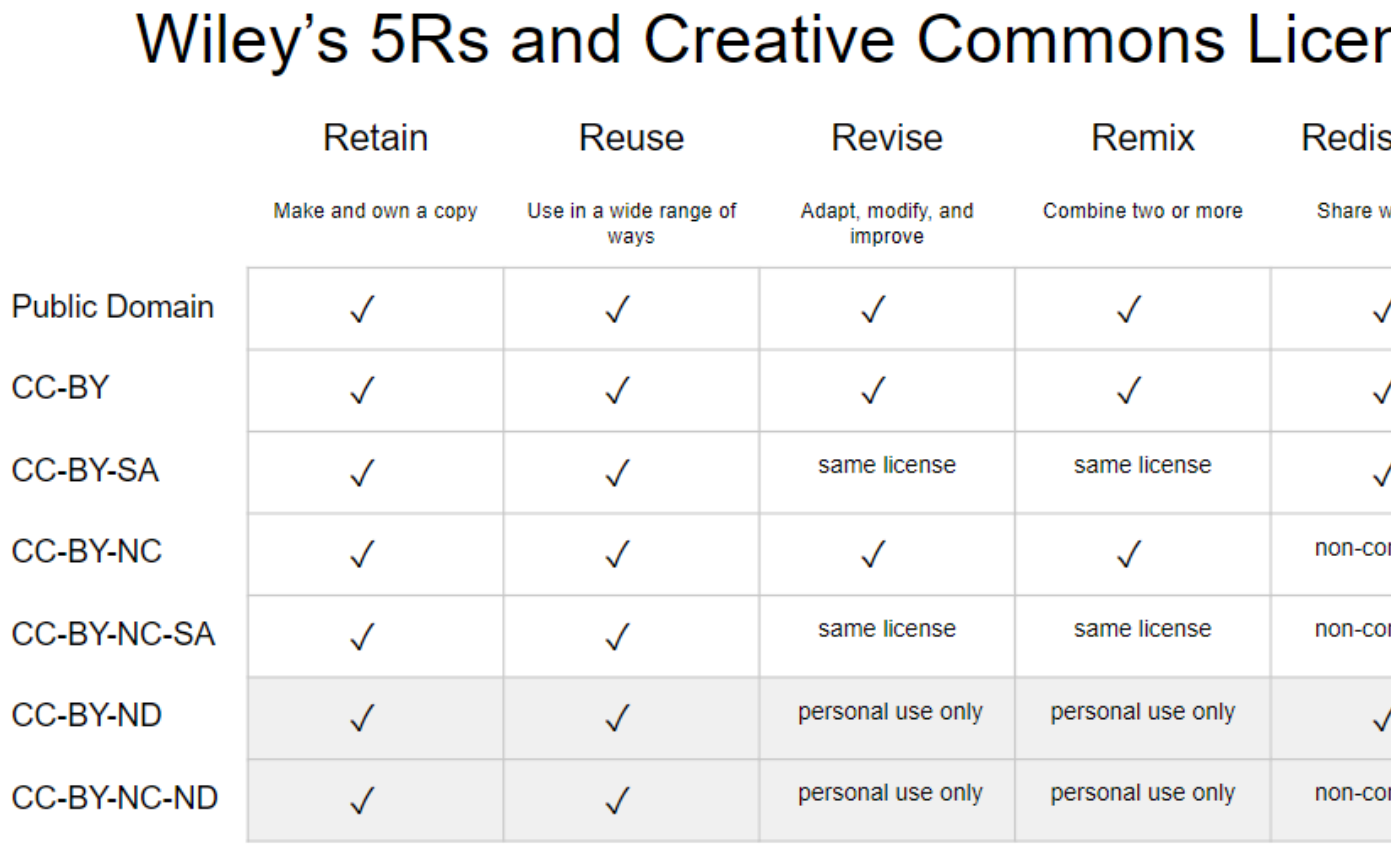

No Derivatives (ND) The work cannot be altered or “remixed.” Only identical copies of the work can be redistributed without additional permission from the creator.

These elements can be mixed and matched to create a total of **six Creative Commons licenses**.
Note that the No Derivatives and Share Alike components are incompatible and cannot be combined under one license.

Choosing a License

Choosing a CC license can be confusing at first, but the online Choose a License tool can help. This tool generates a license based on which rights you want to retain and which you would like to give to users. For example, if you want to share your work and allow others to adapt it, but you do not want others to be able to sell your work, you might consider using the CC BY NC license.

Before you choose a license, keep in mind that an OER should be able to exercise all the 5 Rs of open content we discussed in the previous chapter. Not all of the CC licenses meet this definition. Specifically, the CC BY ND and CC BY NC ND licenses do not allow revising or remixing content, two of the most significant freedoms of OER for many instructors.



Attribution: "Wileys 5Rs and Creative Commons Licensing" is by Krysta McNutt, CC-BY 4.0. To view the full ve Drawing.

Implementing a CC License

Creative Commons has an online Marking Guide that demonstrates how to mark your CC license on different types of media. Making your license obvious on whatever item you are sharing is an important part of the dissemination process for OER: otherwise, users won't know what license you've chosen! No matter the format, there are some standards you can follow:

- Make it clear

- Make it visible
- Provide links (to the license and the work)

The Four “Open” CC Licenses

There are strengths and weaknesses to each Creative Commons license you might apply to your OER. To help you make an informed decision, a short description of each license that can be applied to OER is provided below.

CC BY

Strengths

- The CC BY license is the most popular and open license provided by Creative Commons.
- By requiring attribution and nothing else, your CC BY work will be easy for others to adapt and build upon.
- CC BY is often the default choice for open publications. Youtube uses the CC BY 3.0 license as their single “Creative Commons” option.

Weaknesses

- Because CC BY allows for easier sharing and adaptation, it also leaves the creator with less power over their work. When you use a CC BY license, you cannot be certain that your work will remain open or that your work will be reused for projects you support.

CC BY SA

Strengths

- The CC BY SA combines the openness of CC BY license with the caveat that an item remains open under the same license when adapted.
- The CC BY SA license is the second most popular license, and the license used by Wikipedia for their articles.

Weaknesses

- Because the CC BY SA license requires that adapted content be shared under the same license, it can be difficult to adapt or to remix works licensed CC BY SA.
  TheOGRepository. "Creating OER and Combining Licenses." YouTube video, 9:16. September 5, 2012. https://www.youtube.com/watch?v=Hkz4q2yuQU8

CC BY NC

Strengths

- The CC BY NC license gives the creator of a work complete control over any commercial reuse of their work.
- As a user, you can adapt and remix CC BY NC works so long as your new works provide attribution to the original author and do not turn a profit.

Weaknesses

- Some users may be concerned about what they are allowed to do with your CC BY NC work and where the commercial "line" is drawn. This topic is addressed in more depth in our OER in Print chapter.

CC BY NC SA

Strengths

- CC BY NC SA is the most restrictive license that can be used for OER and gives you the most control over its adaptations.
- Some creators apply this license out of concern for their works being "scooped" by commercial publishers.

Weaknesses

- Because of its requirements, the CC BY NC SA license is the hardest to adapt, remix, or build upon.
- If you hope to leverage the open community to promote and share your content, this license may be a deterrent for potential partners.

You can learn more about the individual CC licenses on the Creative Commons website.

If you want to reuse an existing OER, there are some aspects of CC licenses you should keep in mind. Although there are different rules for each, every CC license includes the Attribution component which requires that users provide proper attribution for an original work being shared or adapted.

Attribution vs Citation

Attribution is a similar process to citing academic works in a paper, but there are some key differences. The following table outlines some of the ways in which citations and attribution are similar and different:

Attribution: This table was adapted by Abbey Elder from "Citation vs. Attribution" by Lauri Aesoph, licensed CC BY 4.0.

Citation	Attribution
Purpose is academic (e.g. avoiding plagiarism)	Purpose is legal (e.g. following licensing regulations)
Does NOT typically include licensing information for the work	Typically includes licensing information for the work
Used to quote or paraphrase a limited portion of a work	Used to quote or paraphrase all or a portion of a work
Can paraphrase, but cannot typically change the work's meaning	Can change the work under Fair Use or with advance permission (e.g., under most CC licenses)
Many citation styles are available (e.g., APA, Chicago, and MLA)	Attribution statement styles are still emerging, but there are some defined best practices
Cited resources are typically placed in a reference list	Attribution statements are typically found near the work used (e.g., below an image)

In this chapter, we have discussed how Creative Commons licenses work and how you can use these licenses for publishing or sharing open content. In the next chapter, we'll explore how you can find existing OER to use in your course.

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://pressbooks.openedmb.ca/oerstarterkit/?p=42#h5p-3

III

Finding OER

Repositories and Search Tools

Learning Objectives

By the end of this section, you will be able to:

- Identify search tools for finding open educational resources.
- Identify search tools for finding openly licensed media.
- Understand how to find assistance for locating OER at the University of Manitoba.

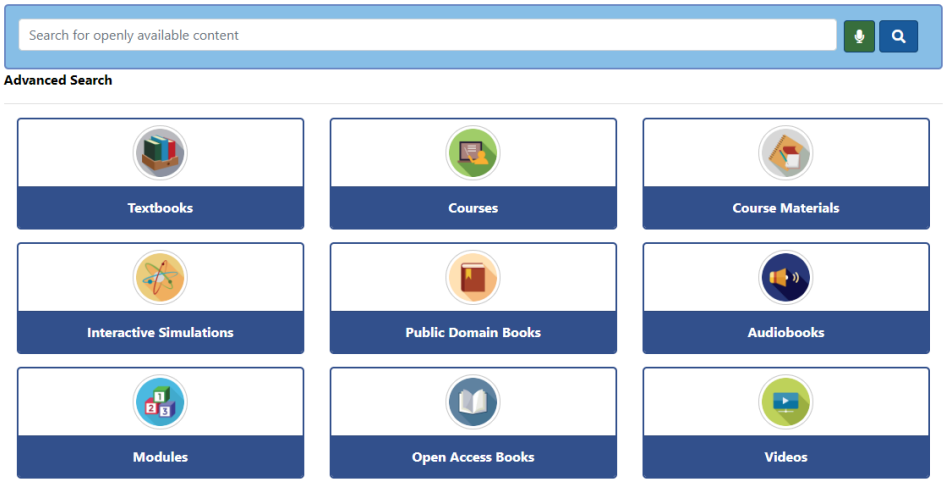
Below, a set of available repositories, search tools, and resources are listed to help you find the right OER for you. University of Manitoba Libraries staff can also help you identify suitable OER textbooks for your courses. Contact your subject librarian for more information.

Best Bets

When starting your search for OER, it's best to begin in a place with a wide variety of options. The websites listed below each have a different focus, but they are good places to start if you aren't sure what to look for.

- Manitoba Open Textbook Catalogue is a collection of textbooks that have all been adapted, revised, or created by post-secondary faculty.
- BCCampus Open Collection collects resources created, reviewed, or adopted by instructors at British Columbia universities. Materials can be filtered by Accessibility as well as whether they have been adopted in BC post-secondary courses, include ancillary materials, or have been reviewed by faculty.
- The Open Textbook Library is a great resource for finding open textbooks. If you want a textbook and nothing more, this is the place to start.
- Curated lists of OER, like the University of Manitoba's OER by Discipline Guide, can be useful for exploring a selection of open content in your subject area.

Federated Search Tools



George Mason OER Metafinder

The Mason OER Metafinder (MOM) links to a wide array of open content, including open access books and articles, documents in the public domain, and OER. Because of its large breadth of resources, we recommend that you start your MOM search with only a selection of the "OER-specific sites" checked, rather than all the materials it can include.

MERLOT

MERLOT is a project that was started in 1997 by the California State University system. The repository includes thousands of resources contributed by members, including original content and links to resources found through other platforms.

OASIS

Based at SUNY, OASIS is a search tool that aims to make the discovery of open content easier by searching multiple sources for OER and other open content at once. OASIS currently searches for open content from 79 different sources and contains approximately 330,000 records.

OERSI

OERSI is a search index for open educational resources in higher education. It draws its collection internationally from institutional repositories of universities and libraries and other subject-specialized repositories.

Institutional Collections

Institutional repositories (IRs) aren't just for sharing copies of research articles and student theses. They can also be used to store and share OER. Although not every college shares OER through their institutional repository, the colleges below do share collections of OER specific to their institution:

- OpenMichigan (University of Michigan)
- MIT OpenCourseWare (Massachusetts Institute of Technology)

Subject-specific Repositories

Some open educational resources are shared through subject-specific repositories. A few notable examples of this type, including open publishers that specialize in one discipline, are listed below:

- Chem Collective: *Chemistry*
- Learn Chem E: *Chemical Engineering*
- Noba Project Psychology Modules: *Psychology*
- Center for Open Educational Resources and Language Learning (COERLL): *Languages*
- Open Geography Education: *Geography*
- Engineering Technology Simulations: *Engineering, Physics*
- PhET Simulations: *Physics, Physical science, Geology, Chemistry*
- SkillsCommons: *Career & Technical Education (CTE)*
- Green Tea Press Textbooks: *Computer Science, Programming* (Bayes, Python, MATLAB, Java, DSP)

OER by Course

Some colleges choose to share information about which OER their instructors assign in courses. These lists can give you a good idea of what other instructors in your discipline have adopted and (if they have provided a review), what they think of their adopted resource.

- BC Campus Adoption Finder
- COOL4ED Faculty Showcase (California universities and colleges)

- Open Oregon Educational Resources (Oregon universities and colleges)
- OPEN NYS Faculty Assessments (New York State universities)

Open Content (not explicitly OER)

Not all open content is made to be used in the classroom, but that doesn't mean you can't integrate them into your course. Open access book chapters and openly-licensed media can be great additions to your course.

Open Access Publishers and Repositories

- Directory of Open Access Journals (DOAJ): Open Access journal articles
- Directory of Open Access Books (DOAB): Open Access books
- Project Gutenberg: Public domain books and documents
- PubMed: Open access journal articles
- Public Library of Science (PLoS): Open access journal publisher
- Open Book Publishers: Open access book publisher

CC-licensed Media

- CC Search: A federated search tool for finding content available under a CC license
- Digital Public Library of America: Public domain images, videos, recordings, and texts
- The Metropolitan Museum of Art: High-quality open images from the Met
- Pexels: Public domain and CC-licensed photographs and stock images
- Unsplash: Public domain and CC-licensed photographs and stock images
- Wikimedia Commons: Public domain and CC-licensed images and figures
- Google Image Search: Images. Use the Tools/Usage rights button to filter by license
- Youtube: Videos. Use the Advanced Search/CC license option to see open content
- Free Music Archive: Public domain and CC-licensed music and sound bytes

Finding Open Content

Learning Objectives

By the end of this section, you will be able to:

- Demonstrate how to conduct a preliminary search for open educational resources.
- Understand how to find support for locating OER at the University of Manitoba.

Search Tips

Start Broad

Searching for OER can be difficult when you're starting from a narrow perspective. For the most results, start with a broad search focused on your discipline. Once you've brought together a large collection of resources, then you can begin to limit your results.

OER Search Scenario

Barbara teaches a course on abnormal psychology. She wants to find videos, readings, and case studies related to this topic for her course. Here is an example of a search strategy she can follow by starting broad:

1. Search the **Open Textbook Library** for "Psychology." Peruse the Tables of Contents of listed textbooks to find chapters or sections focusing on topics covered in the course.
2. Search **OASIS** for "abnormal psychology." Since OASIS searches content on multiple repositories, limiting your search a little more can be useful. These can then be sorted by format, type, or date.
3. Search **YouTube** for videos on specific topics related to Abnormal Psych. Since YouTube contains so many different types of content, being specific is more important on this platform.
4. As a last-ditch effort, do an **Advanced Search in Google** for "Abnormal Psychology" (we will discuss this more below).

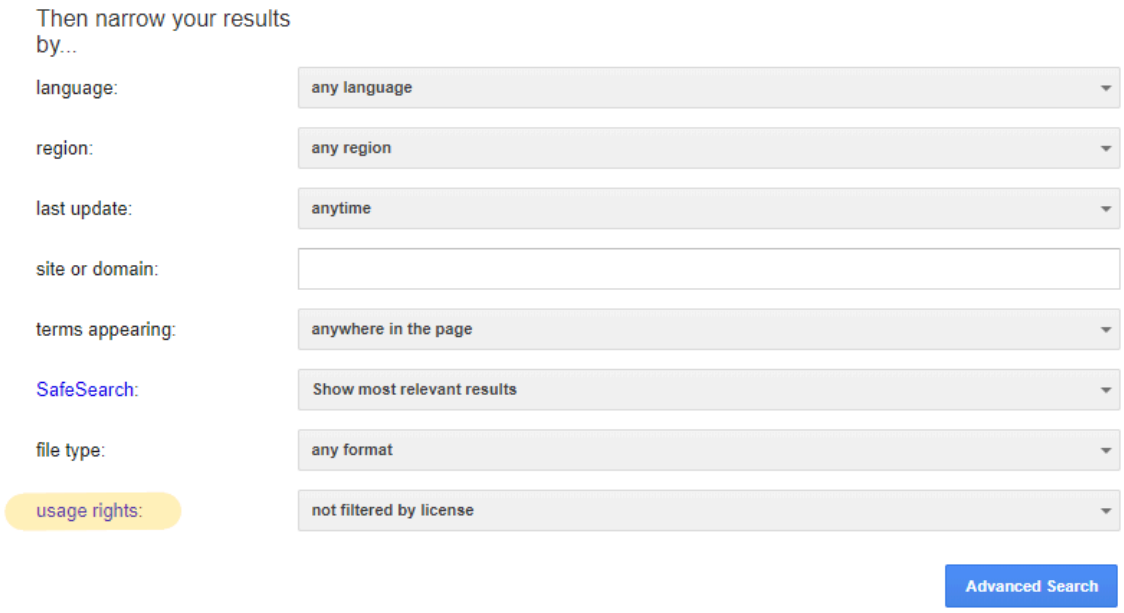
By the end of these searches, Barbara has compiled the following list: Abnormal Psychology OER List [Google Docs].

Check Your Understanding

Try out your own search using simple keywords. What did you find from your initial search? When did you decide to start narrowing your results? What's missing?

Filter by Usage Rights in Google

Google is a familiar resource for many of us, and it is also useful for finding openly licensed content. The Advanced Search feature in Google allows you to filter results by **usage rights**. Filtering by usage rights will limit your results to works with certain licenses listed on the web page, usually Creative Commons licenses. There are a few options to choose from in the usage rights list, but we recommend starting with "free to use or share" to retrieve the broadest set of results. Adding "OER" to your search terms can help you locate materials created for sharing if your Google search is retrieving too many results.



Google Advanced Search interface screenshot

Remember when using this method that Google trusts what users tell it about an item's copyright status. Although a resource may be labeled CC-BY or even CC 0, you should trust your instincts if you aren't sure whether the item you are reviewing is actually under copyright. Contact a librarian or the university copyright office if you have questions.

This chapter has provided a short overview of some tools and techniques you can use to find OER. In the next chapter, we'll provide a more comprehensive list of search tools grouped by topic and type.

Getting Help

UM Libraries staff can help you identify suitable OER textbooks for your courses. Consult the University of Manitoba's OER by Discipline Guide and contact your subject librarian for more information. Keep in mind that OER can be adapted to fit your course if necessary; you don't have to use every resource as-is.

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://pressbooks.openedmb.ca/oerstarterkit/?p=48#h5p-4

Evaluating OER

Learning Objectives

At the end of this chapter, you should be able to:

- Describe three aspects of an OER that should be assessed before use.

- Explain why it is necessary to assess an OER's adaptability.

You should always evaluate the resources you implement in your classroom, no matter where they come from. Some of the evaluation criteria listed below are universal, and others are specific to OER. The criteria for evaluation has been adapted from Achieve's Rubrics for Evaluating OER Objects, under a CC BY 3.0 License.

Alignment to Course Objectives

In order to successfully search for OER, you must have a clear and detailed list of course objectives that you are hoping to meet with your OER. While you may have to do some remixing of different OER in order to meet specific objectives, it is important to consider how closely found OER actually align with your course content.

Considerations

- Does the OER comprehensively align course content and learning objectives?
- Are the performance expectations from students focussed on in the OER? Many topics may be covered within the OER, but it is important that the specific learning outcomes are the emphasized content within the OER.

Explanation of Subject Matter

Beyond simply meeting course objectives, effective learning resources must comprehensively and clearly explain course material at a reading level appropriate to students. The subject matter should be addressed through multiple means (i.e. text, images, videos, audio), and should also be revised for culturally sensitive and age appropriate content. Instructors should also consider if the OER is comprehensive enough to stand alone, or whether it must be augmented with additional materials.

Considerations

- Will your intended audience be able to understand subject matter presented in the OER?
- Is the content culturally appropriate?
- Are there any factual, grammatical, or typographical errors?
- Are connections provided between various course outcomes?
- Is supplementary material required for students to gain a full understanding?

Utility for Instruction

An ideal OER should be easy and straightforward to use in multiple contexts. How an OER is meant to be implemented is an important factor to think about. Are the OER you are looking for meant for in class use, or outside of class for projects, supplementary understanding, or something else? A comprehensive OER may include instructions on intended use for students and instructors alike. This category also encompasses any software considerations that may need to be made.

Considerations

- Are instructions for use provided?
- Does the licensing allow for reuse and remixing?
- Is any specific software required for use or revision of the OER?

Quality of Assessment

This topic may apply to OER assessments that are intended to assess student understanding before, during, or after learning course content. However, considerations of assessment, even if instructor-made and not OER, should also be taken into account when bringing other OER into the course. Using new course material may require updating former assessments to better align with the OER that has been brought in. Consider comparing your current assessments to possible OER and see if the two intuitively connect.

Considerations

- Is the assessment closely aligned to the content?
- Does the assessment appropriately weigh the course content and objectives?
- Does the structure of assessment appropriately weigh the proficiency of learning?

Quality of Technological Interactivity

This criteria pertains specifically to OER that have a digital, interactive component. Most OER are available in digital form, however this criteria is not applicable unless there is a specific interactive component to the OER. Interactive learning resources should actively encourage learning, and it is important to consider how the resource may help students gain a deeper understanding of course materials.

Considerations

- Does the OER allow for individualized learning and control?
- Is the OER well designed? Does it function as intended on it’s platform?
- Does the OER functionality invite student use or encourage student learning?

Quality of Instructional and Practice Exercises

Many OER, especially textbooks, may include sections where students are encourage to apply what they’ve learned through practice questions and exercises. This criteria may also apply to open lesson plans, or any material intended for instructor use to improve student learning and engagement.

Considerations

- Does the OER provide students with more than enough examples to master a concept?
- Are one or two examples of complex course ideas presented to enrich understanding?

- Do the exercises include an answer key or scoring rubric for student reference?
- Are a variety of exercises available? This will allow students to apply course knowledge if multiple different contexts.

Opportunities for Deeper Learning

This criteria should be applied to any resource meant enrich knowledge and show proof of deeper learning. Skills of deeper learning can be applied across all subject areas, and may include critical thinking, effective communication and collaboration, learning how to learn, abstract reasoning, critique and construction of effective arguments, real world application, and the construction and use of models.

Considerations

- Are at least three deeper learning skills required for use of the resource?
- Does the OER offer a range of cognitive demand appropriate and supportive of the material?
- Are appropriate scaffolding and direction provided.

Accessibility

No matter what resources you plan to adopt, accessibility should always be a part of your assessment process. Many published-provided homework products are not accessible to students and can cause unexpected issues. Similarly, some OER may not be optimized for students with visual or auditory impairments. See our Accessibility and Usability chapter for more details.

Considerations

- Is the content accessible to students with disabilities through the compatibility of third-party reading applications?
- If you are using Web resources, does each image have alt text that can be read? Do videos have accurate closed-captioning?
- Are students able to access the materials in a quick, non-restrictive manner?

For a condensed rubric of this criteria see the OER Accessibility Series and Rubric, created by Open Learning Georgia.

This chapter covers content assessment, or how an instructor can assess OER for quality and fit in their class. For a better understanding of assessing course outcomes from using OER, see our Assessing Course Outcomes chapter.

OER in Print

Learning Objectives

By the end of this chapter, you will be able to:

- Explain why students might want to access a print copy of an OER.
- Identify three options for acquiring an OER in print.

Physical copies of course materials are sometimes preferred by both students and instructors. Since OER are typically created as digital objects first, it can be difficult to picture them as physical items, but many OER come in low-cost print versions as well. In this chapter, we'll review some of the reasons why and how you might offer a print option for your text-based OER.

Why Print?

There are many reasons why your students might want to access an OER in print, even at a price. A few of these are listed below:

- Students who do not own a laptop might want to have a print copy of their text for use in the classroom.
- Some students have issues with eye strain when reading on computer screens.
- Some students find it easier to retain information from print texts.
- Some students (and instructors!) prefer having physical manuals for use in labs.

Although not all students will want to purchase your materials in print, having the option available might be a worthwhile endeavour for your course.

Purchasing Copies

One option for accessing OER in print is to purchase publisher-produced copies. For example, OpenStax, a Rice University-based open textbook publisher, provides bulk printing through textbook providers that contract with university bookstores. At the University of Manitoba, the Bookstore can order print versions of OpenStax textbooks.

Student-Printed Copies

If you aren't certain whether your course could benefit from using OER in print, you can choose not to offer a print version. In this case, individual students can print personal copies of the text for themselves.

The Non-Commercial Discussion

There is a cost to print any resource, even an open one. Since the Non-Commercial (NC) Creative Commons licenses do not permit reuse for commercial purposes, this might make you think that you cannot access Non-Commercial OER in print; however, that is not the case. Open educational resources with CC BY NC licenses can be printed and sold at cost or with standard university bookstore markups, but they cannot be sold for a profit.
Creative Commons Wiki. "NonCommercial Interpretation," Last modified October 15, 2017.

https://wiki.creativecommons.org/wiki/NonCommercial_interpretation
Some quick rules of thumb for using Non-Commercial CC-licensed OER content are outlined below:

- The CC BY NC license gives the rightsholder of a work complete control over its commercialization. The author can sell copies for a profit, but no one else can unless the author gives express permission.
  If you require that your students buy copies of your work at a profitable price, your resource is technically no longer an OER.
- The CC BY NC license allows for copies of a work to be sold at cost. Printing copies of another creator's work through a third party like Staples or Lulu.com is allowed under the CC BY NC license, as long as you do not sell those copies for a profit.
- Items licensed CC BY NC can be distributed to students by a for-profit company or private university without breaking the terms of its license: what matters is the characterization of the use, not the user.

IV

Teaching with OER

Open Pedagogy

Learning Objectives

By the end of this section, you will be able to:

- Provide a definition for open pedagogy.
- Describe the major components of a renewable assignment.
- List tools commonly used for the creation of renewable assignments.

Free access to materials is not the only benefit provided by using OER. Another aspect of OER that is commonly commended by instructors is the academic freedom that using openly-licensed content affords them in taking control of their classroom and engaging students in learning.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://pressbooks.openedmb.ca/oerstarterkit/?p=62#oembed-1

Attribution: "Open Dialogues: How to engage and support students in open pedagogies" by Centre for Teaching, Learning and Technology, University of British Columbia is licensed CC BY 3.0.

Innovation in the Classroom

The open licenses on OER allow instructors to adapt and integrate materials into their classes in new ways, incorporating topics of local interest or translating content into another language. Instructors who teach graduate-level courses or courses in niche subject areas are often drawn to OER for two reasons:

1. They can adapt existing materials to meet the specific needs of their class.
2. They can share created materials with other instructors in their subject area around the world.

Developing new open educational resources can be incredibly impactful, especially for instructors who feel they are underserved by the traditional textbook model and market.

Open Pedagogy

Using open educational resources in the classroom can make it easier for students to access and interact with course materials. However, another major aspect of Open Education asks not "what you teach with" but "how you teach." The set of pedagogical practices that include engaging students in content creation and making learning accessible is known as open pedagogy.

As DeRosa & Jhangiani explain, "one key component of open pedagogy might be that it sees access, broadly writ, as fundamental to learning and to teaching, and agency as an important way of broadening that access."
DeRosa, Robin and Jhangiani, Rajiv. "Open Pedagogy and Social Justice." *Digital Pedagogy Lab*. June 2, 2017. http://www.digitalpedagogylab.com/open-pedagogy-social-justice/.
DeRosa & Robison expand on this topic, explaining that:

> "students asked to interact with OER become part of a wider public of developers, much like an open-source community. We can capitalize on this relationship between enrolled students and a broader public by drawing in wider communities of learners and expertise to help our students find relevance in their work, situate their ideas into key contexts, and contribute to the public good."
> DeRosa, Robin and Robison, Scott. "From OER to Open Pedagogy: Harnessing the Power of Open." In *Open: The Philosophy and Practices that are Revolutionizing Education and Science,* edited by Rajiv Jhangiani and Robert Biswas-Diener, 115–124. London: Ubiquity Press, 2017. DOI: https://doi.org/10.5334/bbc.i.

Depending on the source you consult, open pedagogy might be a series of practices, a learning style, or a state of mind. For the sake of this chapter, open pedagogy is defined as a series of practices which involve engaging students in a course through the development, adaptation, or use of open educational resources.

One method of engaging in open pedagogy is the development of renewable assignments, assignments which students create for the purpose of sharing and releasing as OER. These can range in content from individual writing assignments in Wikipedia to collaboratively-written textbooks.
Villeneuve, Cassidy. "Editing Wikipedia in the Classroom: Individualized Open Pedagogy at Scale." *Open Pedagogy Notebook*. May 17, 2018. http://openpedagogy.org/course-level/editing-wikipedia-in-the-classroom-individualized-open-pedagogy-at-scale/.
DeRosa, Robin. "Student-Created Open "Textbooks" as Course Communities." *Open Pedagogy Notebook.* March 18, 2018. http://openpedagogy.org/course-level/student-created-open-textbooks-as-course-communities/.
Wiley & Hilton compiled the criteria in **Table 2** to distinguish between different kinds of assignments, from least to most open.
Wiley, David and Hilton III, John. "Defining OER-Enabled Pedagogy." *The International Review of Research in Open and Distributed Learning* 19, no. 4 (2018). http://www.irrodl.org/index.php/irrodl/

article/view/3601/4724.
You can explore more examples of open pedagogy in action in the Open Pedagogy Notebook.

Table 2: Wiley & Hilton's (2018) *Criteria Distinguishing Different Kinds of Assignments*

	Student creates an artifact	The artifact has value beyond supporting its creator's learning	The artifact is made public	The artifact is openly licensed
Disposable assignments	Yes	No	No	No
Authentic assignments	Yes	Yes	No	No
Constructionist assignments	Yes	Yes	Yes	No
Renewable assignments	Yes	Yes	Yes	Yes

Creating OER with Students

There are many ways to get students involved in the creation and adaptation of OER. Assigning students to draft exam questions could bring immense value to your course, especially if those questions are built upon and improved by future students. Other work your students can collaborate on creating include literature reviews, course readers, and even full textbooks.[4]

Although your students may be new to some of the content covered in your course, if they can be engaged in creating something useful for future students, they may be able to better understand the material through this process; furthermore, students may find it easier to convey your course material in a way that other students will be able to understand. How and if you choose to include your students in content creation is up to you as the instructor, but there are many options available.

Tools for implementing renewable assignments

- **Hypothes.is:** One of the tools commonly used for open pedagogy projects is Hypothes.is. Hypothes.is allows users to annotate websites and online readings easily. Using hypothes.is can let students engage with your course readings and each other in a more interactive way than discussion boards might allow.
- **Wikibooks:** Wikibooks and WikiEdu are both excellent tools for working with students to create a text. Alternatively, short student projects, such as annotated bibliographies, can be done via Wikipedia by adding context and citations to short or underdeveloped articles. This not only gives students the opportunity to get experience explaining concepts for a public audience, it also increases the available public knowledge on your course's topic!
- **Google Drive:** Google Drive provides a variety of tools that can be used for collaboration on text-based projects as well as slideshows and spreadsheets.
- **Youtube:** Student-made instructional videos or class projects can be incredibly useful to showcase for future students in the class or to use as supplemental materials for explaining difficult concepts.

Check Your Understanding

Brainstorm some renewable assignments. Do you already assign work that could be defined as renewable?

Considerations for Using Open Pedagogy

Learning Objectives

By the end of this chapter, you should be able to:

- List three considerations to keep in mind before changing your teaching style.
- Explain why it is important to scaffold learning in open pedagogy courses.

Before jumping in with open pedagogy, you should keep in mind how you will support students through the changes you plan to make. Ward (2017) discussed some of these considerations in an interview with Rajiv Jhangiani, a leader in the field of open pedagogy:

> "When taking that approach, [Rajiv Jhangiani] said, it is important to give students control over their work. Let them choose Creative Commons licenses they are comfortable with. Allow them to later remove online work they decide is inferior. At the same time, scaffold assignments so that students gradually build skills and improve their ability to produce high-quality work."
> Ward, Doug. "Turning open education into a social movement." *UK Center for Teaching & Excellence blog,* April 2017. http://cteblog.ku.edu/turning-open-education-into-a-social-movement/.

If you are interested in utilizing open pedagogy in your courses, first consider how this will affect your students.

Understand your tools

You don't have to use a snazzy tool or technology to make open pedagogy work. Make sure that you are choosing a tool or technology that your students can easily learn and — if it is not already familiar to them — that you have included time in your course for teaching students how to use your chosen tool.

Scaffold learning

"Wikibooks logo" by Bastique, Ramac, et al is licensed CC BY-SA 3.0.

Not all students will be familiar with technology or able to engage with OER quickly. It's important that you scaffold technology support into your teaching so all students can be on the same page when it comes to using the tools you've created or adopted.
Kim, Minchi C. and Hannfin, Michael J. "Scaffolding problem solving in technology-enhanced learning environments (TELEs): Bridging research and theory with practice." *Computers & Education* 56, no. 2 (2011): 403-417. DOI: https://doi.org/10.1016/j.compedu.2010.08.024.

Some methods for scaffolding learning are provided below:

- Integrate interactive exercises into your class to help students work through new concepts.
- Create tutorials on how to use any technology or tool unique to your class.
- Use blogs and discussion posts to introduce the concept of writing for a public audience.
- Give students the choice between set assignment types to accommodate learners with different technical competencies.

Educate students about copyright

It's important that students who are creating items that might be published and shared openly can understand what that means. If you're uncomfortable about discussing copyright with your students, university librarians can visit your class to make this process easier.

Considerations

- Your students don't need to be copyright lawyers to feel safe using OER. Focus on building a comfortable foundation of knowledge about CC licenses: the rest, if necessary, can come later.
- If you'd like your students to learn more about this topic but don't know where to start, consider reaching out to your subject librarian or the copyright office on your campus.
- Alternatively, you can adopt an OER to teach your students about copyright, such as the University of Alberta's Opening Up Copyright instruction modules or the Copyright OER for University Instructors and Staff produced by the Canadian Association of Research Libraries.

Be considerate of student privacy

Some students will be energized by the idea that their homework can be seen, used, or even improved upon by future students in the class. Others may feel uncomfortable with this step. Allow students to opt out of making their materials public if they are uncertain about doing so and give them the option to remove their name from public documents if they are uncertain about this for any reason.

Considerations

- Explain clearly how and where student-created course content will be shared in the course syllabus.
- Teach students their rights as content creators and allow them to opt out of sharing their assignments.
- Allow students to share their work without attaching their personal information to it, if they are concerned about this.
- Reaffirm students' interest in publicly sharing their materials with each assignment that will be posted.

These are only a few concepts to keep in mind when exploring open pedagogy in your course. You can learn more about this topic in the Open Pedagogy Notebook.

Diversity and Inclusion

Learning Objectives

By the end of this chapter, you will be able to:

- Explain how your cultural and class-based perspectives can affect your course content, for better or worse.
- Provide two examples of activities to encourage inclusivity in your course.

Adaptability and affordability are two major aspects of what makes an open educational resource attractive to students, but there is another facet that should be considered when you are developing or adapting an OER for your course: perspective. In particular, you should ask yourself how the perspectives being represented in your OER might affect the inclusivity of your course environment.

Tara Robertson's 2017 OpenCon talk, "Diversity, Equity, and Inclusion in Open Research and Education" asks whose voices are included in our work and whose are missing.

As Quill West argues in her blog post on diversity and inclusion in open education:

> "As important as access is to students and to institutions, it is a starting place for leveraging other benefits of OER, and I hope that our conversations about [open education] go beyond access, because saving money on materials doesn't address bigger issues in student persistence and completion."
> West, Quill. "Overview of EDI and Open Education." *CCCOER blog*, June 28, 2018. https://www.cccoer.org/2018/06/28/on-equity-diversity-inclusion-and-open-education/

In this chapter, we will discuss some of the opportunities and drawbacks of using OER to promote inclusivity in your courses.
Attribution: "Diversity & Inclusion" was adapted from Including all students by SUNY OER Services, licensed CC BY 4.0.

Diversity and Inclusion

Merriam-Webster defines diversity as "the inclusion of different types of people (such as people of different races or cultures) in a group or organization."
Merriam-Webster's Dictionary. "Diversity." Accessed June 1, 2019. https://www.merriam-webster.com/dictionary/diversity
Diversity is often perceived as an organizational goal or ethical preference: for OER, including diverse perspectives is vital.

Diversity in open education can be achieved by including a variety of sociological perspectives in your open content. Doing this ensures that your students can identify with and relate to your course material. Critical here is ensuring that other cultures are presented accurately in your materials, and not according to stereotypes or perceptions based on the standards of your own culture.

Adding examples from other cultures is a good practice; however, if you don't know much about the type of people you are "including" in your resource, your inclusion might feel like alienation for students who belong to that group.

Whether intentional or not, ethnocentrism — “a tendency to view alien groups or cultures from the perspective of one’s own” — can creep into the content and presentation of your course materials, and it is something all authors should be aware of. This doesn’t mean you must create course content that accurately portrays and includes all cultures and perspectives; however, you should be respectful toward other people and be aware of your biases as they arise.
This section was adapted from Including all students by SUNY OER Services, licensed CC BY 4.0.

One way you can accomplish this is by explicitly acknowledging the perspectives that are included in your content and those which are not. How has your social and cultural background reflected on the work you’ve created? What authors are being cited and acknowledged in your work, and why? Acknowledging that your perspective is limited while including other perspectives in your work can be an incredibly rewarding experience. Some benefits of including diverse perspectives in your course content include:

- Engaging more students because they recognize themselves or their life experiences in your course content
- Sharing content that appeals to instructors in a variety of educational settings
- Creating a more interesting reading and learning experience for your students and learners around the world

If you aren’t certain about how or where to add examples relevant to other cultures, that doesn’t mean your resource will never include these perspectives. Thanks to your OER’s open license, once your resource has been published, instructors from other countries, cultures, and socioeconomic backgrounds might choose to remix your work for their course’s needs. The changes they make might include:

- Translating the book into a different language
- Adjusting the content to meet the local cultural, regional, and geographical interests
- Revising the material for a different learning environment

Another option for making your work more inclusive from the beginning is to consider inviting instructors and professionals in your field to contribute to your OER; however, you should be aware of the ways in which your project’s design may deter or welcome people of other ethnicities, races, and cultural backgrounds.
Rebus Community. "Diversity, Equity, and Inclusion in OER." YouTube video, 55:00. September 29, 2017. https://youtu.be/rUiyiAT0uMQ.
For example, you may have set up regular meetings for those collaborating on your project at a time that is not feasible for a scholar living in a different time zone. Keep this and other considerations in mind if you would like people from other countries to collaborate on your project.

Advancing Inclusivity through Open Pedagogy

As we covered in our section about teaching with OER, open pedagogy can be a powerful tool for letting students take control over how they engage with and relate to their course content. In some ways, engaging students in the creation of OER can be seen as the ultimate way of allowing them to see themselves reflected in their work.

However, there can be some concerns with this approach as well. For example, your student body might be composed of a majority of one race, sex, or class, making the total "picture" of the course content created by your students less inclusive overall.
Bali, Maha. "Critical Pedagogy: Intentions and Realities." *Hybrid Pedagogy*. September 9, 2014. http://hybridpedagogy.org/critical-pedagogy-intentions-realities/.
Here are some considerations to keep in mind when having students create course content, especially if your course is covering a topic related to sex, race, or cultural studies:

- Ask students for their input on the inclusivity of your resources
- Think about how your OER could be more diverse (pictures, examples, etc)
- Watch out for harmful depictions of diverse populations from your students. Have a plan in place to address issues if they arise

Fostering an environment of inclusion where your students can engage with different cultural norms is an important aspect of the college experience, whether you are teaching Physics or Criminal Justice. Although it might be daunting to jump into creating an inclusive educational resource, keep in mind that OER can be improved upon and continually revisited by yourself and others.

Start by finding or creating an OER that works for you and avoiding pitfalls like ethnocentric and trans-exclusionary language. You can always revisit your chosen OER or work with others to improve upon it by adding more diverse examples later on.

Don't "Other" Your Students

When attempting to make your course materials more inclusive for your students, the first thing you should watch out for is the possibility of "othering" your students. Merriam-Webster defines othering as "treating or considering (a person or a group of people) as alien to oneself or one's group (as because of different racial, sexual, or cultural characteristics)."
Merriam-Webster's Dictionary. "Other." Accessed May 12, 2019. https://www.merriam-webster.com/dictionary/other.
Some best practices for avoiding othering include:

- Never assume your audience's gender and/or gender identity, ability, or sexual orientation.
- Avoid calling the most commonly seen traits in your context "normal."
- Make materials accessible for all students at all times.

Further Reading

- Powell, John A. and Menendian, Stephen. "The Problem of Othering: Towards Inclusiveness and Belonging." *Othering & Belonging* 1, no. 1 (2016). http://www.otheringandbelonging.org/the-problem-of-othering/
- Kerschbaum, Stephanie L. "Anecdotal Relations: On Orienting to Disability in the Composition Classroom." *Composition Form* 32, no. 1 (2015). http://compositionforum.com/issue/32/anecdotal-relations.php
- Murphy, JoAnna R. "Addressing Ageism in the 21st Century Classroom." *Hybrid Pedagogy*. November 3, 2015. http://hybridpedagogy.org/addressing-ageism-in-the-21st-century-classroom/
- White, Erin. "Trans-Inclusive Design." *A List Apart*. May 9, 2019. https://alistapart.com/article/

trans-inclusive-design/
- Womack, Mark. “Sexist Pronouns.” In *A writing handbook*. 2016. http://drmarkwomack.com/a-writing-handbook/style/sexist-pronouns/

Positionality Statement

I (Abbey Elder, the author of original version of this adapted work) am a cis white woman from the United States. I have not experienced the types of bias that affect those from marginalized backgrounds related to race, cultural background, and sexual orientation. I have tried to keep this chapter simple and to link out to external resources whenever applicable; however, there may be cases where my writing betrays my lack of experience with these topics.

If there is any part of this book you find to be one-sided or dismissive of any aspect of your identity, please contact me at aelder@iastate.edu. I welcome any comments or feedback that might improve my work and help inform my own understanding of this topic. Thank you.

Assessing Course Outcomes

Learning Objectives

At the end of this section, you should be able to:

- Describe why assessment is used for teaching and learning.
- Explain the difference between assessing traditional and open course materials.

Assessment is an integral part of the education process, a method used as a barometer for what changes may be necessary to improve teaching and learning. Assessment is not always a simple process, so it can help to get some support understanding key concepts.

Assessment in the Classroom

Assessment can occur at any time during or after a course. It is recommended that instructors assess their course regularly, but especially when incorporating new techniques or course materials for the first time. The National Research Council describes the assessment process as a constantly evolving enterprise:

> “What is important is that assessment is an ongoing activity, one that relies on multiple strategies and sources for collecting information that bears on the quality of student work and that then can be used to help both the students and the teacher think more pointedly about how the quality might be improved.”
> National Research Council. *Classroom Assessment and the National Science Education Standards*. Washington, DC: The National Academies Press, 2001. DOI: https://doi.org/10.17226/9847.

One popular method of assessing a course is to investigate whether the learning outcomes you selected for the course have been met.

Learning Outcomes

Elhabashy defines Student Learning Outcomes (SLOs) as

> "the specific observable or measurable results that are expected subsequent to a learning experience. These outcomes may involve knowledge (cognitive), skills (behavioral), or attitudes (affective) that provide evidence that learning has occurred as a result of a specified course, program activity, or process."
> Elhabashy, Sameh. *Formulate Consequential Student Learning Outcome*s. Baltimore: John Hopkins University Press, 2017.

These learning outcomes are used as benchmarks for assessing student learning and, by proxy, your own teaching. Perhaps the most important type of SLOs are Course Learning Outcomes (CLOs). CLOs are the final outcomes that an instructor expects their class to have gained once they leave a course.
Elhabashy, Sameh. *Formulate Consequential Student Learning Outcome*s.
These should be measurable items, outcomes for which you can create effective assessments.

It is important to consult course learning outcomes before making any major changes to your syllabus or teaching materials. When creating OER for your course, consider if there are ways in which your OER can improve on student's understanding of CLOs.

Types of Assessment

- **Formative Assessment**: An ongoing process with a wide variety of formats, formative assessment can include quizzes, papers, projects, and any other formal or informal tests provided to gauge your students' understanding of course content.
- **Summative Assessment**: The final assessment of student learning after a course has completed, summative assessment can include final papers, projects, or exams. Summative assessment should be used to assess both standard teaching procedures and the effectiveness of any changes made following the formative assessments provided throughout your course.
- **Student Self-Assessment**: Methods for allowing your students to rate their own confidence in their work and their understanding of course content; examples include writing discussion board posts, drafting exam questions, and filling out confidence rating scales on exams.
  Sorenson-Unruh, Clarissa. "Ungrading: The First Exam." *Reflective Teaching Evolution*. May 1, 2019. https://clarissasorensenunruh.com/2019/05/01/ungrading-the-first-exam-part-3/
- **Student Peer-Assessment**: The process by which students evaluate the work of their peers within a course, peer assessment is often used as a learning tool to help students reconsider their own understanding of course content as they evaluate the work of their peers.
  Stanford Teaching Commons. "Peer Assessment." Accessed July 1, 2019. https://teachingcommons.stanford.edu/resources/teaching/evaluating-students/assessing-student-learning/peer-assessment
- **Student Assessment of Teaching (SATs)**: The manner in which students report on the effectiveness of an instructor's teaching on their learning, often given at the end of a course but sometimes handled as an ongoing process. The most ubiquitous SATs are student surveys given

at the end of a course.

For additional approaches to classroom assessment, the Iowa State University Center for Excellence in Learning & Teaching (CELT) has compiled a website listing quick assessment strategies.

After reviewing these more traditional assessment types, you might wonder how the assessment for a course using OER differs.

Assessment for OER

Assessment for courses utilizing OER does not have to be any different than for courses utilizing traditional materials. Nonetheless, some individuals have developed assessment techniques for the open classroom in particular. One of these is the RISE Framework.

The RISE Framework (Resource Inspection, Selection, and Enhancement) utilizes a 2 x 2 matrix of High Grade/Low Grade and High Use/Low Use to determine how much the use of OER has affected a student's learning outcomes.
Bodily, Robert, Nyland, Rob, and Wiley, David. "The RISE Framework: Using Learning Analytics to Automatically Identify Open Educational Resources for Continuous Improvement." *International Review of Research in Open and Distributed Learning* 18, no. 2 (2017). DOI: https://doi.org/10.19173/irrodl.v18i2.2952
The RISE Framework is used to determine how well a student performed in a course and to contrast that outcome with how much they used their provided course materials. This method can help delineate between students who excel in a subject by default and those who have done well in a course thanks to the use of the provided course content. A package in R has been developed for running a RISE analysis quickly and easily. The RISE package for R is openly available in Zenodo.

In the end, what assessment techniques you employ in your course will be determined by a variety of factors, some of which will be out of your control. Nonetheless, it's important to understand why you're assessing your course and the impact that assessment can have, particularly for courses changing their materials.

V

Creating OER

Planning and Completing Your OER Project

Learning Objectives

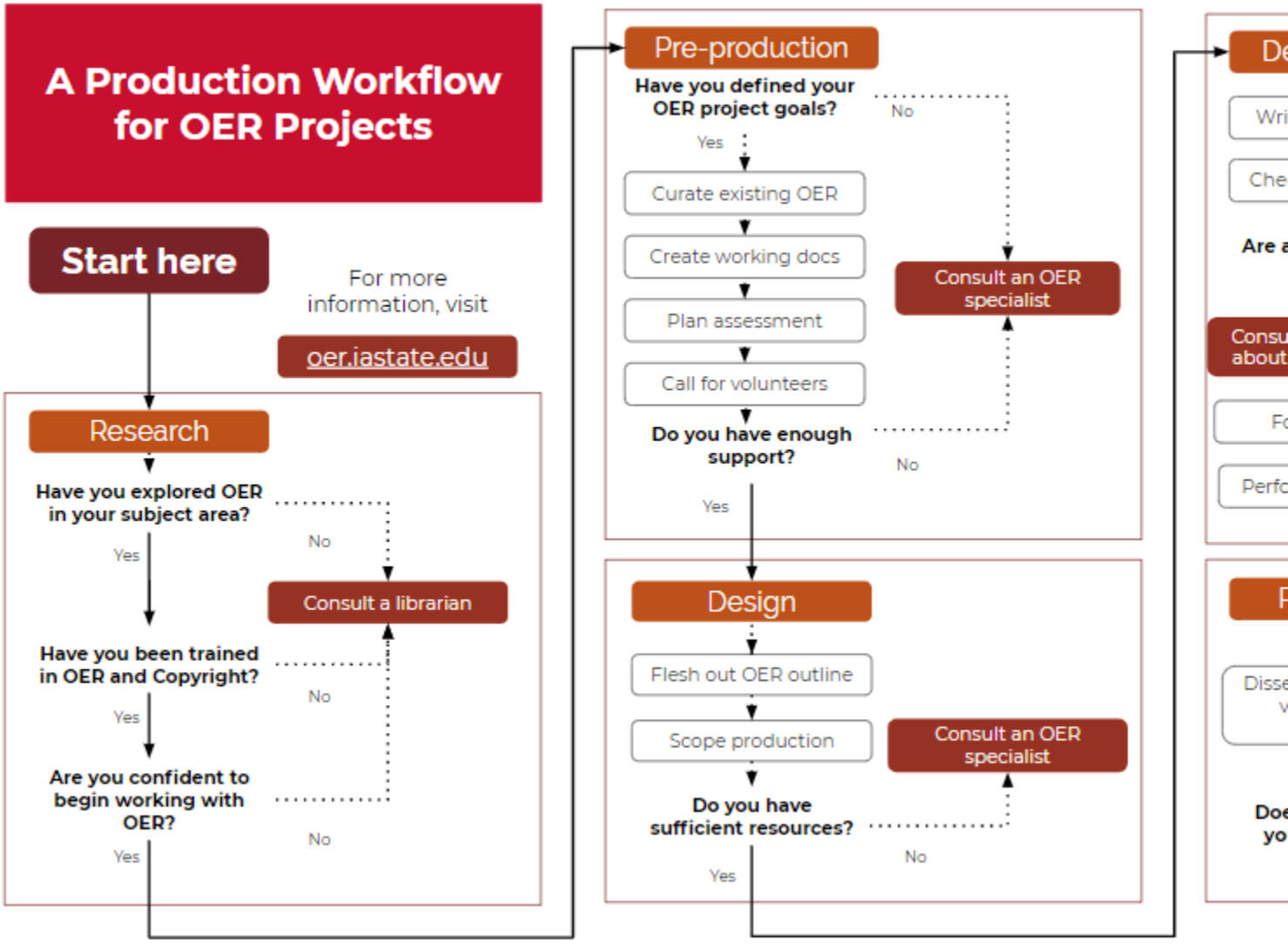
By the end of this chapter, you will be able to:

- Identify the main steps of the OER creation process.

Each OER project is different and rarely is an OER adoption a turn-key process. While OER textbooks exist for many high-enrollment courses, the pedagogical design (or teaching style) and student population will vary.
Attribution: "Planning & Completing your OER Project" was adapted from Scoping an OER Project by Billy Meinke, licensed CC BY 4.0.

OER Production Framework

The following OER production framework, based on an instructional design framework, depicts the major steps that OER adoptions typically go through:



You can see the full Project Production Workflow on Google Drawings.

Priming phase

This step is all about gauging your knowledge and experience with OER. Consider whether or not you have explored OER in your subject area before. Prior to planning the creation of a new OER, ensure that you have looked into other subject-specific OER to see if there are any that may be adapted to fit your needs– this may save you a lot of time in the future. If this is your first experience with OER, look into any workshops, training, or on-campus specialists that can help you with basic OER training.

Pre-production phase

This phase involves the curation of existing resources that may be applicable to the OER adoption and planning out the general design of the project. No new content should be adapted in this step, but a skeleton outline and other time-and-task-based project management documents should be prepared.

Design phase

This step is the last planning phase before work on the actual OER content begins. For projects adapting OER as-is, this may be the final step apart from preparing instructional documents. During this phase, project outlines and skeleton documents are fleshed out, and existing OER are fit into places where they are believed to be applicable. Any visual/graphic design work and processes that require assistance from an instructional designer are included here.

Development phase

If you are creating new OER, this phase will likely be the most time-intensive, as it is in this phase that you will begin building new materials. If you are simply adapting existing OER, this phase may just involve the creation of instructional documents to accompany your adapted resource. As well as building new materials, this phase also involves the editing and revision of new and existing resources. Ensure you are also checking you have appropriately attributed all outside resources that have been used, and that you have made content as accessible as possible.

New content may be drafted in platforms such as Google Docs or Word, before being exported onto open platforms for dissemination, such as Pressbooks.

Publication phase

The final phase involves publishing and sharing the content that has been created. This includes creating export versions, archiving editable files for instructors who might wish to edit your work (.doc, .xml, etc), and depositing any ancillary materials such as syllabi or lesson plans in the institutional digital repository. The new adapted or original OER content is then disseminated to learners and shared with the open community.

Tools and Techniques for Creating OER

Learning Objectives

By the end of this chapter, you should be able to:

- Provide examples each of low-tech, medium-tech, and high-tech tools for creating OER.
- Explain why an instructor might choose to develop OER using low-tech tools.
- Describe one medium- or high-tech tool you could use to develop an OER.

Consider your Tools

In most cases, the best option for creating OER is to use a digital platform. This makes resources easily shareable and accessible to anyone who has access to a device. However, it can be a challenge to decide what platform will best support your OER. This chapter organizes options based on digital literacy skills. Both the skills of the creator and the user should be considered when choosing the best tools for creating an open resource.
Attribution: This chapter was adapted from the SPARC Open Education Primer created by the SPARC Open Education Leadership Program, licensed CC BY 4.0.

Low Tech

The easiest and most popular way to create educational resources is by using a word processor such as Microsoft Word or Google Docs. These platforms make it easy to print or export content to PDF, and contain features required for basic content creation. Other low-tech options include:

- LibreOffice Draw: Draw lets you produce anything from a quick sketch to a complex plan, and gives you the means to communicate with graphics and diagrams. Draw is an excellent package for producing technical drawings and other visual examples.
- InkScape: An open source application that creates and edits PDFs and also works as a vector drawing and graphics tool. A better option for PDF editing if your document is image-heavy.

Medium Tech

Another common way to create or edit educational resources is to create a website or hosted resource. These may include blogs, websites, or wikis, and allow you to have a central hub to post multiple forms of content.

Check Your Understanding

Think about ways you could use Low- or Medium-Tech resources in your class. Is there a Medium-tech resource you're already using in your classes? Could you create and disseminate OER easily using that software, or do you need additional training to feel confident?

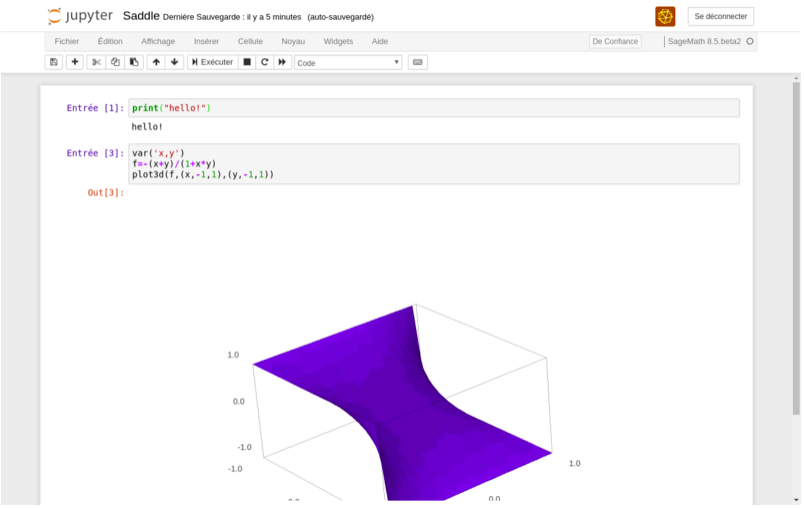
Look around your campus and see if there are workshops available on the software you want to learn.

Additional medium-tech options include:

- Pressbooks: Pressbooks is a simple book formatting software. The University of Manitoba provides access to Pressbooks through a partnership with Campus Manitoba.
- Gnu Image Manipulation Program (GIMP): GIMP is an open source, cross-platform image editor available for GNU/Linux, OS X, Windows, and other operating systems.
- OER Commons Open Author: Open Author helps you build Open Educational Resources, lesson plans, and courses to share openly on the OER Commons platform.

High Tech

There are a number of platforms that provide professional tools for authoring content, and some are very easy to use. A common tool used by OER projects is PressBooks (in which this text is published), a publishing software that makes it easy to produce interactive e-books and other text-based content. Other tools, like Jupyter Notebooks, may take time to master and require special expertise.



Attribution: Sagemath Jupyter Screenshot on Wikimedia Commons by Kilom691 is licensed CC BY SA 4.0.

Additional high-tech options include:

- GitBook: Created by GitHub, this open source tool allows you to create a book hosted on the GitHub platform. You can create your book in Markdown, add images and embed content from the Internet.
- Bookdown: The bookdown package is an open-source R package that facilitates writing books and long-form articles/reports with R Markdown.
- Jupyter Notebooks: Jupyter is an open-source web application that allows you to create and share documents that contain live code, equations, visualizations, and narrative text.

Ensure that you are checking the restrictions given by software on how you may share the final version of your project. Your choice of platform may be influenced by the terms of use..

Accessibility and Usability

Learning Objectives

By the end of this chapter, you should be able to:

- Provide three examples of ways an OER can be checked for accessibility.
- Explain how Universal Design for Learning is a good practice for both pedagogy and accessibility.

Accessibility is a major factor that should be considered when creating OER. If a resource is truly open, anyone should be able to use it. Exemplary OER will align with the following definition of Web Accessibility from W3 Schools:

> Web accessibility means that people with disabilities can use the Web. More specifically, Web accessibility means that people with disabilities can perceive, understand, navigate, and interact with the Web, and that they can contribute to the Web. Web accessibility also benefits others, including older people with changing abilities due to aging.
> W3 Schools. "Web Accessibility." Accessed May 15, 2019. https://www.w3.org/WAI/bcase/soc.html#of

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://pressbooks.openedmb.ca/oerstarterkit/?p=77#oembed-1

Attribution: "Open Dialogues: Open education and accessibility" by CTLT, University of British Columbia [Youtube] is licensed CC BY 4.0.

Universal Design for Learning

Alongside some more traditional parts of accessibility, also consider how the presentation of your course content can improve learning for all students. A great method for improving learning is Universal Design for Learning (UDL), "a framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn."
CAST. "About Universal Design for Learning." Accessed July 15, 2019. http://www.cast.org/our-work/about-udl.html

UDL claims that you can improve education for all learners by providing multiple ways of engaging with your course's content. There are various ways to implement UDL in your teaching:

1. Represent ideas from different angles and in different media types to accommodate the diverse needs of learners.
2. Provide support for students to express their understanding of concepts in different ways.
3. Allow students to engage in different ways by providing a variety of assignment types.
   CAST. "Universal Design for Learning Guidelines Version 2.2," 2018. Accessed July 1, 2019. http://udlguidelines.cast.org/

As the BCcampus OER Accessibility Toolkit (2015) argues, UDL principles can be applied to

accessibility as well as learning. The toolkit provides the following examples for instructors:
Coolidge, Amanda, et al. *Accessibility Toolkit – 2nd Edition.* Victoria, BC: BCcampus, 2015.
https://opentextbc.ca/accessibilitytoolkit

- Design resources that can be accessed by learners in a variety of ways. If there is a text component, provide the ability to enlarge the font size or change the text color.
- Provide multiple ways for learners to engage with information and demonstrate their knowledge.
- Identify activities that require specific sensory or physical capability and for which it might be difficult to accommodate the accessibility needs of learners (e.g., color matching activities).

Universal Design for Learning and Universal Design are two separate but interrelated concepts. While UDL is intended to improve both the accessibility and pedagogy of a learning environment, UD is primarily intended as an approach to making content accessible to as many people as possible.
Edyburn, Dave L. *Accessible Instructional Design*. Bingley: Emerald Group Publishing Limited, 2015.
We focus on UDL in this chapter because the design of open educational resources is inextricably connected to how they will be implemented as learning objects. As an educator, thinking about UDL as a process tied to the creation, sharing, and use of course content is essential.

Software and File Format Choice

The usability of an OER is heavily impacted by how easily users can access it.
Attribution: "Software & File Format Choice" was adapted from "Accessibility webpage" by Affordable Learning Georgia and UH OER Training by Billy Meinke, licensed CC BY 4.0.
Two aspects of content design that are inherently tied to accessibility are a resource's file format and the software used to access it.

Choose open file formats

If someone wants to read your work, they need to be able to open the file on their computer; however, some file formats require specific proprietary software to open. Saving your work in open file formats can give your students more options for accessing their course content on whatever platform best meets their needs. You should also consider disseminating your content onto a platform that may be easily edited, to ensure that students can change any aspect of the resource to make it optimal for their use.

Examples

- Open formats: HTML, ePub, RTF, Mobi, PNG, XML, PDF, Markdown
- Proprietary formats: MS Word, Pages, PowerPoint, Keynote

- Markdown converter tool: The University of Oklahoma Libraries' Markdown Converter can be used to easily convert your Markdown text into most other formats.

Use accessible software

Some software used to create or display content disables accessibility features built into your computer's operating system, such as zoom, text-to-speech, and speech-to-text. It is important to check whether the

software students will use to view your course content disables the accessibility features of their computer's operating system. This can be an issue both for OER and for traditional, publisher-provided course content.

Considerations

- Is the software used to view the OER compatible with most assistive devices?
- Does the software require point-and-click interaction to work properly?
- Can the software menus be "seen" and properly interpreted by screen readers?

How to check software accessibility

- Check common assistive keyboard shortcuts while using the software.
- Ensure that users can navigate content using only the keyboard if necessary.
- Enable OS accessibility features and check their effectiveness with the required software.

How to access common accessibility features

- Windows accessibility features
- Mac OS X accessibility features

Image and Text Readability

Whenever you are presenting content to students, it's important to check whether the text in your course content is recognizable to a computer **as text**. For PDFs, accurate optical character recognition (OCR) is often required to make the text understandable. Screen-readers require this information to accurately relay text back to students. Other best practices for making course materials readable are listed in the sections below.

Use heading levels (h1, h2, h3)

Text-based OER should always have a clear and logical structure. Using headings and other structural elements to organize your resource can make it easier for all learners to access and understand the material. Many editing tools support table of contents (TOC) generation based on where these section markers are placed. This can help students navigate to a specific chapter or section of a text, especially if the digital version of the resource has its TOC hyperlinked to each section within the text.

Individuals using screen readers can also more easily navigate the sections of your content when headings levels have been applied consistently.

Use true lists

While they may "look" similar to bulleted lists, using asterisks or icons to create a visual list of items can confuse a screen reader that is expecting to encounter structured content. Whenever listing items, use the true list features of your content editor, such as bullet points or numbered lists.

Examples

Good example:

- First list item
- Second one

Bad example:

* First list item

* Second item

Provide alt text and captions

No matter the subject of an image used in your content, you need to offer descriptive text. A screen reader will look for a contextual description of an image to share with readers, which should live in the text surrounding the image (title or caption) or as alternative ("alt") text. This is one of the most commonly overlooked aspects of accessibility for instructional content, but most text editors include tools for adding alt text to images.

When adding alt text to an image, be sure to clearly and succinctly describe the most important elements for the student to know. Do not include extraneous detail. In some cases, you do not need to add alt text at all, as in the case of purely decorative images.

Examples

- Necessary descriptive alt text: "Part a of the figure shows a container which has a gas of volume V subscript 1 on the left side and nothing on the right side. Part b shows a container which is completely filled with a gas of volume V subscript 2."
- Too much descriptive alt text: "There is a figure with a white background and two squares labeled a and b. Part a has a rectangle (representing a container) with a shaded grey section on the left half of the container with dots representing a gas. The gas is labeled V subscript 1. Part b…"
- Unnecessary descriptive alt text: "An icon of a person smiling – I put this here as a cute picture to liven up the page!"

Video and audio content needs descriptive text as well, but these usually take the form of captions or, in the case of podcast recordings, transcripts. You can easily add captions by uploading and sharing videos through a platform like YuJa. For assistance with YuJa at the University of Manitoba, contact the Centre for the Advancement of Teaching and Learning.

Use descriptive link text

Ensure that all web pages and links have titles that describe a topic or purpose. The purpose of the link can be determined by the text alone. That is, you don't need to include additional information justifying the use of the link. You want the link to be meaningful in context. For example, do not use generic text such as "click here" or "read more" unless the purpose of the link can be determined by meaning in the

surrounding content.

Examples

Digital OER should have descriptive links that explain to where the hyperlink is going to navigate the reader.

- Good example: Information on the BC Open Textbook Project is available online.
- Bad example: Click here for information on the BC Open Textbook Project.

If the OER design does not permit the inclusion of explicit links in the text, implicit links can be used, and a more detailed list of sources should be provided at the end of the resource or in a separate document. Footnotes are a great way of providing more explicit links for content without cluttering the text on a page.

Use Accessible Fonts and Colours

OER should be readable for those with disabilities related to colour as well. Some best practices for ensuring that fonts and colours are accessible are described below:

- Use dyslexic-friendly fonts, such as Arial, Century Gothic, Open Sans, and Verdana. Your institution might recommend certain fonts for digital and print materials. These recommended fonts are usually chosen for ease of use and accessibility and may be a good fit for your needs as well.
- Make sure there is a clear contrast between colors (e.g. between the background and font color, or between separate colours on a graph). There are many free online tools available for checking color contrast, but we recommend WebAim's Color Contrast Checker and ContrastChecker.com.
- Do not use colour to communicate meaning without other markers of that meaning present. If you have colour-dependent information in images or within the text of your resource, be sure that either alternative methods of recognition (such as differing patterns) are present, or that the contrast can be adjusted by users.

Online Accessibility Tools

A great deal of OER content is displayed on websites, where we can use accessibility-checking tools to identify areas that can make it difficult for assistive technology tools to work properly. The online WAVE tool does just that: identifying errors and possible issues with the accessibility of websites. Additionally, the POET Training Tool is a useful image description tool for higher education.

The Flexible Learning for Open Education (floe) website provides access to a suite of tools intended to "supports learners, educators and curriculum producers in achieving one-size-fits-one learning design for the full diversity of learners."
For more information, see floe's Inclusive Learning Design Handbook online at https://handbook.floeproject.org/ or visit their source code on GitHub: https://github.com/fluid-project/

Users with Diverse Needs

There is more to know and learn about accessibility, especially when it comes to users with diverse needs. For instance, standard web content accessibility guidelines (WCAG) are not sufficient to address the needs of autistic users (see Development of the AASPIRE Web Accessibility Guidelines for Autistic Web Users for more information, including "recommendations for increasing the physical, intellectual, and social acceptability of websites for use by autistic adults.")

At the University of Manitoba, contact the Centre for the Advancement of Teaching and Learning for further information about accessibility and usability to address diverse user needs.

1

Suggested Reading

While this toolkit is designed to provide you with what you will need to start using and creating OER, it is by no means the only resource available. This chapter provides an overview of other guides that can help you on your journey.

OER Handbooks

Aesoph, Lauri M. *Adaptation Guide: A Reference to Adapting or Revising an Open Textbook*. Victoria, BC: BCCampus, 2016. https://opentextbc.ca/adaptopentextbook/.

Aesoph, Lauri M. *Self-publishing Guide: A Reference for Writing and Self-publishing an Open Textbook*. Victoria, BC: BCCampus, 2018. https://opentextbc.ca/selfpublishguide/.

Coolindge, Amanda, Sue Doner, Tara Robertson, and Josie Gray. *Accessibility Toolkit – 2nd Edition*. Victoria, BC: BCcampus, 2015. https://opentextbc.ca/accessibilitytoolkit.

Crump, Matthew J. *Open Tools for Writing Open Interactive Textbooks (and more)*. 2018. https://crumplab.github.io/OER_bookdown/.

Doner, Sue and Susan Chandler. *OER Toolkit for Trades Instructors.* Victoria, BC: BCCampus, 2017. https://pressbooks.bccampus.ca/oertoolkitfortrades/.

Falldin, Melissa and Karen Lauritsen. *Authoring Open Textbooks*. Minneapolis, MN: Open Textbook Network, 2017. https://press.rebus.community/authoropen/.

Inclusive Design Research Centre. *FLOE Inclusive Learning Design Handbook*. 2017. https://lincs.ed.gov/professional-development/resource-collections/profile-1004.

Mays, Elizabeth (Ed.). *A guide to making open textbooks with students*. Rebus Community, 2017. https://press.rebus.community/makingopentextbookswithstudents/.

Meinke, William. *UH OER Training*. Manoa, HA: University of Hawaii at Manoa, 2018. http://pressbooks.oer.hawaii.edu/oertraining2018/.

Moist, Shannon. *Faculty OER Toolkit*. Victoria, BC: BCCampus, 2017. https://pressbooks.bccampus.ca/facultyoertoolkit/.

Munro, Daniel, Jenna Omassi, and Brady Yano. *OER Student Toolkit*. Victoria, BC: BCcampus, 2016. https://opentextbc.ca/studenttoolkit.

Wiley, David (Ed.). *An Open Education Reader*. 2014. https://openedreader.org/.

Wright, Lucas and Krista Lambert. *Working Group Guide*. Victoria, BC: BCCampus, 2019. https://opentextbc.ca/workinggroupguide.

Research and Case Studies

Bodily, Robert, Rob Nyland, and David Wiley. "The RISE Framework: Using Learning Analytics to Automatically Identify Open Educational Resources for Continuous Improvement." *International Review of Research on Distance and Open Learning* 18, no. 2 (2017).

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Additional Resources

Communities

CCCOER: a growing consortium of community and technical colleges committed to expanding access to education and increasing student success through adoption of open educational policy, practices, and resources. We provide a community and resources to learn about the evolving practice of open education.

COERLL: The Center for Open Educational Resources and Language Learning (COERLL)'s mission is to produce and disseminate language OER for the public (e.g., online language courses, reference grammars, assessment tools, and corpora).

LIBOER: the SPARC Libraries & OER Forum (LibOER) is a vibrant community of practice for academic and research librarians interested in open education. Established in 2013, this network connects more than 1,000 subscribers primarily in the U.S. and Canada through a public email discussion list and a monthly community call.

Rebus Community: a platform and forum for everyone working on open educational resources. It makes it easy to collaborate with others, conceive and create your project, and share tools, ideas, and processes.

Conferences

OpenEd Conference: The largest US-based open education conference, OpenEd alternates between west- and east-coast venues each year and regularly hosts the largest names in Open Education, from practitioners to platforms.

OER: The OER conference is the largest, international conference centering on the topic of open education. Managed by the Association for Learning Technology (ALT), a UK-based organization for learning technology, this conference is not one to miss.

OpenCon: OpenCon is a conference focusing on openness writ large, from open education to open science.

TAC: The Textbook Affordability Conference (TAC) is a place to explore OER and other affordability initiatives growing in North America. Supported by the National Association of College Stores, this conference has a particular focus on affordability rather than openness, but OER is often a major talking point.

Northeast OER Summit: The Northeast OER Summit, first begun in 2017, is a regional conference for instructors, instructional designers, and librarians to discuss their work in open education. Although located in the Northeast United States, the conference is open to participants worldwide.

"E"ffordability Summit: The "E"fforability Summit is an open education conference dedicated to being affordable for attendees. Hosted by the University of Wisconsin-Stout, the Summit has no registration fees and covers topics related to OER in both K-12 and higher education environments.

Glossary

Accessibility

> Accessibility can be viewed as the "ability to access" something. The concept of accessible design and practice of accessible development ensures both "direct access" (i.e. unassisted) and "indirect access" meaning compatibility with a person's assistive technology (for example, computer screen readers). (Source: Wikipedia.org)

Alt text

> A word or phrase that can be inserted as an attribute in an HTML (Hypertext Markup Language) document to tell website visitors the nature or contents of an image. (Source: WhatIs.com)

Attribution

> The process by which a content user gives proper credit to the original creator of a work when a portion of that work is reused or adopted outside of its original context. Attribution typically includes a link to the original work and information about the author and license.

Backward design

> A model for designing instructional materials where the instructor or designer begins the design process with a focus on the desired results (i.e., the outcome) of instruction. (Source: Learning-Theories.com)

Copyright

> A set of intellectual property laws that give the rightsholder of a work (usually the author) exclusive rights over the reproduction, reuse, remixing, display, performance, and redistribution of their work.

Copyright license

A license permits users to certain rights over a copyrighted work. These can be exclusive (allowed for individual groups) or nonexclusive (allowed for all users). Licenses can be restricted by certain factors such as purpose, territory, duration, and media (Source: Findlaw.com).

Course Learning Outcomes

The final outcomes that an instructor expects their students to gain by the time the students complete a course.

Creative Commons

A set of open licenses that allow creators to clearly mark how others can reuse their work through a set of four badge-like components: Attribution, Share-Alike, Non-Commercial, and No Derivatives.

Derivative works

A work based on or derived from one or more already existing works. Common derivative works include translations, musical arrangements, art reproductions, and abridgments. (Source: USLegal.com)

Fair Use

A legal doctrine that promotes freedom of expression by permitting the unlicensed use of copyright protected works in certain circumstances. In Canada, this is known as Fair Dealing.

Inclusivity

The practice or policy of including people who might otherwise be excluded or marginalized, such as those who have physical or mental disabilities and members of minority groups. (Source: Oxford living dictionary)

Learning Management System (LMS)

A piece of software that manages, analyses, and runs educational courses. Canvas and Blackboard are two popular examples.

Licensing

The process by which a rightsholder (usually the creator of a work) dictates that others can reuse their work in specific ways.

Open access

A model by which content creators make their scholarly outputs free to access without cost to users. This can be done either by publishing content with an OA publisher or by sharing a copy of the content on an open repository.

Open educational practices

Practices which encourage the development of openness, community engagement, transparency, responsibility, sharing, and accountability in education. (Source: Open Education Practices [Wikibooks])

Open educational resources

Free educational materials that are openly licensed to enable reuse and redistribution by users.

Open license

A copyright license which grants permission for all users to access, reuse, and redistribute a work with few or no restrictions.

Open pedagogy

A set of pedagogical practices that include engaging students in content creation and making learning accessible to all.

Open science

An umbrella term for a movement comprised of a variety of practices aiming to remove barriers for sharing any kind of research output, including resources, methods, or tools created at any stage of the research process. (Source: FosterOpenScience.eu)

Open source software

Software with source code that anyone can inspect, modify, and enhance. (Source: OpenSource.com)

Open textbook

An openly licensed and free to access textbook; an OER meant to be used as a textbook for a course.

Public Domain

A work which is not covered under copyright law, whose copyright has expired, or which has been dedicated to the public domain by its rightsholder is said to be in the public domain.

Student Learning Outcomes

The outcomes that an instructor expects their students to display at the end of a learning experience (an activity, process, or course). (Source: Elhabashy, 2017).

Universal Design

A process intended to design products that are usable by all people,with or without disabilities, to the greatest extent possible (Edyburn, 2015).

Universal Design for Learning

> A framework to improve and optimize teaching and learning for all people based on the concept that, by providing multiple ways of engaging with content, the diverse educational needs of learners can be met.

4

Versioning History

This page provides a record of edits and changes made to this book since its initial publication. Whenever edits or updates are made in the text, we provide a record and description of those changes here. If the change is minor, the version number increases by 0.01. If the edits involve substantial updates, the version number increases to the next full number.

We appreciate your feedback, suggestions, and corrections. Please send any comments to dbergen@umanitoba.ca.

Version	Date	Change
1.0	18 January 2024	Publication adapted from earlier versions of the *OER Starter Kit,* originally published by Abbey Elder and adapted by the University of Alberta. Changes include minor edits, updated links, and added details for local context, with feedback from Janice Winkler and Iwona Gniadek. Added “Users with Diverse Needs” section, prepared by Iwona Gniadek.