openstax™

OpenStax OER Guide

**Getting started with creating
Open Educational Resources**

Table of contents

Welcome to the OpenStax OER Guide! This guide will walk you through the basics of creating open educational resources (OER) – everything from open licensing options, to project planning, to sharing your resource with students.

Getting started with Open Educational Resources (OER)

+ **What is OER?**

+ **Benefits to faculty and students**

+ **The ins and outs of open licensing**

In this section, we'll talk about what counts as an open resource, how OER benefits faculty and students, and the ins and outs of open licensing.

What is OER?

Open educational resources are learning materials that have been released under a license that allows them to be freely used, changed, or shared with others. They may include readings, primary sources, activities, images, multimedia, assessments, datasets, and other items.

Creative Commons defines OER as teaching, learning, and research materials that are either (a) in the public domain or (b) licensed in a manner that provides everyone with free and perpetual permission to engage in the 5R activities– retaining, remixing, revising, reusing, and redistributing the resources.

OER differs from other (commercial) educational materials in that many commercial materials have a more restrictive license that limits the ways they can be used and reused. Free resources that are still bound by copyright — such as library resources — are not OER.

Benefits to faculty and students

+ OER allows freedom in use, while not eliminating the rights of the creators.

+ OER creators have the freedom to license the work in a manner that fits their vision for usage, using several types of licenses crafted for this purpose.

+ OER creators have the freedom to be acknowledged for their contributions in a manner that fits their (or their organization's) mission and methods

+ OER users have the freedom to choose materials that fit their educational needs and — as long as they consider the parameters of the license — reuse them in a manner that suits their educational context and students

+ OER users have the freedom to combine different types of educational materials to complement their teaching approach and educational needs. They can use OER alongside commercial resources, with other OER, with their own original creations, and so on.

+ OER student users have the freedom to access and learn from OER on their own, with or without faculty guidance. Students never lose access — they own the content forever.

+ Institutions, organizations, companies, and other groups have the freedom to incorporate some OER (as long as they align to the license parameters) within their own contributions to the educational landscape.

The ins and outs of open licensing

For any component of content-based intellectual property, such as educational material, a license indicates how the content can and cannot be used. The license essentially grants permissions and notes restrictions. An open license generally allows access, reuse, and redistribution with relatively few restrictions. However, that usage is not entirely unrestricted, and copyright holders have many different licensing options.

This section will walk you through the basics of licensing and address some of the trickier areas of licensing, like third-party images and personality rights.

Who owns the material?

Every time a work (an essay, sound file, video, book, in-class activity, etc.) is created, its creator (or their employer or similar entity) becomes the copyright owner. Intellectual property laws generally indicate that the work is the creator's to do with what they want; other usage is restricted (all rights reserved) unless the owner grants specific rights through a license or other method.

So, if you create something, you usually own it and can indicate what is done with it.

Two notes of caution regarding ownership and licensing rights:

1. **Organizational/institutional ownership**: If you create something within the realm of your professional capacity as an instructor, as part of a sponsored project, as part of a work-for-hire agreement, or within similar roles, you may not directly own the copyright, or you may be obligated to license the material a certain way. For example, an OER project sponsored by a state higher education system may indicate that all content must be distributed under a specific open license.

2. **Personality rights in images/videos of people**: People have the right to publicize or restrict the publication of their own image and likeness. Simply taking a photo or using a photo of another person (even if that photo is openly licensed) does not consider the rights of the subject. This goes for both celebrities and non-celebrities, and should be particularly considered regarding images of children, as well as any images that cast people in a negative light. See below for more detail.

License categories

For the purposes of open licensing, there are usually five broad categories to consider:

+ **All rights reserved**: This is not open, and is the most common license for commercial or otherwise restricted materials. Generally, these resources cannot be redistributed or reused except under specific circumstances, typically involving purchase. For educational materials, the principle of fair use (described below) is often misapplied to these materials, and such use is actually infringement.

+ **Creative Commons licenses**: These are the most common open licenses, developed to give copyright holders and users very clear and consistent guidance on what is and is not permitted with a work.

+ **Custom licenses**: Certain sites such as Pixabay, Pexels, YouTube, and other entities have a specific license, and/or extension of their terms of use, that indicates how their material can be used. Note that while they might offer permissions in line with your needs, they are not considered fully open and may not protect all use or reuse of your material. Read the fine print.

+ **Other open licenses**: Other organizations and nations have specific licenses that are considered open, but they also require close reading.

+ **Public Domain**: A work that either by declaration or other circumstance has no restrictions on usage and very limited restrictions on attribution belongs to the public domain. Note that contrary to misconceptions, not everything created by or for the government is public domain.

Creative Commons licenses

Creative Commons licenses give everyone from individual creators to large institutions a standardized way to grant the public permission to use their creative work under copyright law.

There are six major Creative Commons licenses:

+

CC BY: This license allows reusers to distribute, remix, adapt, and build upon the material in any medium or format, so long as attribution is given to the creator. The license allows for commercial use.

+

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

+

CC BY-NC: This license allows reusers to distribute, remix, adapt, and build upon the material in any medium or format for noncommercial purposes only, and only so long as attribution is given to the creator.

+

CC BY-NC-SA: This license allows reusers to distribute, remix, adapt, and build upon the material in any medium or format for noncommercial purposes only, and only so long as attribution is given to the creator. If you remix, adapt, or build upon the material, you must license the modified material under identical terms.

+

CC BY-ND: This license allows reusers to copy and distribute the material in any medium or format in unadapted form only, and only so long as attribution is given to the creator. The license allows for commercial use.

+

CC BY-NC-ND: This license allows reusers to copy and distribute the material in any medium or format in unadapted form only, for noncommercial purposes only, and only so long as attribution is given to the creator.

+

CC0 (aka CC Zero): is a public dedication tool, which allows creators to give up their copyright and put their works into the worldwide public domain. CC0 allows reusers to distribute, remix, adapt, and build upon the material in any medium or format, with no conditions.

[The descriptions are from Creative Commons. Visit their website to learn more.]

Using images from third-party sources

To use third-party material, such as images, in an OER work, the image must be licensed/copyrighted in an open manner. That can be accomplished by using openly licensed material, acquiring material outright, or working out some other type of agreement with the owner.

Images must be labeled CC0/Public Domain or have a license that is as or more permissive than your intended license. In other words, if you want to license something as CC-BY, you cannot use within it an image that is CC-BY-ND or CC-BY-NC. You can only use images that have the same level of permissions as your own license, or very clearly indicate to the user that they may be at risk in terms of reuse or redistribution.

A note on some sources:

+ Wikimedia, Flickr, and similar sites do a good job of clarifying the status of their images.
+ With that said, if the image is unlikely to actually be open (such as a CC BY-licensed reuse of a copyrighted picture), don't use it.
+ Government sites and databases sometimes clearly indicate the licensing. Sites which make it very clear that the image is government produced, and as such public domain, are generally fine. Examples include the National Archives, the CDC's Public Health Image Library, Federal Research Economic Data (FRED), the National Center for Education Statistics, and others that are generally focused on producing material specifically for reuse. The Library of Congress, however, is not, because it is simply a compendium of other copyrighted material.
+ Note that on informational government sites (such as those listed above), they may also use stock images or other resources that are not openly licensed.
+ Sites like Pexels, Pixabay, Unsplash, etc. are very risky.

Personality rights

People have the right to publicize or restrict their own image and likeness (or that of their dependents, such as children). Whether it is a person on the street, a student at an event, or a celebrity, the existence of the picture and the photo's open license does not grant open usage — the copyright holder could have incorrectly licensed the image.

You can usually use identifiable or recognizable images of people who are providing implied consent, or who have no reasonable expectation of privacy. Pictures of people at a public march or protest, for example, are generally safe to use.

However, do not use those images — even if they are legally acceptable — of children, or when the image puts someone in a negative or unflattering light (unless the consent is extremely clear). A clearly posed child (i.e. a model) is okay — a candid photo of a child should be avoided.

Fair use and its limitations

The principle of fair use generally indicates that a person may reuse a restricted (e.g. All Rights Reserved) work if the usage is transformative and does not directly infringe on the benefits of the copyright. This has been widely misapplied in situations where faculty post pirated versions of textbooks/components, repost copyrighted videos, and so on. While that usage is up to the user, it is often unremarkable because it is limited in reach. **In general, fair use very rarely applies to OER creation**, primarily because OER may be widely distributed and will likely interfere with the market for the original work.

Resource building with quality OER

+ **Starting with why (and whom)**
+ **Making a plan**
+ **Team structures**
+ **Timeline and scheduling**
+ **Accessibility first**
+ **Tools you can use**

Starting with why (and whom)

A core principle of instruction and instructional design is understanding who will use the resource and why.

This line of inquiry can be highly detailed or more straightforward, but the rationale and purpose of development help orient all stakeholders regarding the project and its future measures of success. (A strong rationale and usage description also help with funding opportunities.)

Every approach is different, but consider addressing the following concepts:

+ For whom is the resource intended: which course(s), disciplines, educational scenarios, and contexts?

+ Is the resource meant for instructor-facilitated study, independent student work, neither, or both?

+ What other resources (open or not open) currently fulfill this need? How is this resource different from those?

+ Why are you (or your team) the right people to develop this material?

+ Which license and distribution model are you choosing, and why?

+ How comprehensive is the resource in relation to the course? Is it meant to offer a similar set of information/ instruction/experiences for an entire course or just a subset?

+ Do instructors or students need any guidance or support regarding implementation or usage of the material?

Making a plan

Resource development involves determining the work that needs to be done, understanding who will do it, and making and scheduling the time to do so. Each of these elements may be complex on its own, but there is ample support and guidance available from a wide array of organizations.

The work plan can include individuals undertaking all steps to produce a given resource or differentiation by role or expertise. In the former, a faculty member may write, illustrate, format, and distribute an activity or reading material. In the latter, the faculty member may write the material, then send it to other team members to handle other tasks. Every team has its own workflow, and there are many ways to proceed.

Development steps: A sample list

+ Outlining and aligning to learning outcomes or instructional goals
+ Learning about new and emerging issues and challenges in the course/discipline
+ Understanding accessibility needs related to the intended resource (e.g. video has different needs from text, chemical equations have different needs from maps, etc.)
+ Building the team
+ Creating a framework or template
+ Writing, creating, or scripting the resource
+ Peer and/or expert review

+ Editing and revising
+ Practice, activity, or assessment development (as well as providing answers/solutions) rubrics if needed)
+ Art, illustration, or multimedia production and accessibility implementation
+ Finalizing, formatting, and unifying the resource
+ Posting, releasing, or distributing the resource
+ Sharing or marketing the resource
+ Seeking feedback and improving the material
+ Reporting progress and outcomes (if needed)

Team structures

As stated earlier, every team may be different. A flowchart or org chart is helpful (such as the one below) but the most important elements to consider is how the roles relate to the tasks: Who is writing, who is reviewing, who is editing, who is producing or rendering, who is managing the workflow and project, who is handling any documentation and reporting, and so on.

Consider the examples below. In Example 1, one faculty member received a grant to produce a new set of labs for a one-semester course. They've used the labs in their course for several years, so they need to formalize them and provide full instructions for other people's use. Two reviewers will validate the course alignment and clarity of instruction, and then several lab testers (including students) will perform the labs and ensure that everything goes as planned. Then the material will go to a graphic designer and document producer, who will make the design consistent and accessible, and prepare it for publication.

Example 1: Relatively small team developing six lab activities.

In Example 2, a team of faculty are creating a series of materials that will be delivered within an LMS cartridge. One author creates the foundational content, another focuses on examples and case studies, and a third develops assessments for each module. Reviewers comment on each component, with the assessment reviewer focused largely on accuracy. An overall editor (who may or may not have deep subject matter expertise depending on the needs) incorporates all the feedback, obtains clarification from the writers, verifies originality and proper citation of the material, copyedits, and prepares the items for production. Then the material progresses through a process of illustration and accessibility efforts. Two instructional designers undertake the core activities regarding modularization and implementation in the LMS, and a course administrator verifies that everything functions properly, finalizes the assembly, and pushes the course into the live environment.
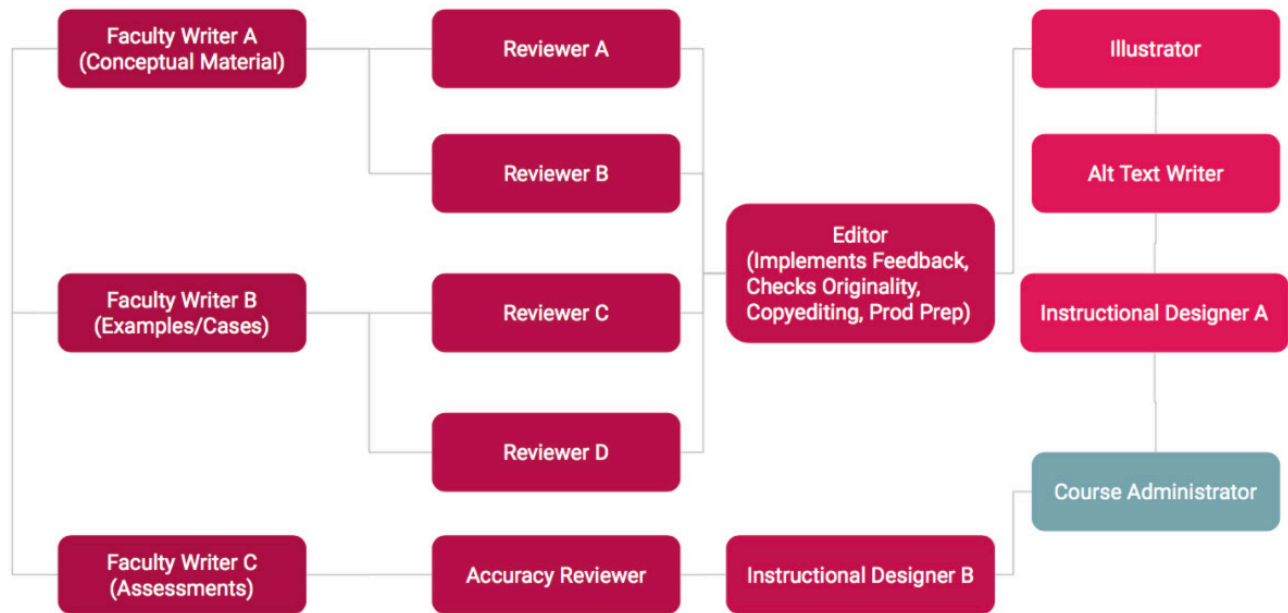
Example 2: Larger team developing an LMS template course.

These are only two of hundreds of different team arrangements and workflows. Their similarities and best practices include the following:

+ Clear roles and goals
+ A defined process for moving material through each needed step
+ A process for obtaining and incorporating peer review
+ Considerations of both material development (writing, editing), finalization, and producing the material

Timeline and scheduling

As we often share with students, one of the most critical and difficult aspects of time management is estimating the time that work will take to complete. Developing OER is no different, and is compounded by the wide array of obligations that educators and supporters encounter — both planned and unplanned.

Working Backward: Consider the desired publication or distribution timeline, and consider how long each step will take moving toward that goal.

Schedule people's time before you need it: If you assume that a specific step will take a certain number of days or hours, work to "book" those hours in the person's schedule, especially if they are not deeply connected to the project.

Allow time for other priorities and flexible accommodating: Even highly invested writers and reviewers have other obligations. So even if you assume that a task will take six hours, understand that finding those six hours may be difficult for that person. Allow a week or more for them to undertake that step.

Be transparent and communicate actively: Sharing project updates and reminders – like timelines, schedules, and alerts to changes and risks – keeps the project front of mind and also ensures that others are aware of when they'll need to be involved.

Accessibility first

Starting with the why and the whom means that you are considering how all the different users of your resource will access, utilize, and experience your resource. From a general standpoint, this relates to the material's accessibility. Accessibility is a straightforward concept with a wide array of manifestations. For the purposes of developing OER, let's consider three aspects of access and usage:

+ The platform and/or format of the resource: Is the resource housed in a larger platform, such as an LMS, or is it a standalone file or web page? Most LMSs have their own accessibility considerations, such as keyboard-only navigation and screen-size accommodations.

+ How people use the resource: Is it mostly something that they read, something that they watch/listen to, something that they interact with? Will they access it on a screen, on a mobile device, or through another means? In each case, specific development guidelines and practices help ensure that everyone can use the material equitably.

+ Which accessibility standards and guidelines will you adhere to for your resource creation? The most commonly used framework is the Web Content Accessibility Guidelines.

A full set of accessibility suggestions, guidelines, checkers, and related materials have been developed by OpenStax here.

Creating inclusive, equitable, and representative resources

Inclusive and equitable teaching requires active, intentional, informed, and flexible practice on the part of instructors, instructional designers, and other contributors to the student experience.

Inclusivity in education is a far-reaching and multidimensional requirement. In relation to course material creation, adaptation, and usage, we can consider the following aspects:

Every approach is different, but consider addressing the following concepts:

+   **Active**: Direct and continual evaluation, examination, and improvement of what is taught, how it is presented and assessed, who is represented, and why certain choices are made.

+   **Intentional**: Recognition of the complexity of adding or modifying materials or practice, and undertaking the effort and investigation of what will be helpful without being hurtful.

+   **Informed**: Dedication to learn about improved, current, sensitive, and evidence-based approaches, opportunities, terminology, and perspectives on the content, events, circumstances, and people represented or served by course materials.

+   **Flexible**: Willingness to adjust and adapt to new information, people, responses, and notions that challenge the practice and even the substance of a discipline.

As creators of OER, we all deeply value the diverse users of our course materials and activities, and seek to include and impact each faculty and student user in a positive and considerate manner.

During the development processes, you can undertake substantial efforts to properly represent genders, gender identities, races, cultures, geographies, ethnic backgrounds, abilities, nationalities, ages, sexual orientations, socio-economic status, and diverse viewpoints. Inclusive teaching goes beyond avoiding offense and distress, but those are certainly critical to creating a welcoming learning experience with the greatest likelihood of success.

+   With all that in mind, consider certain realities and complexities:
+   Perfection is unattainable, universal expertise is unavailable, and new challenges and people may bring new ideas and requirements.
+   No single style guide, rubric, theoretical framework, or equity expert will be able to provide everything needed to make a completely inclusive or equitable resource.
+   The groups and populations we seek to include are not homogenous; what might include one person may unintentionally exclude another.
+   Every discipline, course, and course material requires a deep evaluation of its inclusiveness, but diversity, equity, and inclusion manifest themselves differently across the varied fields of instruction.

Who are you including?

Sometimes it's a simple statement — we need to include everyone. At the same time, many individuals, organizations, mission statements, and educational institutions define diversity, equity, and inclusion as impacting only certain groups or overcoming certain types of inequality.

There is no judgment in terms of how you or your institution focus your DEI efforts, and no one resource, program, or effort can include everyone. Consider, however, all the different identities that make up your students, and how materials, contexts, explanations, examples, and illustrations can include or exclude them. While being focused on a certain group, find opportunities to be sensitive and welcoming to all people.

Approaches to building equitable resources

1. **Take an opportunistic and entrepreneurial approach**

   When working through the outlining, development, and finalization process, continually seek out and question who/what is included and who else/what else can be included. Examples:

   + If the historical figures in a discipline are mostly White men, can current and more diverse researchers building on their work be added to the respective sections?
   + If a natural, physical, mathematical, or related theory or occurrence is being described, can its effect, historical perception, human impact or application, or related social, cultural, or historical context be provided?
   + If a study or concept is presented that relates to one group or a small number of groups, consider how the same consideration may apply to other groups.

2. **Understand the causes of inequity, privilege, or non-inclusivity in yourself, your team, and your discipline.**

   To improve inequitable systems and take down barriers, you must understand what built them up. Examining resources regarding implicit biases, privileges possessed by different groups, and other DEI issues will help get to the roots of those structural barriers. Engaging a wide array of people in the process will also help.

   Even with the best of intentions and dedicated work toward a better understanding of people, issues, and groups, it is impossible to deeply understand everyone. DEI involves continual change and examination, and in that process, people may make mistakes or not consider every potential outcome. Understand the significant role that time pressure, resource limitations, and other practical elements bring into the development/adaptation process.

3. **Identify the components of your material that will manifest and exemplify inclusive development, and focus review and feedback efforts on those.**

While all aspects of education can bring forth inequity and non-inclusivity, course materials and related learning experiences often have specific components that can exhibit responsiveness, openness, and inclusivity — or that might exhibit non-inclusiveness if not carefully considered. Every discipline has specific issues related to this: a course that includes historical background on society will differ from one focused mostly on physical sciences. But in all cases, course material elements can build belonging or prevent it.

From a content perspective, consider elements such as the following:

+ The educational and cultural background "assumed" by the materials.
+ The diversity and representation found in practical examples, historical/pioneering figures in the field, fictional people and scenarios, and illustrations and photos of people.
+ The acknowledgment and presence of issues related to different populations in relation to the subject matter, including discussions regarding inequitable treatment toward certain groups.
+ The balance in issues such as the above, as well as in issues or topics that might have political, religious, or other sociocultural implications.
+ The terminology, definitions, and descriptions used for descriptions of people, characteristics, and related concepts.

From a delivery perspective, consider elements such as the following:

+ Alignment with accessibility guidelines
+ Alternative means of obtaining the material or the experience for those who cannot access or use it in the primary delivery method.
+ Access methods and format options
+ Availability for adaptation and customization at the asset level (e.g. image files) in case a local institution needs to make modifications; note that the licensing also plays a role in this.

These are just a few elements to consider. They pertain mostly to course materials and not the entire delivery of a course or learning experience.

4. **Conduct DEI-specific reviews**

Everyone involved in education brings a level of understanding regarding DEI based on their lived experiences, expertise, and interactions with learners and others. However, no one person is an expert on everything, and a generalized review may not have the focus to address DEI elements

Using a specific DEI review framework — likely centered on the elements you identified as critical to your resource, such as the above — will focus efforts on the inclusivity of the material and related aspects. While there are many forms and frameworks for this, we have found the following to be useful:

+ For review processes seeking feedback, open-ended reviews (rather than rating/scoring rubrics or checklists) are most effective and meaningful. People and DEI issues are nuanced, and allowing reviewers the space to explain or describe an issue provides the most beneficial and actionable feedback. Also, sometimes scoring/checkboxes give the wrong impression.

+ Consider the overall review guidelines described in the "Reviewing Your Work" section below. In particular, be careful regarding reliance on often misunderstood or nonuniversal equity concepts or terminology. Ask direct, jargon-free questions, or simply ask open-ended questions, allowing the reviewers freedom to explore and explain the issue.

+ Do not assume a level of equity expertise unless you are very certain the person may possess it, and do not assume that any individual can speak for all populations. For example, someone might be extremely versed in the presentation and discussion of gender differences, and may have less understanding of ethnic or ability differences.

We have included a more detailed framework for considering equity issues below.

5. **Involve diverse populations in the development process.**

Perspectives on descriptions, examples, issues, injustice, and groups are best when involving the people they most closely relate to. Seek out and take opportunities to involve specific populations in the review process.

6. **Foster discussion or explain DEI in the materials.**

Where a concept, description, issue, or even the usage of a specific term or classification may be unfamiliar, concerning, or even simply new for the student or instructor, take the opportunity to explain your approach and bring clarity. This can range from a simple and brief appositive or parenthetical phrase, or an entire paragraph. For example, when using census data that describes people according to certain ethnic or racial categories that do not match the terms you use, you can explain the differences in terminology. When using an archaic term because of its historical application, a brief "as it was described at the time" can be helpful.

This concept can be extended to deeper and more detailed support as is appropriate for the subject matter. As stated above, the active and opportunistic approach may lead to unexpected inclusions or topics in certain works. While those are necessary and responsive, it may be helpful for both instructors and students to have context. For example, if you seek to include material on the digital divide in a programming course, it is likely worthwhile to note that specifically in the preface, table of contents, or learning outcomes, so that instructors — who might not typically cover that topic — know that they may need to prepare for discussion and questions.

DEI guidelines

With the support of faculty, students, equity experts, and other contributors, OpenStax has developed materials that can be adapted for use in equity-centered development and review. These should be considered starting places and considerations rather than style guides or instructions. We are continually updating them based on feedback, and welcome any comments or questions you have. Find our DEI guidelines here.

Tools you can use

There are a variety of tools available to help you create and host OER. Here are a few places to start.

Document and asset creation tools:

+ 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. This is a better option for PDF editing if your document is image-heavy.
+ 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.
+ Pressbooks: Pressbooks is a simple book formatting software. Some institutions, like Iowa State University, provide author support for publishing in Pressbooks through our Digital Press.
+ Links and descriptions adapted from the OER Starter Kit, by Abbey K. Elder, CC-BY.

Platforms and hosting options:

Free platforms

+ MERLOT Content Builder (Free account registration required. Once logged in, click on your icon in the upper-right corner and click "My Content Builder.")
+ MERLOT Content Builder offers a quick and easy way to deliver web-based open content, hosted through the CSU and MERLOT. Content Builder resources can easily be incorporated into MERLOT's vast OER search engine in addition.
+ LibreTexts Remixer (Click on "Remixer" after selecting a subject library.)
+ LibreTexts Remixer is a way of combining the centralized and accessible LibreTexts libraries of OER into your own customized textbook, complete with full WYSIWYG controls in revising and customizing each section.
+ OER Commons OpenAuthor (Free account registration required.)
+ OER Commons OpenAuthor is a blog-like platform that allows for the creation of new open content, easily indexed to be searchable within the OER Commons search tool. File uploads are simple, and if you are familiar with blog sites such as WordPress, you should have an easy time getting started.
+ Curriki
+ Curriki offers a way to publish materials for the public, and it includes options for expert reviews. While Curriki focuses on K-12 education, many higher education authors have used the site to publish educational resources.
+ WikiBooks (Free account registration required.)
+ WikiBooks is a wiki-based platform that allows for the creation of simple, accessible open web content in textbook form. Try out the platform in their Sandbox, or create a free account to get started

Paid and for-profit platforms

+ PressBooks is a WordPress-based platform. It's free to create an account, but publishing your content does cost the author a fee. PressBooks makes publishing in multiple file formats very simple.

+ SoftChalk Cloud is a desktop-based publishing platform, and the paid SoftChalk Cloud version allows the user to upload materials to be made available to the public through the SoftChalk Cloud Repository.

Links and Descriptions Provided by Affordable Learning Georgia. CC-BY.

Evaluating and customizing with OER

+ **Types of OER**
+ **Assessing OER**
+ **Types of reviews**
+ **Reviewer teams**
+ **Choosing licensing**
+ **Sharing your resource**
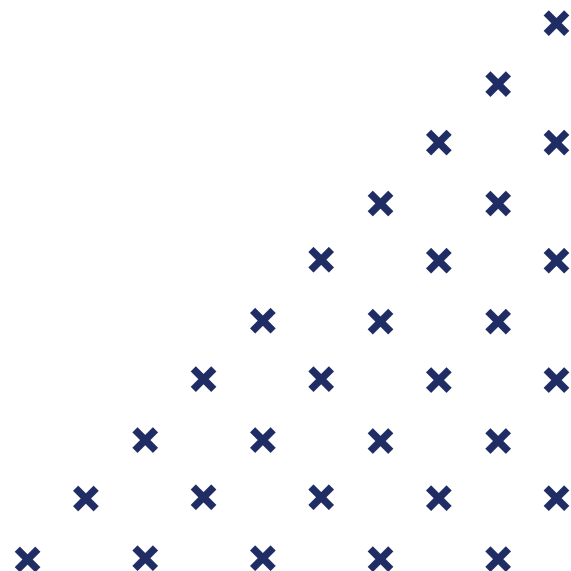
How to find, evaluate, and adapt existing materials

The 5 Rs

The 5 Rs are a framework designed to outline the different ways that you can use open materials. They are:

Reuse
Retain
Revise
Remix
Redistribute

For the purposes of modifying existing OER materials, the final 3 Rs are the most relevant:

Revise: You can modify, adjust, and re-write the content to suit your needs – whether that's making the content a better fit for your students, removing extraneous material, translating into a new language, adding new examples, or anything else!

Remix: You can combine one open resource with other open resources to create something new.

Redistribute: You can share the content — unaltered, or your revised or remixed version — with anyone.

Types of OER

There are many different types of OER to draw from to build your own materials. For example:

Full textbooks: You can use full OER textbooks as a source of content, and/or as a foundation for a new open textbook. You can shorten the content, lengthen the content, reorder the content, or pull pieces of the book to create something entirely new!

+ OpenStax
+ Open Textbook Library
+ Pressbooks Directory

Stand-alone materials: You can find millions of individual OER teaching resources, such as sets of discussion questions, activities, lecture notes, etc. You can use these as raw materials for new materials, bundle them together, etc.

+ Merlot
+ OER Commons

Resource sets: You can sometimes find groups of resources designed to fit together with each other or with a certain open textbook. For example, OpenStax has community hubs on OER Commons where instructors can post resources that they've developed to align with an OpenStax book.

+ OER Commons community hub

Assessing OER

Reviews
Some OER repositories, like the Open Textbook Network and BCCampus Open Ed, host thorough reviews of open textbooks. These reviews can be a great resource for helping you evaluate which materials might be the best fit for your project.

Rubrics
There have been several rubrics developed to help you evaluate the OER materials you've found. Check out the Achieve Rubrics for Evaluating OER Objects and the DigiTex Checklist for Evaluating OER.

Whether or not you plan on widely sharing your resource, reviewing provides an invaluable opportunity for improvement, enrichment, validation, and potential for increasing the likelihood of use.

Revewing your work

Reviews have many purposes and take many forms, and the first step of an effective review is understanding your needs — the aspects of your OER that will require the deepest focus for review. That understanding will indicate **who** should review, **when** in the process the review should take place, **how many** cycles of review and revision are needed, and **what format** is best for the review.

Types of reviews

Reviews can take place for any type of resource to fulfill any purpose. Most educational content-oriented reviews focus on the same general aspects: quality, course/outcomes alignment, inclusiveness, currency, accuracy, and overall value. But a review can focus on just one of those areas or other aspects.

Note that while one reviewer could potentially undertake many aspects of a review in one process, consider the scope and demands of a review and the expertise required. Can a person provide generalized feedback and work every exercise? Would a person without specific expertise be able to comment on several aspects of currency or inclusiveness? Those are difficult prospects, which is why distinguishing and specifying the purpose and scope of a review (e.g. through a specific type of questionnaire or framework) is often the most effective method.

Type of review	Purpose, considerations, and outcomes of review
Proposal review	+ Validating and articulating the needs the project will fulfill + Assessing the clarity and feasibility of the vision + Providing ideas and alternative perspectives on the proposed scope and approach
Pre-revision and pre-adaptation review	+ For projects involving reusing of existing OER or related materials + Assessing quality and course alignment of material + Informing the scope of the revision + Gathering ideas for creative or engaging enhancements
Benchmarking and/or gap analysis	+ More specific review focused on comparing resources, analyzing material already in use, assessing the comprehensiveness of course materials + May be used prior to implementation related to new standards, learning outcomes, or related programs + May be a "start from the end" type of review
Outline or prototype review	+ Validating the alignment, order, comprehensiveness, coverage, and approach of early materials + Ensuring that component names (e.g chapter names, activity names, etc.) are understood by faculty + Ensuring that the general direction and elements of the material are living up to the objectives and vision + Getting early feedback on ideas, decisions, or debates among the team

Generalized review

+ Obtaining a wide range of feedback on a distinct unit of the material (e.g. a module, video, chapter, lab, "week)"

+ Typically features questions about each aspect of quality and alignment – coverage, currency, general accuracy, baseline inclusiveness, and so on

Diversity, equity, inclusion review

+ A more detailed review that works deeply into specific aspects of diversity, equity, and inclusion that might manifest themselves in the material

+ Important to be very specific and ask about each element of inclusiveness rather than assume the reviewer is considering all of them

+ May require specific expertise and/or may be helpful to recruit reviewers who are members of specific populations or groups.

+ This is explored more deeply below, but note that while equity and inclusivity must be present in every course, they manifest themselves differently in specific disciplines

+ A great area of focus for student reviews

"Expert" review

+ Addressing a topic, subdiscipline, research area, frontier, or sensitive topic

+ Seek a reviewer with established expertise (not simply interest) in the topic at hand

+ Review instrument/guidance can likely be very narrow and focused in scope

+ While an expert is reviewing, ensure they understand the intended audience for the material

Accuracy review

+ Depending on the nature of discipline this may include one of three major activities:
  - Fact-checking and verifying information
  - Working problems, exercises, examples, and checking against provided answers and solutions

Accessibility review

+ Evaluating the usability of material, supportive components, format, navigation, and related elements
+ Typical activities for faculty and similar content creators and reviewers involve checking navigation through items like header hierarchy, checking image color/contrast, and developing and validating alternative text
+ On a more holistic scale, a qualified accessibility expert may need to be the core accessibility reviewer. Typically, personnel from instructional technology departments can direct and support this effort
+ The learning environment or publishing system (e.g. OERTX, Google Docs, or LMS) may have its own accessibility characteristics that are beyond your control or responsibility

Marketing-oriented review

+ This is not common for OER, and is likely appropriate only in cases where materials are meant for wide usage and adoption.
+ The review process is typically similar to a generalized review and might be less detailed.
+ May be incorporated with a demonstration or similar interaction.
+ Questions and frameworks typically focus on validating material and investigating the likelihood of adoption and usage.

Reviewer teams

Developing a profile

As stated above, different types of reviews may require different types of reviewers. Simply, if you are seeking the best outcome for your review, you'll have the most success if you match the needs with the reviewer.

In most cases, people with discipline expertise and teaching experience will have the necessary context and knowledge to offer constructive feedback on proposals, outlines, modules, chapters, videos, cases, and related materials. As stated in the table above, some tasks or topics require specialized expertise, such as a new or less familiar concept area or a specialized skill area such as accessibility.

Beyond the reviewers' knowledge, their teaching experience, methods, and contexts may be important. If you are developing videos, you should involve reviewers who often use videos in their courses. If your resource is meant for online-only courses, reviewers should have experience teaching online.

Your reviewer profile should consider those aspects. Here is a sample profile:

Subject area knowledge:	General Marketing, with preference for Consumer Behavior or Marketing Research
Course(s) taught/when:	Principles of Marketing currently teaching or have taught in the past three years
Course delivery:	Hybrid or online teaching experience required
Range of experience:	For at least five years teaching the above courses; aim for a blend of reviewers from different ranges of experience
Institution type:	Aim for a mix of any degree-granting US or Canadian institutions (no international schools); include 2-year, 4-year, public and private, MSIs, and diversity of geographies
Course/ departmental role:	No admin or leadership role required, but the reviewer must have decision-making capability for their section and/or involvement with departmental adoption decision

Ways to find reviewers

You may have an established network through your academic experience, membership in a society or group, or as a part of an institutional or grant program. Those are excellent sources. If you see the need to move beyond your existing groups, here are some other ways to identify and connect with reviewers:

+   Conference proceedings, papers, posters, particularly education or similar sections or subdivisions of conferences

+   Academic societies and sub-societies: For example, if you are seeking to find reviewers from different geographies, exploring the sites of the regional divisions of a society offers a pre-built categorization. These sub-societies are very helpful when considering diversity of people and viewpoints (see below).

+   Industry groups, professional networks, educational improvement groups, advocacy groups, and related organizations: In certain circumstances and when aiming for a specific type of reviewer or a specific expertise these non-academic groups may be very useful.

+   Student clubs or related organizations: Student clubs are often very subject or group oriented and can offer interested and qualified reviewers for certain tasks.

+   Reviewer lists from existing textbooks

+   Expert networks focused on specific knowledge or people, such as Women Also Know History, 500 Queers in Science, and so on

+   Listservs, discussion forums, and similar sites

Finally, certain OER and related education organizations may help you find reviewers.

Ensuring diversity and representation

Considering the different audiences, groups, and backgrounds who will use the work is a critical aspect of reviewer involvement. To properly address the needs of different students, the material should be reviewed by people familiar with their lived experiences. Many cases require specific outreach with a certain population or group in mind, though the targeting and outreach itself also requires sensitivity and avoids assumptions.

Involving reviewers from different races, ethnicities, genders, sexual orientations, ages, geographies, and types of schools is important. However, those categories are not all apparent through school directory services or related listings, and certain questions may be invasive. If you are having trouble diversifying your pool, consider seeking out specific organizations such as societies for faculty from a specific background. Consider that in certain disciplines, diversity of thought or viewpoint may be important.

Incorporating and amplifying the student voice is rewarding for them and highly informative for creators and producers.

Beyond typical reviewing, students can be incorporated into research-oriented projects measuring the success and support offered by a resource.

Ideas for involving students

+ Reach out to student clubs and organizations related to the discipline area and/or the purpose of the review. (Note that in some cases, those organizations' student leaders are not listed or kept current on their websites or the school directory, and the academic advisor may need to serve as a conduit.)

+ If the students are early in their academic career and may not have the subject-matter expertise required to support a content-oriented review, you can ask them questions about relevance, contexts, engagement, representation, and so on.

+ Teams of students can greatly support accuracy checking and solutions writing efforts.

+ Likewise, students can provide study tips, annotations, and related efforts for particular courses or overall strategies.

+ Students are effective in working through activities, materials, assessments, or related materials in order to gauge average time on task, validate stated difficulty or educational levels, inform the alignment and measurability of learning outcomes, and so on.

Administrative and logistical aspects of student involvement

+ Be conscious of the expertise required for the review. If the review is focused on relevance or usefulness, students with less experience or knowledge can provide feedback. If it requires some level of expertise, someone majoring in the discipline closer to graduation may be required.

+ Certain students may have limitations or guidelines regarding extraneous activities and/or payments or other compensation for such activities.

Crafting review questionnaires and frameworks

Reviews produce the best information when they are customized to the material creator's needs. Consider the specific type of material, the development stage of the material, the format of the review, the feedback that is most important, and the *realistic assumptions of time/commitment for the reviewers.*

This toolkit was designed with OER development and adaptation in mind, so we are focused on questionnaires and guidelines. Other formats such as rubrics and ratings templates are typically more useful for assessing or communicating about finalized materials. However, there are no limits to the means by which formats are mixed (an open-ended question can be followed by a rating question, and so on).

+   We consider a questionnaire to be a document, survey, or other instrument where reviewers are asked to consider aspects of the materials and provide their opinion.
+   We consider a review guideline to be a set of instructions, requests, or pointers prior to a reviewer working through the material as the reviewer produces comments, annotations, or corrections.

In all cases, certain characteristics create the most possibility for success:

1. Provide clear, unambiguous, and jargon-free questions or guidelines. In other words, the reviewer should not need to investigate an element of your question. For example, do not assume reviewers will recognize a module's critical thinking questions if those questions aren't labeled as such. If you are asking about Bloom's alignments or a set of state standards, provide a Bloom's framework or link to the standards. Words and abbreviations like andragogy, hegemonic, praxis, WCAG, SES, UDL, or any reference to a specific movement or program (e.g. "Vision and Change," "Retuning," etc.) should be defined or replaced unless you are very certain the reviewers know them. Have the respondent work at the answer more than they work at the question.

2. Provide one question or guideline at a time. Particularly important for questionnaires and survey-format reviews, be conscious of mixing too many topics within one response item, so that you are clear on which component the reviewer is commenting on.

3. Obtain a baseline understanding of the reviewer's teaching context and approach. While you might feel that the reviewer's profile information provides the necessary background, it's best to get as much information as possible — in their own words – to contextualize their feedback. Baseline information about their course audience, general course goals, types of resources they use, and role in the course and course materials decision-making process ensures that their perspective on the material matches the intended purpose.

4. Consider what is necessary for adoption and usage of the type of material, and craft questions regarding those characteristics:

   a. Course alignment

   b. Organization and sequencing

   c. Coverage and comprehensiveness

   d. Accuracy and currency

   e. Inclusiveness, equity, and representation

   f. Level of rigor and/or required prior preparation

   g. Enrichment and engagement

   h. Required additional resources, materials, or software

   i. Student support

   j. Instructor support

   k. Quality and quantity of illustrations, photos, diagrams, tables, and related items

   l. Quality and quantity of examples, world examples, "how to's," and modeling

   m. Quality and quantity of activities and assessments

   n. Format, design, functionality, platform capability

Choosing licensing

When you're choosing a license for your resource, there are two main factors to consider: 1. The licenses of any materials you pulled from, and 2. How you'd like other instructors to be able to use your resource.

Respecting the licenses of the resources you pulled from

If all the materials you used to create your resource were licensed C0, then there are no restrictions of any kind on your use, and you can choose any license you want. Similarly, if the materials you pulled from were licensed CCBY, you can choose any license — you just need to be sure you're providing attribution to the original authors in the manner they required.

If the resources you pulled from used an NC and/or SA license, there may be restrictions on the licenses you can choose for your own resource. For example, if you pulled from a CC-BY-NC-SA license, your resource must also have that "NC" — non-commercial use — clause.

Review our section on Creative Commons licensing for more information.

Deciding how other people can use your resource

How (if at all) do you want future users and adaptors to provide attribution? Do you want to restrict the commercial use of your materials? Do you want adaptations of your resource to be published with the same license as the original? Once you've decided on your preferences, you can choose the license that provides the best fit. Creative Commons has a license chooser tool that can help!

Review our section on Creative Commons licensing to see all the licensing options available.

Sharing resources

Sharing online

You have many different options for where to share your work – and you don't have to choose just one! Here are some places to consider sharing:

+   OERTX Repository (Texas only)
+   OER Commons
+   Wikimedia Commons
+   Canvas Commons
+   YouTube

OER course marking

Many institutions are adopting OER course marking systems that help students find courses that use free, openly licensed resources. Some institutions break out their course marking into "Zero cost" and "low cost" categories.

If your institution has OER course marking, make sure you designate your course as a low-cost or no cost course — it'll make it easier for students who are looking for affordable materials to find your course!

If your institution has not yet instituted OER course marking, they may be working on it. Consider getting in touch with your campus' OER liaison or librarian. In Texas, State Bill 810 requires that colleges and universities provide searchable information to students about OER-only courses.

For more information and guidance on course marking, take a look at Open and Affordable Courses: Best Practices and Case Studies, an open resource published by Mavs Open Press at the University of Texas at Arlington.

Talking to students

It's important to make sure that your students know where to find your resource and how to use it. Make sure to include the following information in your syllabus:

The link that students can use to access the resource
A reminder that the material is freely available, both during and after the course
What formats are available and/or recommended (i.e. does your resource work well on mobile devices? Are there printing options available?)

Don't forget — Open Education is a community!

Other educators, students, and librarians can help you build and improve upon your resource. Engage with the OER community through campus groups, local list hosts, regional conferences, or international gatherings like the Open Education Conference. You might find instructors who are working on similar materials that you can collaborate with, or colleagues who can review your materials. Speak to student advocates about what students are looking for in their course materials – they might be able to put you in touch with students studying in your subject area who can provide subject-specific feedback. Every resource you share with the community has the potential to impact thousands of students – the OER community appreciates you!

Thank you for everything you do for your students.