OER Handbook for Eastern North Carolina
OER Handbook for Eastern North Carolina

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J.Y. JOYNER LIBRARY, EAST CAROLINA UNIVERSITY GREENVILLE
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Introduction: What are OER

In any educational setting, we want students to have the best possible resources and information in their hands. Unfortunately, this is not always feasible due to funding, access, availability of materials, or other reasons. We hope this handbook can serve as a resource for faculty, teachers, librarians, and others who are interested in exploring free and customizable resources for students.

Open Educational Resources (OER) are materials that are free for users while also incorporating an open license that legally allows for adapting, remixing, or sharing (SPARC, n.d.). OER may include textbooks, videos, modules, activities, and other learning materials. To be defined as an OER, a work must meet the requirement of the five R's: Reuse, Revise, Remix, Redistribute, and Retain (Wiley, n.d).

Usage of OER has been growing over the last few years due to the increasing costs of higher education and, in particular, of textbooks. From 2006-2016, textbook costs have increased by 87% which was three times the rate of inflation during the same time period (Bureau of Labor Statistics, 2016). While cost is certainly a factor in moving towards free learning materials, it is not the only reason. Most textbooks are developed by publishers to be used for classes around the world. General textbooks may not fit well with the topics covered in class or represent local culture. OER allows educators to edit, remix, adapt, and share versions of materials that fit best with their classes (SPARC, n.d.). For example, a teacher may combine chapters from multiple open textbooks to create a new textbook that covers all the relevant topics for the class. This gives educators the opportunity to customize in a way unavailable with many commercial textbooks.

Quotable Quotes
From the vision statement of the Open Education Consortium (n.d.):
“We envision a world where everyone, everywhere has access to the high-quality education and training they desire; where education is seen as an essential, shared, and collaborative social good.”

**Did you know?**
Congress signed into law a 5 million dollar Open Textbook Grant program on March 23, 2018. This funding provides competitive grants for institutions to create free and affordable textbooks that have an open license to provide cost savings to students as well as improve instruction and learning outcomes (SPARC, 2018).

**Additional Resources**

ADA based lawsuits and resolutions for technology access issues in higher education
http://www.washington.edu/accessibility/requirements/accessibility-cases-and-settlement-agreements/

The intersection of accessibility and OER
http://openoregon.org/the-intersection-of-accessibility-and-open-educational-resources/

Textbook Initiative Resources: OER and ADA Compliance
https://libguides.sheridan.edu/c.php?g=651137&p=4572874

OER and Accessibility: Building a Community of Experts and a Collection of Exposure
http://oeraccess.merlot.org

**References**


Chapter One: Where to Find OER

There are numerous places that OER can be found, many of which are used every day by instructors, librarians, teachers, and researchers. Examples of OER include: C-K12, OpenStax, Pixabay, Flickr, Khan Academy, Curriki, and MIT OpenCourseware, to name a few. Simple searches on the internet can reveal various OER depending on materials sought. While there is not an all-encompassing list of where to find materials, many libguides from various library and universities have lists that are available to search. East Carolina University provides a libguide of internet sources that contain OER available as well.

OER are usually found with a Creative Commons or public domain license. Searching for materials under a Creative Commons License (CCL) is the most comprehensive of the ways to find OER that can be modified and used in course materials. CCL materials are becoming more common and it is likely that many have seen these materials without even realizing it. These materials can be searched for using various methods. For example, TED Talks are licensed under Creative Commons. YouTube now has CCL options instead of only a standard license, and even board games, such as ‘Cards Against Humanity’ are licensed under Creative Commons. There are a few different places where one can get help with finding CCL materials, but there should never be an assumption that all generated search results are automatically under Creative Commons. CCL provides a search tool on their website, creativecommons.org, that allows for the search of licensed materials in various places such as Flickr, Open Clipart, CCmixer, and Pixabay.

For example, a simple search on Pixaby for “Cape Fear River” will
provide images that are a CC0 licensed and are therefore available to use, modify, and share. In CC0 works, the creators have waived their copyright to the work in order to contribute to public domain materials (Creative Commons, n.d.). Both YouTube and Google have an advanced search for finding and identifying CCL materials, along with the Mason OER Metafinder that will search a plethora of open repositories. A search for “Emerald Isle Waves” with a CCL will provide various videos that can be reused and freely shared. Whereas a search within the Mason Metafinder for “Lumbee” will provide OER linked to open repositories that include photographs, papers, and videos. Again, it is crucial that each search result is checked for a Creative Commons License. Please refer to Chapter 3 for more information on CCL.

Just like any resources found during a search, they must be evaluated for accuracy and credibility. There are a rubrics designed to help researchers and educators to evaluate OER. However, they are not unlike the ones that would be used to verify the credibility of any other resource. One of the most common rubrics used to evaluate OER is the ACHIEVE rubric, synthesized from Eight Rubrics developed by Achieve (Achieve, 2011). Since the rubrics are under a CCL, the researcher can modify it specifically to meet their needs and can distribute it to others (as long as attribution is given). We have provided this rubric as part of this handbook in the Appendix.

**Quotable Quotes**

“For too long, our educational systems have operated with a fundamental disconnect between practices left over from the analog world, and the vast potential of technology and the Internet to support more affordable, effective teaching and learning. The movement for Open Education seeks to close this gap (SPARC, n.d.).”

**Did you know?**

New York has allocated 8M in funding for OER development and
implementation for the second year in a row in 2018. By the Spring of 2019 this initiative will cover over 260,000 students and will have a total savings of more than 28 million dollars (N.Y. Governor's Press Office, 2018).

**Additional OER Resources**

*Accessibility checkpoints and instruction guide*
http://support.skillscommons.org/home/contribute-manage/
prepare-materials/ada-requirements/

*ECU Open Educational Resources LibGuide*
http://libguides.ecu.edu/oer

*OER evaluation criteria*
https://libguides.cmich.edu/OER/evaluating

*OER Mythbusting*

*OER Evaluation Rubric*
https://docs.google.com/file/d/0B8htrN_MakT9SHJmUjc3TFVzaEk/edit?pli=1

**References**


OER can be integrated into classes as either a primary textbook or supplemental material. As noted earlier in the book, OER represent a wide range of materials, including videos, textbooks, and course assignments. Open Textbooks are exactly like traditional textbooks except that they offer free access to students. These textbooks may also include a CCL. An example of an open textbook is OpenStax’s Psychology book. This is an introductory psychology textbook aimed at undergraduate students. The text also includes some ancillary materials for instructors, like a test bank and PowerPoint slides. The textbook is licensed under a Creative Commons Attribution License which allows instructors to remix, share, transform, and copy as needed. In the current open education landscape, open textbooks are a growing commodity that is generating a lot of research and interest, especially in higher education.

In addition to open textbook options, primary sources are materials that may be considered OER. For example, Project Gutenberg houses thousands of books that fall within the public domain. Image-based primary sources can be discovered and used via the Creative Commons CC Search. Items that fall in the public domain or use CCL allow for certain uses. For more information on these licenses, please see Chapter 3.

The advantage of OER is that it allows instructors to truly mix resources and media to create a customized text or set of resources for their class. And, this is only the first step in open education. The next steps include incorporating more open pedagogy into classes. While open pedagogy is complex, one part of it includes creating assignments for students that build something rather than a
“disposable assignment” (Wiley, 2013). In “What is Open Pedagogy”, David Wiley (2013) provides the example of students creating tutorials for future classes as an example of open pedagogy in the classroom. Students learn the class material by creating the tutorials, these can be used in the future by other students. While open pedagogy is a logical next step in higher education, it will take faculty extra time to create this type of assignment.

**Quotable Quotes**

The Importance of Open

“One of the main motivations behind our involvement in the creation and distribution of OER is to ensure educational materials are accessible to all students. The rising cost of textbooks creates a substantial barrier to learning for many students, locally and in developing regions (BC Campus, n.d.).”

**Did you know?**

As of 2016, there are over 306 Millions Creative Commons licensed photographs available (Fact File, 2016). That number continues to rise.

**Additional OER Resources**

*R campus, OER Assessment Rubric*
https://www.rcampus.com/rubricshowc.cfm?code=L9WC6X&sp=yes

OER Evaluation Checklist
http://guides.library.illinois.edu/l/ld.php?content_id=9830689

*A Guide to Teaching with Open Educational Resources (OER)*
https://cer.jhu.edu/files/guide-to-open-education-resources.pdf

*Idaho Training Clearinghouse: OER*
https://idahotc.com/Topics/N-Z/Open-Educational-Resources#10769
References


There are plenty of resources that provide OER that can be modified for the specific needs of the user. Before beginning, there is a need to review what OER are in order for them not to be confused with other openly accessible materials. OER, “are teaching, learning and research materials in any medium 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.” (Creative Commons, 2018) Therefore OERs, to be identified as such, must follow the Five R’s of use: Retain, Reuse, Revise, Remix, and Redistribute (Wiley, n.d.).

The five R’s are important to remember whether creating, sharing or remixing OER. When creating an OER the user must consider:

1. What are your OER about?
2. Who is your audience?
3. Do relevant OER already exist to modify and support your topic?
4. What platform will be used for hosting and sharing your OER?
5. Is your OER ADA Accessible?
6. Does your OER follow the Five R’s?
7. Does your OER have a Creative Commons license?

Of course, with the use and introduction of OER there is always the question of how to protect created materials. While there is familiarity with some of the ways that intellectual works are protected (i.e. Copyright, Public Domain, Fair Use, Classroom Exemption, and the Teach Act), this handbook focuses on the CCL, a less familiar method.

Creative Commons is a license that is applied to something that
is already under copyright. Therefore, Creative Commons does not replace copyright, but instead gives the creator the ability to dictate how the materials can be used. The majority of created work is automatically copyrighted and copyright can place strong restrictions on those created materials. Creative Commons allows those materials to be used by others within parameters set by the creator without the user having to expend time or money in contacting the creator for specific copyright release information. Creative Commons also meets the copyright standards both in the US and internationally. It is in a legal code and format that lawyers have approved, but is also comprehensible to the general public. It is also machine readable and includes a summary of key freedoms and obligations that are written in a format that software, search engines, and other technology can understand and interpret.

There has been a rising trend of the use of Creative Commons with OER in recent years. Since the inception of Creative Commons in 2001, and its first license in 2002, there have been over 1.1 billion open licensed works created in over 34 different languages. There has been a rising trend in use and creation of Creative Commons Licensed materials, with these materials having been viewed over 136 billion times (Merkley, 2015).

Creative Commons is easy to read and understandable icon-based license. These icons can be combined in various ways depending upon the creator’s criteria for use of the work. Each icon defines how the work can be used. The first icon demands attribution of the work; the second dictates no commercial use; the third icon means that there should be no derivatives of the work; and the final icon is a Share-Alike Icon. This last icon means that any derivatives of the work must possess the same Creative Commons License of the original (Creative Commons, n.d.a).
Creative Commons Icons by Creative Commons is licensed under CC-BY 4.0.

These icons can also be translated into text as CC-BY, CC-NC, CC-ND and CC-SA. It is important to remember that these icons can be combined in various ways. Compared to Copyright (All Rights Reserved) and Public Domain (no rights reserved), Creative Commons (some rights reserved), allows for flexibility and the possibility of freely sharing work while having control over how it is used.

One of the most common questions about CCL concerns how to cite or to give attribution to a work that has an existing license. There are some suggested best practices in order to give proper attribution to any work. All works must give credit to the creator; must include the title of the work, and must be linked back to the original work if in electronic format (this can be hyperlinked). They must also indicate the type of license (and link the Creative Commons license if electronic), whether any other copyright notice is associated with the work, and must include any derivative of the work (Creative Commons, n.d.b). The APA citation guide has recommendations on how to include Creative Commons licensed materials and give attribution within a work. They recommend that a licensed work appears in three separate areas within a paper where the work is being included. The citation for APA should be included first, within the text; second, in conjunction with the work (IMAGE, FIGURE); and third, within the references (Lee, 2016).

For Example:
Original Photo citation:
“Pole Position” by David Kracht is licensed under CC-BY-NC 2.0.
The process of creating and obtaining a license for a work is a simple step-by-step process. This process can be done on the Creative Commons website and is found on the “Share your work” tab. The creator can then follow a step-by-step process and decide what parameters should be set for their created work based on their specific criteria. This will include the features of attribution, commercial use, derivatives, and share-alike specification options. A license will then be generated within Creative Commons and a link, as well as an embed code, will be provided for the newly created license.

It is important to reiterate that the CCL does not replace copyright and therefore non-compliance with the license does have legal consequences. Legal cases have involved Creative Commons materials in the past, although not involving Creative Commons as a litigant. One such case was Art Dragulis V. Kappa Map Group LLC (Creative Commons, 2017). Art Drauglis, a photographer, posted on Flickr in 2008, a photo, “Swain’s Lock” under a BY-SA 2.0 license. In 2012, Kappa Map published an atlas using Dragulis’s photo as the cover. Dragulis sued Kappa Maps in 2014, claiming that Kappa Maps was in violation of copyright. The courts ruled in favor of Kappa Maps, because the use of the map conformed to the Creative Commons License. Attribution was given to Dragulis for the work, and it was shared with the same license as the original. Essentially,
the courts stood behind and affirmed that the license was followed correctly and there was no infringement of copyright (Creative Commons, 2017).

In conclusion, CCL is a legally sound way of giving direct permissions to other users for the use of copyrighted materials. This is especially important for OER and their ability to be freely used, shared, and revised by others. Creative Commons materials are remix-ready, can assist with internal rights management, reduce license proliferation, offer integrity in licensing models, support a culture of sharing, and are an infrastructure for supporting materials.

**Quotable Quotes**

“Our vision is nothing less than realizing the full potential of the Internet – universal access to research and education, full participation in culture – to drive a new era of development, growth, and productivity” (Creative Commons, n.d.c).

**Did you know?**

A study conducted at Houston Community College proved that students who used open textbooks instead of traditional textbooks scored higher on final exams, had higher retention rates and had higher GPAs overall in their classes (Hilton and Laman, 2012).

**Additional OER Resources**

Open Access/MERLOT: Accessibility
https://www.affordablelearninggeorgia.org/open_resources/accessibility

Community College Daily: Shaping the Future of OER (interview)

ADA Compliance | Interactive Accessibility
http://www.interactiveaccessibility.com/services/ada-compliance

OER & Accessibility
Information and Technical Assistance on the Americans with Disabilities Act
https://www.ada.gov/

References
4. Chapter Four: ADA Accessibility

As with all materials used for education and information, it is important that OER be compliant with the American Disabilities Act (ADA). The ADA is a comprehensive civil rights law that was enacted to protect individuals with disabilities from discrimination (ADA, n.d.). Compliance with ADA is an area that can always be improved. Use of OER gives creators a unique opportunity to create materials that are ADA compliant upon creation.

At the time of this publication, there are no precise set of rules and guidelines for web accessibility. Upon its creation in 1990, the ADA required that public businesses remove all access barriers that would prevent any patron from using those businesses or services. At that time, the internet was still in its early years, and the ADA did not include information on the use of the internet. However, it was announced in 2010 that the Department of Justice (DOJ) planned to update Title III of the ADA act to include website accessibility (Department of Justice, 2010). The DOJ planned to “establish requirements for making the goods, services, facilities, privileges, accommodations, or advantages offered by public accommodations via the Internet . . . accessible to individuals with disabilities.” (Federal Register, 2015).

A ruling on how websites should handle accessibility, along with guidelines, was expected to be released in 2018. However, in December 2017 the DOJ withdrew the rulemaking notice for websites to be in ADA compliance (Federal Register, 2017). Additionally, in February of 2018, Congress passed the ADA Education and Reform Act, that made it more difficult for differently-abled people to sue businesses for accessibility discrimination (Ballesteros, 2018).
Therefore, there is still a need for best practices in the development of OER to make them more accessible to everyone. The World Wide Web Consortium’s (W3C) Web Content Accessibility Guidelines (WCAG 2.0 AA) can be used as a best practice guideline for providing ADA compliance. WCAG has 12 guidelines under four categories that are testable for materials on the internet to evaluate if they are accessible. They provide an exhaustive list of ways to provide accessibility, including text captioning for all photos and machine-readable text (World Wide Web Consortium, 2018).

There are other programs that can be used on a more rudimentary level to check for accessibility, including Microsoft Word, dynomapper.com, AI1Y Compliance Platform, Accessibility Viewer, and more. In the spirit of sharing and education, as well as OER, it is important for users and creators to provide accessibility to those who have a need.

**Quotable Quotes**

“Creative Commons helps you legally share your knowledge and creativity to build a more equitable, accessible, and innovative world. We unlock the full potential of the internet to drive a new era of development, growth, and productivity (Creative Commons, n.d.).

**Did you know?**

Digital OERs can be personalized for different learning experiences. This allows students to learn at their own pace, but also allows for instant access to information. OER can be downloaded and modified by the instructor for different teaching and learning purposes and goals (Pinto, 2015).

**Additional OER Resources**

OER website ADA compliance checklist
https://webaim.org/standards/508/checklist
Site for creating ADA compliant math tools

Resource for creating accessible OERs
http://udloncampus.cast.org/page/medmedi_oe_oer_creating#.W03qcNJKiUm

Creating accessible digital content
https://oer.galileo.usg.edu/accessibility.html

OER flowchart

References


5. Chapter Five: Common Myths

While it would be impossible to cover all the various myths pertaining to the development and usage of OER, it is important to address some of the most common.

1. Myth: OER are not really free
OER are considered free materials because they can be freely shared and modified under a free license like Creative Commons. They are free for the end user. However, it must be noted that the development of any educational material is not entirely free to the creator. There is the cost of creation, adoption, and distribution to take into consideration, as well as the time value of those that modify those materials to keep them up to date. OER created under the CCL can lower the “cost” of educational materials through open licensing, a reduction in the cost of updating (because they can be modified by anyone), and distribution (cheaper print production and use of online open publishing (Snoek-Brown, 2017).

2. Myth: OER are hard to Find
In this handbook we have provided various suggestions on where to look for OER. As they become more mainstream, these materials will become even easier to find. There are various repositories that provide access to OER. There exist search engines which allow users to undertake subject-specific OER searches. A key benefit of OER is that if materials cannot be found, an OER can be created and developed so that the creator and others can benefit from them(Snoek-Brown, 2017).

3. Myth: OERs mean only digital materials.
Educators have expressed that their students want hard copy of materials such as worksheets or physical textbooks. OERs can easily
be printed and used, based on their License. While it is true that most OERs start off digitally, this is only because it makes materials easier to develop and create. There is no rule that demands that OER only digital. Therefore, OER can be used in print as well (Kalshoven, 2014).

4. Myth: OER means giving away your intellectual property rights

Under a traditional model, a work is created and entered into a contract of copyright. If considering this on a formal level, when an author signs a copyright agreement, they are often agreeing to transfer copyright as defined by the specific contract agreement. In essence, they may be waiving their rights to their intellectual property. A Creative Commons License is a different type of contract that is applied to OER. Publishing under Creative Commons allows authors to grant permission to others to use their work based on specific criteria. This allows others to use the work but authors are still in charge of their intellectual property. Of course, this is assisted by the legally sound language of the Creative Commons License (Snoek-Brown, 2017).

5. Myth: OER lead to using unverified, low-quality materials by teachers and students

Assuring the quality of materials is the same whether they are OER or traditional materials. Materials are higher in quality when reviewed by institutions and experts and are lower when only discovered on the web without verification. Like any resources, teachers should critically evaluate the OER to ensure it is accurate and aligns with their course. More and more textbooks are being reviewed by experts in the field, and OERs are becoming higher in quality as they become more mainstream (Snoek-Brown, 2017).

**Quotable Quotes**

“The Every Student Succeeds Act highlights “openly licensed content” in its definition of digital learning. These resources can enhance and strengthen students educational experiences. This law
allows states to use grants provided by Title IX to support projects that make materials widely available through the use and development of Open Educational Resources (Sparks, 2017).

**Did you know?**
A study conducted at the University of Georgia found that classes using OER had lower DFW rates, especially for students who are pell-eligible and part-time students (Colvard, Watson, and Park, 2018).

**Additional OER Resources**
- OER Research Toolkit – Open Education Group  
  http://openedgroup.org/toolkit
- Open Educational Resources (OER)- A Toolkit for Teachers, Curriculum and eLearning Developers  
- Faculty OER Toolkit  
  https://pressbooks.bccampus.ca/facultyoertoolkit/
- OER Student Toolkit  
  https://opentextbc.ca/studenttoolkit/

**References**
Appendix

Open Education Resources Evaluation Rubric
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<th>Categories of Criteria</th>
<th>3 – Superior</th>
<th>2 – Limited</th>
<th>1 – Weak/NA</th>
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<tr>
<td>Alignment to Course Objectives</td>
<td>Course objective fully aligned and addressed comprehensively.</td>
<td>Course objective partially aligned and addressed.</td>
<td>Course objective neither aligned nor addressed.</td>
</tr>
</tbody>
</table>

**Explanation of the Subject Matter**

**Is the**

- **Content valid and appropriately current?**
  - Content is valid, appropriately current, understandable by target audience, authoritative, and appropriate. Content presents main ideas clearly and connects to associated concepts.
- **Content understandable by target audience?**
  - Content is partially valid, less than appropriately current, garners less than complete understanding by target audience, is incomplete in elements of authority and appropriateness. Content presents most main ideas clearly and connects to some associated concepts.
- **Content authoritative and appropriate (age level, language, visuals, cultural sensitivity)?**
  - Content is invalid, outdated, not understandable by target audience, deficient in authority and appropriateness. Content neither presents main ideas clearly nor connects associated concepts.

**Does the**

- **Content present main ideas clearly?**
- **Content connect associated concepts?**
Utility for Instruction

- Are instructions for use provided?
- Do the components of the OER function as intended?
- Does functionality require specific software or hardware?
- Is the OER licensed for open use? (CC license for reuse, remix, revise, redistribution)
- Is content adaptable or revisable?
- Is metadata available?

Comprehensive instructions are provided; components function as intended; functionality does not require additional software or hardware; OER is licensed for open use; content is adaptable and revisable; and, metadata is available.

Instructions are incomplete; some components do not function as intended; some functionality does require additional software or hardware; OER license is partially open; content is not easily adaptable and/or revisable; and, metadata is incomplete.

Instructions are not provided; components do not function as intended; functionality requires additional software or hardware; OER is not licensed for open use; content is not adaptable and/or revisable; and, metadata is not available.

Instructions are not provided; components do not function as intended; functionality requires additional software or hardware; OER is not licensed for open use; content is not adaptable and/or revisable; and, metadata is not available.
Quality of Assessment

- Is assessment aligned to the content?
- Does the assessment measure and appropriately weight the major concepts of the content?
- Does the structure of the assessment support an accurate measurement of proficiency?

Assessment is aligned to the content; measures and appropriately weights the major concepts of the content; and, the assessment structure supports an accurate measurement of student proficiency.

Assessment is moderately aligned to the content; inconsistently measures and weights the major concepts of the content; and, the assessment structure compromises an accurate measurement of student proficiency.

Assessment is misaligned to the content; does not measure or appropriately weight the major concepts of the content; and, the assessment structure does not support an accurate measurement of student proficiency.

Open Educational Resources Evaluation Rubric by Rodney Birch of George Fox University CC BY 3.0

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