

An Introduction to OER

October 8, 2017

The term "Open Educational Resources" or OER describe educational materials that include but are not limited to textbooks, videos, quizzes, articles, and websites that provide others the permission to exercise the "five Rs" of the Open Content Definition put forth by David Wiley. The five Rs themselves are ways in which OER can be used that separate them from traditional educational resources. The most trivial argument to be made in favor of OER is that they are free of cost. -freely accessible to everyone; all students and instructors regardless of geography. Retain - the right to make, own, and control copies of the content (e.g., download, duplicate, store, and manage) Reuse - the right to use the content in a wide range of ways (e.g., in a class, in a study group, on a website, in a video) Revise - the right to adapt, adjust, modify, or alter the content itself (e.g., translate the content into another language) Remix - the right to combine the original or revised content with other material to create something new (e.g., incorporate the content into a mashup) Redistribute - the right to share copies of the original content, your revisions, or your remixes with others (e.g., give a copy of the content to a friend) The five Rs grant users permissions, but the benefits of OER aside from the absence of price, are entirely dependent upon the ability of a user to exercise those permissions. That is to say, the permission to exercise the five Rs is meaningless, unless a user possesses the ability to exercise those permissions. In short, "Poor Technical Choices Make Open Content Less Open." This point is detailed in the Open Content Definition. Humorous examples of this point were recently collected when proposed the following in a Tweet.

Giving someone the "ingredients for a cake" in the form of banana bread.

— [David Wiley \(@opencontent\)](#)

PDFs are notoriously difficult to modify, yet they are (anecdotally) the most common format in which OER are distributed which as I see it is not true to all of the five Rs. Some who replied to Wiley's Tweet likened it to providing someone cake ingredients in the form of a baked cake and putting a "we're open" sign on a locked door.

The OER community is working on ways to ensure that OER adhere to both facets of the Open Content Definition, permission and ability, but comprehensive answers to these questions have yet to be hammered out. For now, all that can be urged is that authors of OER share the source files of the resources they create, raw text, raw video, LaTeX files, .DOCX files, etc. in addition to the files in the form they are meant to be consumed in. OER distributed only as PDFs thought they might be difficult to edit, at least they are free of traditional copyright restrictions usually in the form of Creative Commons licenses which provide users the permission to exercise the five Rs which is far more than traditional educational resources allow.

Open Content Definition:

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Successful OER Model

October 22, 2017

As we read about in this week's readings and as many have reiterated in the discussion, one of the most difficult things to overcome when implementing OER initiatives is awareness of what OER are and instilling the confidence in instructors and departments that OER is a viable, sustainable, model with longevity.

During the outset of an OER initiative I think that it is important to target instructors who might have been using OER (they might not be calling it OER) before the initiative was put in place. These are low-hanging-fruit. They might be rogue in that this individual "OER" pursuit does not have the explicit support of their department or college, therefore any support or encouragement at all from libraries or otherwise will likely go a long way towards their continued use of OER. Because these adopters will be distributed widely across campus, there will likely be no coherency across their efforts and supporting them will be difficult at scale. This early stage may last two, maybe three, years but following that a more concerted effort will be necessary to deploy OER at scale.

During the next phase of OER adoption broader support might be necessary. That is, OER champions might need to target departments in addition to individual faculty. Using the rogue adoptions as examples of the possible, departments might see how their support could yield change within them. At this stage it is conceivable that departments' contributions, if any, will be monetary. It might be that they can supplement or match capital incentives provided by the OER championing body. It might also be the case that they agree to fund the position of a graduate student or staff person to help individuals in their department adopt OER in lieu of direct salary supplements. This will hopefully spur a more concerted effort still within departments significantly increasing adoption numbers over the course of a few years.

If successful, it could be that departments would be willing to support OER champions even more than before having seen results of their early influence. If they are OER champions could begin focusing efforts on large-scale adoptions. A large-scale OER adoption would be on the order of replacing the textbook of a course with multiple sections and multiple instructors, perhaps more than ten, with OER. Of course care to preserve academic freedom on the part of the instructors should be at the forefront of this effort -perhaps not easily done. As we discussed in the first week of the course, one of the benefits of utilizing OER is the preservation of academic freedom. (OEToolkit) Convincing instructors of this is will likely be a challenge, but providing them with the understanding, tools, and staff support to realize those modifications is paramount. It could be that all of the instructors in the cohort only need to agree on a resource that will be the basis of what is used in their course, OpenStax Calculus, for example. They could all use it in any way they like, supplementing or detracting from it as necessary as long as their choices are costless. Adoptions such as this will have the most impact and with time and will become noteworthy on campus.

This is a dream scenario. This scenario would require the luxury of significant funding from university administrators perhaps even regents. It would also require the cooperation of instructional designers, college deans, and staff to be successful. That is not to mention that it will not happen over night. Implementing a model such as this would take several years and at least one full-time staff to coordinate the entire effort.

OEToolkit Draft 0.7. (n.d.). Retrieved October 22, 2017, from https://docs.google.com/document/d/1iqaDI04UO9NoAmK9kCtJLVBopgB_68uoRt6R0FMDKIM/edit#heading=h.3whwv
Chapter 3, "Open education supports true academic freedom"

OER Skepticism

October 28, 2018

What follows are two questions from and two potential responses to someone who is skeptical about adopting and open educational resource.

Anyone could have posted that information online.

This question surprises me. I understand it as a reflex, but not as an argument that anyone would defend. It's true that OER can be written and published by anyone; however, it is also true that faculty members are experts in their domains and are ultimately responsible for ensuring that the information presented to their students is appropriate and factual. Regardless of an author's academic status or lack thereof their work has the potential to be useful; however, that's up to individual instructors to decide. Adopting OER requires effort on the part of instructors as it would if they were adopting a traditional textbook -perhaps more in order to tailor the OER to their class or make it more thorough. In exchange for their effort, students taking that class forevermore will not have to purchase materials.

OER aren't peer reviewed like most textbooks.

That's not entirely true. OpenStax textbooks are written by a host of experts much like traditional textbooks and do go through a peer review process. Furthermore over half of the textbooks in the Open Textbook Library, a repository of open textbooks, have undergone peer review (FAQ, 2017). To be included in the Open Textbook Library, books must be "in use at multiple higher educational institutions, or affiliated with a higher education institution, scholarly society, or professional organization." (criteria, 2017) If you are willing to contribute a review of a text in the Open Textbook Library, they have been known to provide stipends in exchange for that effort during workshops and would likely accept a review written by a faculty member at a higher education institution.

Open Textbook Library FAQ. (n.d.). Retrieved October 28, 2017, from <https://open.umn.edu/opentextbooks/FAQ.aspx>

What about the quality of open textbooks?

Open Textbook Library Submit an Open Textbook. (n.d.). Retrieved October 28, 2017, from <https://open.umn.edu/opentextbooks/Submit.aspx>

Open Content Definition: "Permission to" is not "Ability to"

November 5, 2017

Traditional educational resources differ from open educational resources in that open educational resources *can* and *may* be used in ways that traditional resources cannot. This might seem like a trivial point to make, but too often I feel as though part of this discussion is neglected. David Wiley laid out in the Open Content Definition the attributes that a work must possess in order to be considered "open". (Wiley) These attributes can be separated into two categories; permission to, and ability to exercise activities prohibited by traditional educational resources.

Permission to

The permission portion of the open content definition is made up of rights that everyone has regarding an open work. Those rights are commonly referred to as The 5Rs and they are as follows:

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

These points are general descriptions of permissions specifically and legally described, in whole or in part, by combinations of the Creative Commons licenses and other open content licenses such as the GNU Free Documentation License. They are of utmost importance to the premise of open content, but they can be undercut if the ability to exercise them is not carefully considered.

Ability to

The permission to and ability to exercise the 5R activities are mutually dependent. That is, ability and permission are of equal importance with regard to the 5Rs activities. Without the ability to exercise them, the utility of permission to can be significantly or completely diminished. In order to be true to the permissions granted by an open content license, one must be able to affirmatively answer the following questions:

1. Access to Editing Tools: *Is the open content published in a format that can only be revised or remixed using tools that are extremely expensive or exotic?*
2. Level of Expertise Required: *Is the open content published in a format that requires a significant amount of technical expertise to revise or remix?*
3. Meaningfully Editable: *Is the open content published in a manner that makes it essentially impossible to revise or remix?*
4. Self-Sourced: *Is the format preferred for consuming the open content the same format preferred for revising or remixing the open content?*

These questions rarely receive the same amount of attention as the 5Rs despite the two being dependent upon one another.

Advice

My advice to anyone interested in creating open content is to first pick an open license keeping in mind that where a work falls on the open continuum completely depends on the permissions allowed by that license and the technical choices made in effort to be true to that license. An open spectrum that takes both permission and ability to exercise the 5Rs might take the form of the following where "source files available" corresponds to a spectrum of its own in which source files themselves can be thought of as being more or less open depending on how many of the ALMS Framework criteria they meet.

From most to least open:

CC 0, Source files available
 CC 0
 CC BY, Source files available
 CC BY
 CC BY-SA, Source files available
 CC BY-SA
 CC BY-NC, Source files available
 CC BY-NC
 CC BY-NC-SA, Source files available

CC BY-NC-SA
CC BY-ND
CC BY-NC-ND

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Wiley, David. "Defining the "Open" in Open Content and Open Educational Resources." Opencontent.org, <http://opencontent.org/definition/>.

Considerations for Creating OER

November 13, 2017

Before creating OER, first consider a few things. The specifics of open licenses vary but in general all OER are created in the spirit of reuse. As such, users of OER must be afforded two things in order to make full use of them. -they need the ability and the permission to exercise the 5 Rs. First, the 5 Rs themselves:

1. Retain **-the right to** make, own, and control . . .
2. Reuse **-the right to** use content . . .
3. Revise **-the right to** adapt, adjust, modify, or alter . . .
4. Remix **-the right to** . . . make something new
5. Redistribute **-the right to** share copies . . .

of OER.

These points are addressed by the license applied to a work. The license should be of the "open" variety, Creative Commons licenses, and others such as the GNU Free Documentation License address the 5 Rs. Though these are common and practical, neither of these examples are as open as no license at all -putting your work in the Public Domain. Once applied and made of use, a license is immutable. As such, choosing one should be done in an informed and careful way. Be careful though to not let choosing or understanding open licenses become paralyzing or a hindrance to your OER efforts. Someone in your university's library should be able to help you choose a license should you need it. If not, the open community is a welcoming one and I'm sure would gleefully answer any questions that might come up.

Equally important as the license you apply to a work is users' ability to exercise the rights given by an open license. To address the ability contingency, consider the [ALMS Framework](#). (Wiley) The basis of which is that "Poor technical choices make open content less open." The ALMS framework can be distilled into a few questions:

- **A.** Is the open content published in a format that can only be revised or remixed using tools that are extremely expensive or exotic?
- **L.** Is the open content published in a format that requires a significant amount of technical expertise to revise or remix?
- **M.** Is the open content published in a manner that makes it essentially impossible to revise or remix?
- **S.** Is the format preferred for consuming the open content the same format preferred for revising or remixing it?

In general, affirmative answers to these questions are necessary if OER is to be true to the tenets claimed by the open education community. Specifically, open content should be separated from styling. This is a personal

soapbox, but one I feel is essential to the long-term success of the open education movement. Styling is platform-dependent and should be applied to each consumable format the content is distributed in. The content itself should have no styling. This allows the content to be portable and malleable so that it can easily be made to fit into a number of platforms and formats. Leave styling to someone informed and versed in addressing issues of accessibility.

Creating OER in this way also allows authors to focus on their area of expertise without the distraction of styling. My personal recommendation is that authors write OER in plain text using a text editor. This might feel uncomfortable at first but I contend that it removes the worry about how a work appears allowing an author to focus on content. Also important to OER authorship is structuring documents well. Spend a few minutes at the outset and draw up an outline that will serve as a guide for the duration of the project.

H1 headings will only be used for chapter titles.

H2 headings will be used for section titles

All images will have captions and alternative text that is descriptive of the contents of the images

Tables that wrap beyond the length of a printed page or height of a screen (independent of device) should be included in an index instead of inline.

etc.

A small amount of planning at the outset of an OER project has the potential to maximize the accessibility, portability, usability, and openness of your work.

Open Pedagogy

November 19, 2017

In his blog post, What is Open Pedagogy, David Wiley claims that "there are much bigger victories to be won with openness" than cost savings alone. He goes on to compare using OER as a direct replacement for traditional textbooks to driving an airplane as one would a car. (Wiley) His point is that open educational resources enable a type of pedagogy prohibited by traditional textbooks and their accompanying teaching techniques. Related to cost savings is the digital nature of OER and that they can be distributed without the overhead costs associated with printing and shipping physical resources. Open educational resources have the potential to reach students, hobbyists, even professionals who might not be affiliated with an academic institution. These and those to follow are considerations to be made in the process of adopting open educational resources. OER enables innovative pedagogy beyond cost savings.

Open pedagogy gives students the opportunity to demonstrate learning in ways that contribute to the intellectual commons and in ways that have the potential to serve them in the future. Examples of open pedagogy might take the form of contributing to Wikipedia, creating an anthology and writing textbook chapters. Lab exercises might be opened up by asking students to keep electronic notes and hosting them on the web such that they might be returned to in the future or by others for reference. For classes that are taught time and time again, instructors might need to remain creative such that students do not duplicate the work done by those who have come before them. The point is that assignments should not be disposable or exercises for the sake of exercise.

Students are capable, budding professionals and as such they should be given assignments they are proud to have seen by others. Giving students meaningful assignments that are showcased in platforms that make students' work potentially visible to future employers, graduate school admissions officers and others gives meaning to a students' work and might encourage them to take seriously what they otherwise might have viewed as "going through the motions."

Wiley, David. "Open Pedagogy." Opencontent.org, 19 Nov. 2017, <http://opencontent.org/blog/archives/2975>.

Sustaining an OER Initiative

December 3, 2017

The OER initiative of OU Libraries is entering its fifth year and up to this point it has only awarded individual instructors for adopting OER. One thing that we have realized is that these instructors do not teach the classes they received awards for every time those courses are offered. This is problematic given that the goal of the Libraries' initiative is to save students money. In order to maximize the award amounts offered by the Libraries it is important to us that the resources adopted as part of our program are used as frequently as possible. The project I have proposed as part of the SPARC Leadership Program is to attempt to convince the Mathematics department at my campus to switch from costly resources to OER to be used in the Calculus sequence. It would seem as if the textbook used in the Calculus sequence is decided at the department level. This is the type of structure that makes most sense to encourage the use of OER in given that each instructor does not decide for themselves which textbook to use. This is not to say that instructors do not have academic freedom as it pertains to the resources they use in their courses. Though the resources that are used across multiple sections will be common and decided on at the department level, each instructor can make the changes they wish to it.

Also, up to this point we have partnered with the College of Business and the College of Arts and Sciences to provide awards to instructors in their departments in addition to the awards provided to them by OU Libraries. So far, relationships with these departments have had to be updated each grant cycle and details of the partnership have been renegotiated just as frequently. -not sustainable. Something I would like to see happen regarding the sustainability of the OER efforts on my campus is the transition of funds primarily being awarded by the Libraries to primarily being provided by academic departments until OER has become the norm and is built into the responsibilities of all instructors. -ultimate sustainability. To begin working on these long term relationships we have considered asking for matching funds in the award letters sent to the deans of all the colleges whose instructors are receiving awards from the Libraries. After a year or two of this, one could hope that the colleges will see the value in taking on responsibility for awarding the OER-related efforts of their faculty without monetary awards from the Libraries.

Capstone Project Proposal

December 11, 2017

As my capstone project in the SPARC Leadership Program I will pursue the conversion of a class that spans multiple sections, taught by several instructors from assigning a costly resource to using OER. I understand that textbooks used in this type of class are picked not by individual instructors rather by a decision-making entity like a department chair or a committee. Through an iterative, systematic approach I hope to convince this entity to switch from using costly traditional resources to OER for use in classes taking place in 2019. Relationship building and needs assessments will be performed in the first half of 2018. Maintaining those relationships, the

remainder of 2018 will consist of work done to modify or supplement an existing resource to fit the needs of the body of instructors who will be using it.

It is worth mentioning that I do plan on targeting Calculus classes. At this stage I have Calculus in mind because of the existing relationship the OER team of which I am a part has with the Mathematics department on my campus. Among other projects, the OER team at OU has already been involved in implementing OER adoptions in Pre-Calculus, Trigonometry, Abstract Algebra, and Number Theory courses. Our mini-grant program has also awarded a grant to a Mathematics professor who is contributing code to WebWork, an open source online grading platform, in an effort to improve its functionality and stability. In addition to this, the College of Arts and Science which the Mathematics department belongs to, has partnered with our program to match mini-grants awarded to instructors in that college for the previous two grant cycles. I say all of this in an attempt to make clear that our program has an existing relationship with the Mathematics Department -something that I hope will put the success of an ambitious project within reach.

I can't be certain that these tasks will be necessary or helpful to my efforts; however, they are what I imagine right now will be necessary in order to be successful in this project. Before approaching the Mathematics Department I want to have carefully compared the content of popular traditional Calculus textbooks to the popular OER options. My feeling is that if it can be proved that there are negligible differences between them, that this would be a primary reason for switching to an equivalent, free resource. To begin this work I already have a call scheduled with Nicole Finkbeiner of OpenStax to discuss how the framework of their Calculus book was created. How closely was it modeled after competing traditional texts? Was a survey conducted of existing books to inform what would become the OpenStax Calculus text? Her responses will inform how I proceed in approaching the Mathematics Department.

To address budgetary concerns, I do not intend for this project to cost anything above my time and effort. It is worth mentioning that my administration has already expressed willingness to pay for a faculty member or two to attend the OpenStax Creator Fest taking place next April. We have considered that it might be useful if we are able to send some of the stakeholders of this project. In doing this, my hope is that they will become immersed in the OER community and therefore likely to adopt resources that they put effort into at that event.

Whether or not the Mathematics Department decides to switch to OER, the success metric for this project, my efforts will be thoroughly documented so that others attempting similar projects might benefit from this approach. This documentation will be specific to my project; however, my hope is that it can be generalized and adapted to any course therefore maximizing its utility to the OER community.