Frequently Asked Questions for OER/Open Education

The following is an extensive FAQ on OER/Open Education.

Q: What are Open Educational Resources?

We utilize the SPARC definition: "Open Educational Resources (OER) are teaching, learning, and research resources that are free of cost and access barriers, and which also carry legal permission for open use. Generally, this permission is granted through an open license (for example, Creative Commons licenses) which allows anyone to freely use, adapt and share the resource—anytime, anywhere."

Other OER Definitions:

- OER Commons: “Open Educational Resources are teaching and learning materials that you may freely use and reuse, without charge. OER often have a Creative Commons or GNU license that state specifically how the material may be used, reused, adapted, and shared.”
- The Cape Town Open Education Declaration: “Open educational resources should be freely shared through open licenses which facilitate use, revision, translation, improvement and sharing by anyone. Resources should be published in formats that facilitate both use and editing, and that accommodate a diversity of technical platforms. Whenever possible, they should also be available in formats that are accessible to people with disabilities and people who do not yet have access to the Internet.”
- UNESCO: "Open Educational Resources (OER) are any type of educational materials that are in the public domain or introduced with an open license. The nature of these open materials means that anyone can legally and freely copy, use, adapt and re-share them. OER range from textbooks to curricula, syllabi, lecture notes, assignments, tests, projects, audio, video and animation."
- William and Flora Hewlett Foundation: "Open Educational Resources are teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and repurposing by others. OER include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge."

Q: How do you tell if a free resource is “open”?

The key distinguishing characteristic of OER is its intellectual property license and the freedoms the license grants to others to share and adapt it. These freedoms include:

1. Retain – the right to make, own, and control copies of the content (e.g., download, duplicate, store, and manage)

2. 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)
3. Revise – the right to adapt, adjust, modify, or alter the content itself (e.g., translate the content into another language)
4. 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)
5. 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)

If a lesson plan or activity is not clearly tagged or marked as being in the public domain or having an open license, it is not OER. The most common way to release materials as OER is through Creative Commons copyright licenses, which are standardized, free-to-use open licenses that have already been used on more than 1 billion copyrighted works.

Creative Commons licenses are customizable copyright licenses that work alongside copyright law to give explicit permission for users to reuse items under specific circumstances. Applying a Creative Commons license to your work changes the familiar "All rights reserved" to "Some rights reserved," with explicit rules about what can and cannot be done with the item.

Q: What is the difference between OER and other free online resources?

All OER are free to access, but not all free resources are OER. What makes OER different is their copyright licenses. Free-but-not-open resources cannot be edited without obtaining permission from the copyright holder.

Q: Can OER be high quality if it is free?

Studies at both the K-12 and higher education levels show that students who use OER do as well, and often better, than their peers using traditional resources. Also, many OER are developed through rigorous peer review and production processes that mirror traditional materials. However, it is important to note that being open or closed does not inherently affect the quality of a resource. Being open does enable educators to use the resource more effectively, which can lead to better outcomes. For example, OER can be updated, tailored and improved locally to fit the needs of students, and it also eliminates cost as a barrier for students to access their materials.

Q: Who will guarantee the quality of OER?

This question is possibly reflective of a deeply entrenched notion of educational materials as being ‘publications’, the quality of which is controlled by educational publishers. This notion has been – and remains – valid but reflects a partial understanding of the scope and diversity of educational materials used in many teaching and learning contexts. It also reflects a false delegation of responsibility for quality to a third party. This mindset shifts into the OER space in the form of an unstated assumption that one or more dedicated agencies should take full responsibility for assuring that OER shared in repositories online are of a high quality. In addition to this being practically impossible, it masks the reality that the definition of quality is subjective and contextually dependent.

In the final analysis, responsibility for assuring the quality of OER used in teaching and learning environments will reside with the institution, programme/course coordinators, and individual educators responsible for delivery of education. As they have always done when prescribing textbooks, choosing a video to screen, or using someone else's lesson plan, these agents are the ones who retain final responsibility for choosing which materials – open and/or proprietary – to use. Thus, the 'quality of OER' will depend on which resources they choose to use, how they choose to adapt them to make them contextually relevant, and how they integrate them into teaching and learning activities of different kinds.

This task of assuring quality has been complicated by the explosion of available content (both open and proprietary). This is both a blessing, as it reduces the likelihood of needing to develop new content, and a curse, as it demands higher level skills in information searching, selection, adaptation, and evaluation. As institutions share more educational content online, they will want to ensure that this content reflects well on the institution and may thus invest in improving its quality before making it available in repositories. In the OER environment, quality assurance will thus be assisted by the development of such repositories, which will provide at least first levels of quality assurance.

But these investments on the part of institutions will simply serve, over time, to create more opportunities for finding good materials to use. The primary responsibility for finding the right materials to use, and for using them to support effective education, still resides with the institutions and educators offering the education.

Q: How can education benefit by harnessing OER?

The most important reason for harnessing OER is that openly licensed educational materials have tremendous potential to contribute to improving the quality and effectiveness of education. The challenges of growing access, combined with the ongoing rollout of ICT infrastructure into educational institutions, indicates that it is becoming increasingly important for them to support, in a planned and deliberate manner, the development and improvement of curricula, ongoing programme and course design, planning of contact sessions with students, development of quality teaching and learning materials, and design of effective assessment – activities all aimed at improving the teaching and learning environment while managing the cost of this through increased use of resource-based learning.

Given this, the transformative educational potential of OER revolves around three linked possibilities:

The transformative educational potential of OER revolves around three linked possibilities:

- The principle of allowing adaptation of materials provides one mechanism amongst many for constructing roles for students as active participants in educational processes, who learn best by doing and creating, not by passively reading and absorbing. Content licenses that encourage activity and creation by students through re-use and adaptation of

that content can make a significant contribution to creating more effective learning environments.
- OER has potential to build capacity by providing institutions and educators access, at low or no cost, to the means of production to develop their competence in producing educational materials and carrying out the necessary instructional design to integrate such materials into high quality programmes of learning.

Deliberate openness thus acknowledges that:

- Investment in designing effective educational environments is critically important to good education.
- A key to productive systems is to build on common intellectual capital, rather than duplicating similar efforts.
- All things being equal, collaboration will improve quality.
- As education is a contextualized practice, it is important to make it easy to adapt materials imported from different settings where this is required, and this should be encouraged rather than restricted.

Q: Is OER really free?

The issue of freedom and its definition has been widely debated since the advent of open licenses, possibly most significantly in the Free and Open Source Software environment. Open Source and Free Software definitions specify four types of freedom:

- The freedom to run the programme, for any purpose (freedom 0).
- The freedom to study how the programme works, and adapt it to your needs (freedom 1).
- The freedom to redistribute copies so you can help your neighbour (freedom 2).
- The freedom to improve the programme, and release your improvements to the public, so that the whole community benefits (freedom 3).

Similar considerations apply when considering licenses for OER. However, there is another specific dimension of OER 'freedom' that warrants explicit discussion, and that is the notion of cost. Many proponents of OER advocate that a key benefit of open content is that it is 'free' (i.e. it does not cost anything to download – leaving aside costs of bandwidth, of course – and use). This is literally true: by definition, open content can be shared with others without asking permission and without paying license fees. However, simplistic assertions that OER is free – and by extension that use of OER will cut costs of educational delivery – mask some important cost considerations.

Educational institutions that are serious about teaching and learning will need to ensure that their spending on personnel and other related expenses reflects a sustained effort to invest in creating more effective teaching and learning environments for their students. This will require investment in, among other things, the following:

- Developing and improving curricula.
- Ongoing programme and course design.
- Planning of contact sessions with students.
- Development and procurement of quality teaching and learning materials.
- Design of effective assessment activities.

Many educational institutions do not yet make such investments in a planned and deliberate way, but it is an essential part of their core function.

So, how does this relate to OER? As educational institutions make strategic decisions to increase their levels of investment in design and development of better educational programmes, the most cost-effective way to do this is to embrace open licensing environments and harness existing OER.

Thus, commitment to OER implies increased investment in teaching and learning, but promises to increase the efficiency and productivity of those investments by providing new ways of developing better programmes, courses and materials. Importantly, this implies a demand-driven approach to OER, where the initial rationale for embracing open licensing environments is not to release an institution's own intellectual capital, but rather to draw in the growing wealth of openly available OER to improve the quality of the institution's own teaching and learning.

Taking a demand-driven approach can be justified in terms of the improvements in quality that can flow from it. In addition, though, this approach to materials development is cost effective. A further advantage is that, as an obvious by-product, it will typically lead to institutions starting to share a growing percentage of their own educational materials online, released under an open license. Most institutions and educators are instinctively nervous about this, but evidence is now starting to emerge that institutions that share their materials online are attracting increased interest from students in enrolling in their programmes. This in turn brings potential commercial benefits, because the sharing of materials online raises an institution's 'visibility' on the Internet, while also providing students more opportunities to investigate the quality of the educational experience they will receive there. As students in both developed and developing countries are relying increasingly heavily on using the Internet to research their educational options, sharing of OER may well become an increasingly important marketing tool for institutions.

Most importantly, harnessing of OER requires institutions to invest – in programme, course and materials development. Costs will include the time of people in developing curricula and materials, adapting existing OER, dealing with copyright licensing and so on. Costs also include associated costs, such as ICT infrastructure (for authoring and content-sharing purposes), bandwidth, running content development workshops and meetings, and so on.

However, these costs are a function of investing in better teaching and learning environments, not a function of investing in OER. All governments and educational institutions in all education sectors, regardless of their primary modes of delivery, need to be making these investments on an ongoing basis if they are serious about improving the quality of teaching and learning. Within

the framework of investing in materials design and development, though, the most cost-effective approach is to harness OER. This is because:

- It eliminates unnecessary duplication of effort by building on what already exists elsewhere;
- It removes costs of copyright negotiation and clearance; and
- Over time, it can engage open communities of practice in ongoing quality improvement and assurance.

Q: Does use of OER preclude use of commercial content?

While it may be a worthy, if somewhat idealistic aspiration to make all educational content available free of charge, in-principle decisions to exclude commercial content from consideration in teaching and learning environments are likely to be inappropriate. Such a stance ignores the reality that there are many high-quality educational materials available for purchase and that, for in certain circumstances, their use may be more affordable than attempts to produce that content openly. Thus, the most cost-effective way to develop and procure resources for use in teaching and learning is to explore all available options, rather than excluding some on principle.

OER and commercial content can thus be used together in courses and programmes, although course developers need to be careful not to create licensing conflicts by integrating materials with different licensing conditions when designing teaching and learning materials. It thus seems a worthwhile practice, however, during design and development of educational courses and programmes, to consider all possibilities when developing and procuring content. Of course, as a consequence of digitization of content and the growth of openly available content online, educational publishing business models will shift and the mix of open content and commercial content will continue to change.

Q: What policy changes are needed for institutions to make more effective use of OER?

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

1. Provision in policy of clarity on IPR and copyright on works created during the course of employment (or study) and how these may be shared with and used by others.
2. Human resource policy guidelines regarding whether or not the creation of certain kinds of work (e.g. learning resources) constitutes part of the job description for staff and what the implications are for development, performance management, remuneration, and promotion purposes.
3. ICT policy guidelines regarding access to and use of appropriate software, hardware, the Internet and technical support, as well as provision for version control and back-up of any storage systems for an institution's educational resources.

4. Materials development and quality assurance policy guidelines to ensure appropriate selection, development, quality assurance, and copyright clearance of works that may be shared.

A good starting point for consideration of OER is to have clear policies in place regarding IPR and copyright. A clear policy would for example, plainly lay out the respective rights of the institution and its employees and sub-contractors, as well as students (who might become involved in the process directly or indirectly through use of some of their assignment materials as examples) regarding intellectual capital. As part of this policy process, it is worth considering the relative merits of creating flexible copyright policies that automatically apply open licenses to content unless there are compelling reasons to retain all-rights reserved copyright over those materials. Simultaneously, though these policies should make it easy for staff to invoke all-rights reserved copyright where this is justified.

A logical consequence of reconsidering human resource policy will be development or updating of costing/resourcing and performance management systems so that they reward staff for the following:

- Time spent in developing educational resources.
- Using resource-based learning where it is more effective than lecturing.
- Harnessing other people's materials when it is more cost-effective than producing materials from scratch.
- Sharing their intellectual capital through global knowledge networks to improve their resources and to raise both their and their institution's profile.

Q: What are the best ways to build capacity in OER?

The skills required for institutions to harness OER effectively are many and include the following:

- Expertise in advocacy and promotion of OER as a vehicle for improving the quality of learning and teaching in education.
- Legal expertise relating to content licensing.
- Expertise in developing and explaining business models that justify, to institutions, individual educators, and other creators of educational content (including publishers), the use of open licensing.
- Programme, course and materials design and development expertise.
- Technical expertise.
- Expertise in managing networks/consortia of people and institutions to work cooperatively on various teaching and learning improvement projects.
- Monitoring and evaluation expertise.
- Expertise in curating and sharing OER effectively.
- Communication and research skills to be able to share information about OER.

Capacity building should also focus on the people and institutions required to enable effective use of OER. This would involve:

- Raising awareness of the potential of OER and the requirements for successful use.
- Supporting policy-makers and heads of institutions to understand the key elements necessary to create supportive policy environments, develop materials, use technology, and conduct research.
- Identifying best-practice examples of use of OER and facilitating institutional visits, so that participants have an opportunity not only to observe effective use of OER in practice but also to start developing support networks and communities of practice.

Q: Where do I find OER?

The scope and availability of OER is ever expanding. Every week, new resources are being added to the global body of resources. A current problem arising out of this growth is that there is no single comprehensive listing of all OER (nor, given the rapid expansion of content online, is there ever likely to be one). This means that, in order to find appropriate OER, the searcher will need to employ a number of search strategies:

1. Use a specialized OER search engine: While search engines such as Google and Bing are a good general starting point for finding content online, there are also some specialized search engines that search specifically for OER. Their listings, however, are selective based on different search criteria so it is a good idea to try more than one. Here are a few of the popular ones

    - Global Learning Objects Brokered Exchange (GLOBE) Alliance: http://www.globe-info.org/.
    - Folksemantic: http://www.folksemantic.com/.
    - DiscoverEd: http://discovered.labs.creativecommons.org/search/en/.
    - Creative Commons Search: http://search.creativecommons.org/.
    - Open Courseware Consortium: http://www.ocwconsortium.org/courses/search.

2. Locate a suitable OER repository: Searchers should also access the major OER repositories to search for OER. Most are institutionally based, focusing on the materials released by that organization. A famous example is the Massachusetts Institute of Technology Open Courseware Repository (MIT OCW). Some repositories, such as MedEd PORTAL, have a specific subject focus, in this instance, medical photos and multimedia. Below are a few of the more significant OER repositories (See OER repositories):

    - OpenLearn: http://openlearn.open.ac.uk.
    - BCcampus: https://open.bccampus.ca/browse-our-collection/find-open-textbooks/
    - eCampusOntario: https://ecampusontario.pressbooks.pub/
    - MERLOT: https://www.merlot.org/merlot/

- LibreTexts: https://libretexts.org/
- Open Textbook Library: https://open.umn.edu/opentextbooks
- MedEd PORTAL: http://services.aamc.org/30/mededportal (medical focus).
- MIT OCW: http://ocw.mit.edu.
- China Open Resources for Education (CORE): http://www.core.org.cn/en/.
- AgEcon Search: http://ageconsearch.umn.edu (agricultural focus).
- Teacher Education in sub-Saharan Africa: www.tessafrica.net (teacher education focus).

3. *Use OER directory sites*: There are many sites that have a search facility whose results point to places elsewhere on the Internet where resources match search criteria. They themselves do not act a repository but have identified quality resources and store them in a database of web links. Their databases usually have a particular focus. In the case of OER Africa, for example, they highlight quality resources developed in and about Africa. Here are just a few:

    - OER Africa: http://www.oerafrica.org.
    - OER Commons: https://www.oercommons.org/.
    - Commonwealth of Learning: http://www.col.org/resources/crsMaterials/Pages/OCW-OER.aspx.

Q: How can I share my OER with others?

Once a resource has been developed and an open license has been selected (see OER Commons: http://www.oercommons.org/ for more information), the resource will need to be stored in an online repository in order for others to access it.

There are various options regarding where these resources might reside:

1. Use the institutional repository: Many organizations, and especially universities, are setting up their own collections and making them available online as OER or OCW. If the writer or developer works for such an institution, the expectation will be that OER developed under the auspices of that institution should reside within their repository. Seek guidance from the repository administrator.
2. Select an open repository: Various repositories welcome contributions from multiple locations. JORUM (http://www.jorum.ac.uk/share), for example, welcomes submissions that support the British curriculum at further and higher education levels. OER Commons has a facility (https://www.oercommons.org/contribute/) to allow users to contribute materials. Generally, open repositories require the person submitting the resource to register and log in before uploading the resource. They will also require information about the resource to allow it to be catalogued and tagged. This is necessary to facilitate more accurate searching ability. The submitted resource will be vetted by a review team to ensure quality before being added to the repository's database.

3. Build the OER online: It is also possible to build a resource online. A few sites that encourage development of OER within their online environments. They can then automate processes such as acquiring a Creative Commons license and adding the resource to the database. One such example is Connexions (http://cnx.org), which allows teams to develop modules of learning on their site. Users open an account, develop the materials online, and then publish them once they are satisfied. WikiEducator (http://wikieducator.org) uses a similar method to allow educators to develop teaching materials collaboratively online.
4. Exploit social networks. The world of social networking has also opened new possibilities for publishing OER online. A site such as Flickr (www.flickr.com) allows its users to publish photographic materials with Creative Commons licenses, while YouTube (www.youtube.com) allows the same for digital video materials. Networks like Twitter and Facebook can be used to spread awareness of the materials posted on the Internet by sharing the links.

Q: How much can I change OER for my own purposes?

In most instances, a user has enormous latitude to adapt OER to suit contextual needs where the license allows adaptation. If, however, the license restricts adaptation (as, for example, the Creative Commons license with a 'No Derivatives' restriction does), others may not alter the resource in any way. It has to be used 'as is'. This right is not reserved often in OER.

The vast majority of published OER welcome users to adapt the original resource. Common ways in which OER can be changed include the following:

- Mixing: Several OER are mixed together and additional content is added to create an altogether new resource. This is common when course designers need to develop materials and resources to match a local curriculum or programme. A common concern is that it is rare to find existing OER that fit perfectly 'as is'.
- Adaption: This occurs when one OER is used, and multiple adaptations are developed to suit multiple contexts. It could be that the language is translated into others but usually adaptation requires local case studies/examples to be added to make the materials relevant to students in a particular context.
- Asset extraction: It is also possible to extract only some of the assets of a resource or course and use them in a completely different context. This is especially true of media elements such as photos, illustrations, and graphs, as developers often lack the skills or resources to develop their own versions of commonly used visual aids.

In many ways, the fact that changes may be made to the original is what makes OER – compared with other forms of copyrighted materials – especially useful to programme developers.

Q: Can I get OER in print?

Most OER start as digital files, but like traditional resources, OER can be made available to students in both digital and print formats. Sometimes the OER publisher will offer a printed and bound textbook which can be ordered directly from their website or purchased through the ISU Book Store. Because students are only paying for the actual print and distribution costs, the price of the printed OER will still be substantially lower than that of a commercial textbook. If a print copy isn't available, or if you are using your own compilation of OER, the ISU Book Store can work with you to create a coursepack.

Q: What is the difference between OER and Immediate Access texts?

The Open & Affordable Education Committee on campus supports OER as well as other affordable course content options, such as Immediate Access resources. Immediate Access is a program between the ISU Book Store, faculty, and publishers. This program allows instructors to use their usual publisher-provided textbooks to their students at a discounted rate by opting in all students to pay for their books through their U-Bill. The Immediate Access program is called "immediate" because it ensures that all students have access to content digitally on the first day of class.

Want to explore other affordable course material options for your course? Check out our page: Explore Other Affordable Content

Q: Why Use OER?

OER has been shown to increase student learning while breaking down barriers of affordability and accessibility. Feldstein et al. (2012) conducted a research study at Virginia State University, where OER were implemented across nine different courses in the business department. Researchers found that students in courses that used OER more frequently had better grades and lower failure and withdrawal rates than their counterparts in courses that did not use OER.

- According to the Chronicle of Higher Education, 7 in 10 students didn't purchase a textbook because it was too expensive.
- One in five college students has skipped or deferred a class due to the price of the required learning resources.
- The cost of textbooks is rising at roughly 4 times the rate of inflation.
- 60% of students have delayed purchasing textbooks until they've received their financial aid.

OER give faculty the ability to customize course materials, creating the "perfect" course packet or textbook instead of being bound to a traditional one-size-fits-all model. Customization gives faculty control over the quality of their course materials as well as the type and timing of updates to textbooks and other resources.

Advantages of using OER include:

- **Expanded access to learning**. Students anywhere in the world can access OER at any time, and they can access the material repeatedly.

- **Scalability**. OER are easy to distribute widely with little or no cost.
- **Augmentation of class materials**. OER can supplement textbooks and lectures where deficiencies in information are evident.
- **Enhancement of regular course content**. For example, multimedia material such as videos can accompany text. Presenting information in multiple formats may help students to more easily learn the material being taught.
- **Quick circulation**. Information may be disseminated rapidly (especially when compared to information published in textbooks or journals, which may take months or even years to become available). Quick availability of material may increase the timeliness and/or relevance of the material being presented.
- **Showcasing of innovation and talent**. A wide audience may learn of faculty research interests and expertise. Potential students and donors may be impressed, and student and faculty recruitment efforts may be enhanced.
- **Ties for alumni**. OER provide an excellent way for alumni to stay connected to the institution and continue with a program of lifelong learning.
- **Continually improved resources**. Unlike textbooks and other static sources of information, OER can be improved quickly through direct editing by users or through solicitation and incorporation of user feedback. Instructors can take an existing OER, adapt it for a class, and make the modified OER available for others to use.

Q: How do OER help educators and students?

Open educational resources give instructors the ability to adapt instructional resources to the individual needs of their students, to ensure that resources are up-to-date, and to ensure that cost is not a barrier to accessing high-quality standards-aligned resources. OER are already being used across America in K-12, higher education, workforce training, informal learning, and more.

Q: Are all OER digital?

Like most educational resources these days, most OER start as digital files. But like traditional resources, OER can be made available to students in both digital and printed formats. Of course, digital OER are easier to share, modify, and redistribute, but being digital is not what makes something an OER or not. This flexibility is important, because it no longer makes print and digital a choice of one or the other. OER textbooks, for example, can typically be printed for $5-50 (compared to $100-300 for traditional books) while still being available free digitally.

Q: It's nice to save students money, but my students truly need print books. Doesn't that mean I need to stick with traditional textbook publishers?

There is always a print option for OER. Sometimes the OER platform itself will offer a printed and bound textbook which can be ordered directly from the website, or purchase can be brokered through the Kirkwood Bookstore, as a traditional textbook would be. Because students are mostly only paying for the actual print and distribution costs, the price of the printed OER will still be substantially lower than that of a traditional textbook.

If a printed copy isn't available, or if you are using your own compilation of OER (and/or some copyrighted materials that you've determined fall under fair use), the Kirkwood Bookstore will work with you to create a course pack for your students to purchase at the Bookstore, again, at a substantially lower cost than a traditional textbook.

Q: I understand that textbooks can be very expensive, but I don't want to take business away from our bookstore. Doesn't the bookstore need us to continue in the way we always have?

There are a few different responses to this concern

- First, our Kirkwood Bookstore team is very supportive of OER as one option for decreasing the course materials cost for students.
- Second, using OER doesn't necessarily mean e-book only, and doesn't necessarily mean the bookstore won't have any profits. The open licensing typically means that materials are free online and low-cost to print. The bookstore might work with print services to offer a print copy for sale through the bookstore, or they might work with a publisher to provide copies for sale at a substantially lower price than traditional textbooks.
- Third, bookstores are changing and adapting with technologies as we all do, Kirkwood's EagleTech store being a perfect example of this.

Q: As a faculty I depend on the test banks that publishers provide with a textbook adoption. Do OER or Open Textbooks provide test banks? And if they're open, what's to prevent a student for getting access to them?

Many open resources do provide test banks (and power points, and other supplementals we're used to getting from a publisher). To answer the question about "protected resources" we went to ***Nicole Finkbeiner, Associate Director of Institutional Relations, Rice University's OpenStax College***:

“In terms of “protected” resources such as test banks, you have to find a way for students to not be able to access these. And, you don't want to openly license these because then you have no way to combat them being published. At Rice University’s OpenStax College, our website is set-up so faculty have to first register for an account and then request faculty access prior to being able to download them. We check every single account to ensure the right official email is used, they are in fact teaching a course where they would need the resources, etc. Sometimes we even call the department chair directly to make sure we should be providing access, so this is a labor-intensive process, but I think it is worth it to protect the resources.

Faculty should also be very careful not to post any protected OER resources in a public environment, such as a website.”

Q: I am nervous about letting go of my textbook because I don't know if OER/Open Textbook authors will keep the resources up to date. How can I trust that the resources I select will be kept current and accurate?

It's true that adopting open resources in place of a traditionally published textbook involves a change in how you think about your course textbook. Adopting OER involves a feeling of ownership of the course resources that you might not experience with a traditional textbook. Because of the open licensing you are free to update the material as you see fit, provided it has the appropriate Creative Commons licensing. Due to the open nature of these resources, collaboration with other instructors (within or outside this institution) or with your students to improve the open resources you use is a common occurrence, and means the work of updating is spread across many people instead of sitting solely with you. Yes, it's a shift of perspective, but it's an exciting one, full of potential.

Also, there are a growing number of open textbooks that have the kind of publisher services faculty expect, with regular updates, printed and bound copies available for purchase, test banks and other instructor supplementals. See especially OpenStax and BCCampus.

Q: Why would an author give away their work for free if it is high quality? How is this model sustainable?

One misconception about OER is that authors are "giving away" their work, and giving away their ownership of what they've created. This is a myth for the following reasons:

1. OER authors still retain ownership of their creations. Creative Commons (a form of open licensing) gives authors very precise control over how their work may be used and how it should be attributed. In fact, OER authors often enjoy more freedom to use, share and adapt their own works than they would under a restrictive license with a publisher.

2. Many OER authors do get paid for their work, they simply don't receive royalties. Some are paid by their college through a stipend, some are awarded grants through non-profit organizations or government agencies.

Q: Shouldn't I worry about 'giving away' my intellectual property?

A key concern for educators and senior managers of educational institutions about the concept of OER relates to 'giving away' intellectual property, with potential loss of commercial gain that might come from it. This is often combined with a related anxiety that others will take unfair advantage of their intellectual property, benefitting by selling it, plagiarizing it (i.e. passing it off as their own work), or otherwise exploiting it. These concerns are completely understandable.

In some instances, of course, when educators raise this concern, it masks a different anxiety – namely, that sharing their educational materials will open their work to scrutiny by their peers (and that their peers may consider their work to be of poor quality). Whether or not the concern is justified, it is important to determine what is truly driving the concerns of educators. When the concern is the loss of commercial opportunity, this requires a particular response (engaging with the incentives for sharing). But when this is masking a concern about peer and student scrutiny, this needs to be dealt with differently (and will usually involve some policy or management drive to overcome resistance to change).

As more institutions around the world are, at different levels, requiring their educators to share more materials under open licenses, experiences clearly demonstrate that this opening of intellectual property to peer scrutiny is having the effect of improving quality of teaching and learning materials. This happens both because educators tend to invest time in improving their materials before sharing them openly and because the feedback they receive from peer and student scrutiny helps them to make further improvements.

While a small percentage of teaching and learning materials can – and will continue to – generate revenue through direct sales, the reality has always been that the percentage of teaching and learning materials that have commercial re-sale value is minimal; it is also declining further as more and more educational material is made freely accessible on the Internet. Much of the content that was previously saleable will lose its economic value while the niches for sale of generic educational content will likely become more specialized.

However, if a resource truly has potential to be exploited for commercial gain through sale of the resource, then it should be possible – and encouraged – for an educator (or an institution) to retain all-rights reserved copyright over that resource. Intellectual Property Rights (IPR) and copyright policies for education need to be flexible enough to allow the educator and/or institution to retain all-rights reserved copyright for resources that have this potential commercial value.

It is becoming increasingly evident that, on the teaching and learning side, educational institutions that succeed are likely to do so predominantly by understanding that their real potential educational value lies not in content itself (which is increasingly available in large volumes online), but in their ability to guide students effectively through educational resources via well-designed teaching and learning pathways, offer effective support to students (whether that be in practical sessions, tutorials, individual counselling sessions, or online), and provide intelligent assessment and critical feedback to students on their performance (ultimately leading to some form of accreditation). Although it may seem counter-intuitive, therefore, as business models are changed by the presence of ICT, the more other institutions make use of their materials, the more this will serve to build institutional reputation and thereby attract new students.

Given this, it is important for copyright holders of educational materials to consider carefully what commercial benefits they might find in sharing their materials openly. Of course, the primary benefits of harnessing OER should be educational (see ‘How can education benefit by harnessing OER?’ below), but the issue of sharing content openly may also be considered a strategy to protect oneself commercially.

The following benefits can accrue from sharing content under an open license:

- Sharing of materials provides institutions opportunities to market their services. Educational institutions that succeed economically in an environment where content has been digitized and is increasingly easy to access online are likely to do so because they

understand that their real potential educational value lies not in content itself, but in offering related services valued by their students. These might include: guiding students effectively through educational resources (via well-designed teaching and learning pathways); offering effective student support (such as practical sessions, tutorials, individual counselling sessions or online); and providing intelligent assessment and critical feedback to students on their performance (ultimately leading to some form of accreditation). Within this environment, the more other institutions make use of their materials, the more this will serve to market the originating institution's services and thereby attract new students.

- For individual educators, proper commercial incentives for sharing content openly are most likely to flow when institutions have policies to reward such activity properly. Up to now, many institutional and national policies and budgetary frameworks have tended, at worst, to penalize collaboration and open sharing of knowledge (by removing possible streams of income when knowledge is shared openly) or, at best, to ignore it (as so many universities do by rewarding research publication over other pursuits). Thus, for most educators, the incentives lie in changing the institutional and national policies and budgetary frameworks so that they reward collaboration and open sharing of knowledge.
- Even if institutional and national policies and budgetary frameworks do not reward collaboration and open sharing of knowledge, there are still incentives for educators to share their resources openly. Open licenses maximize the likelihood of content-sharing taking place in a transparent way that protects the moral rights of content authors. Furthermore, people who seek to ring-fence, protect, and hide their educational content and research will likely place limits on their educational careers. They will also increasingly be excluded from opportunities to improve their teaching practice and domain-specific knowledge by sharing and collaborating with growing networks of educators around the world. Those who share materials openly already have significant opportunities to build their individual reputations through these online vehicles (although, of course, the extent to which they manage this will remain dependent on the quality of what they are sharing).

Q: Do OER require special technology to use?

One of the great things about OER is that users have the right to turn it into any format they wish (which is almost always forbidden with traditional resources). Therefore, OER aren't tied to a particular type of device or software, which gives students and schools more freedom in what technology they purchase. In cases where technology isn't available, there is always the option to print.

Q: What is open education?

Open education (OE) is an approach to education that aims to remove barriers to learning by engaging in open educational practices (OEP) in class and through the development and use of open educational resources (OER).

Q: What are open educational practices?

Open educational practices (OEP), also known as open pedagogy, are teaching and learning practices where openness is enacted within all aspects of instructional practice, including the design of learning outcomes, the selection of teaching resources, and the planning of activities and assessment. Leveraging networked technologies, OEP engages faculty and students in collaborative knowledge creation while empowering students to be full participants and partners in learning communities.

Q: What are open educational resources?

Open educational resources (OER) are free to use and openly licensed teaching and learning materials which can include textbooks, course reading lists, assignments, case studies, lectures and other forms of learning materials that have been produced by experts and educators in the field. Educational resources can also include scholarly outputs that are in the public domain and therefore also free to use as part of a course. As stated by leading open education proponent David Wiley, "'open content' describes a copyrightable work that is licensed in a way that provides users with free and perpetual permission to engage in the 5R activities which are retain, reuse, revise, remix, and redistribute." This LibGuide, (Open Educational Resources: What are Open Educational Resources?), also provides useful information on OER.

Q: What is the difference between 'free' and 'open' resources?

Libraries provide access to resources free of charge to faculty, students, and staff of their institutions; however free-to-access is different than licensed to use in open environments, or to adapt and remix for education use. From SPARC's FAQ on Open Educational Resources: "Open educational resources are and always will be free, but not all free resources are OER. Free resources may be temporarily free or may be restricted from use at some time in the future (including by the addition of fees to access those resources). Moreover, free-but-not-open resources may not be modified, adapted or redistributed without obtaining special permission from the copyright holder."

Q: To what degree is open education being supported in Canada?

Open education is happening to some degree in all provinces in Canada. Several provinces and some individual institutions have demonstrated support for open education by funding the creation, adaptation, and reviewing of OER. Academic libraries have been active in the promotion of open education, while student groups have been the strongest advocates for OER. The two strongest provinces in terms of supporting open education currently are British Columbia and Ontario, with their BCcampus and eCampusOntario digital learning initiatives respectively. Open education takeup has recently shown significant growth in Québec as a result of the province's Digital Action Plan for Education, which includes the initiative la fabrique REL, a collaboration between the University of Montréal, the University of Sherbrooke, and Laval University. In Canada's eastern provinces, the Council of Atlantic University Libraries (CAUL-CBUA) has contributed funds to launch a Pressbooks instance and has offered grants to support OER production through AtlanticOER. A full report of open education services and support initiatives in Canada was completed by the CARL Open Education Working Group in

2020. A webinar was also offered to present the findings of the report. Webinar | Environmental Scan.

Q: Is OER the same as e-learning?

OER is not synonymous with online learning or e-learning, although many people make the mistake of using the terms interchangeably.

Openly licensed content can be produced in any medium: paper-based text, video, audio or computer-based multimedia. A lot of e-learning courses may harness OER, but this does not mean that OER are necessarily e-learning. Indeed, many open resources being produced currently – while shareable in a digital format – are also printable. Given the bandwidth and connectivity challenges common in some developing countries, it would be expected that a high percentage of resources of relevance to higher education in such countries are shared as printable resources, rather than being designed for use in e-learning.

Q: Is OER the same as open learning/open education?

Although use of OER can support open learning/open education, the two are not the same. Making 'open education' or 'open learning' a priority has significantly bigger implications than only committing to releasing resources as open or using OER in educational programmes. It requires systematic analysis of assessment and accreditation systems, student support, curriculum frameworks, mechanisms to recognize prior learning, and so on, in order to determine the extent to which they enhance or impede openness.

Open learning is an approach to education that seeks to remove all unnecessary barriers to learning, while aiming to provide students with a reasonable chance of success in an education and training system centred on their specific needs and located in multiple arenas of learning. It incorporates several key principles:

- The learning process should centre on the learners, build on their experience and encourage independent and critical thinking;
- Learning provision should be flexible so that learners can increasingly choose, where, when, what and how they learn, as well as the pace at which they will learn;
- Prior learning, prior experience and demonstrated competencies should be recognized so that learners are not unnecessarily barred from educational opportunities by lack of appropriate qualifications;
- Learners should be able to accumulate credits from different learning contexts;
- Providers should create the conditions for a fair chance of learner success. (Saide, n.d.)

As this list illustrates, while effective use of OER might give practical expression to some of these principles, the two terms are distinct in both scope and meaning.

Q: Is OER related to the concept of resource-based learning?

There has been significant emphasis placed in OER discussions on the quality of OER. This makes the concept of resource-based learning of particular interest. Despite this, debates over OER have typically made little reference to the concept of resource-based learning until recently.

This may be because the emphasis in most global OER discussion has been on the sharing and licensing of existing materials, a significant proportion of which has included simply sharing lecture notes and PowerPoint presentations used in face-to-face lectures.

What does the notion of resource-based learning mean, in essence? It means moving away from the traditional notion of the 'talking teacher' to communicate curriculum; a significant but varying proportion of communication between students and educators is not face-to-face but rather takes place using different media as necessary. Importantly, the face-to-face contact that does take place typically does not involve simple transmission of knowledge from educator to student; instead it involves various forms of student support, for example, tutorials, peer group discussion, or practical work.

Resource-based learning is not a synonym for distance education. Rather, resource-based learning provides a basis for transforming the culture of teaching across all educational systems to enable those systems to offer better quality education to significantly larger numbers of students. Many courses and programmes at all levels of education now incorporate extensive use of instructionally designed resources, as educators have learned the limitations of lecture-based strategies for communicating information to students.

The use of resource-based learning does not of course imply any intrinsic improvements in quality of learning experience. The extent to which shifting the communication of curriculum to instructionally designed resources leads improves the quality of education depends entirely on the quality of the resources developed.

To summarize:

- There is no direct relationship between OER and resource-based learning.
- Many OER available online have not explicitly been designed as part of a deliberate strategy to shift to resource-based learning.
- Likewise, most practice in resource-based learning currently uses fully copyrighted materials rather than OER.

Nevertheless, linking OER and resource-based learning provides an opportunity to leverage both most effectively.

Q: How open is an open license?

A common misconception is that 'openly licensed' content belongs in the public domain, and that the author gives up all of their rights to this material. This is not so. In fact, the emergence of open licenses has been driven strongly by a desire to protect a copyright holder's rights in

environments where content (particularly when digitized) can so easily be copied and shared via the Internet without asking permission.

A broad spectrum of legal frameworks is emerging to govern how OER are licensed for use. Some of the legal frameworks simply allow copying, but others make provision for users to adapt the resources that they use. The best known of these is the Creative Commons licensing framework (see www.creativecommons.org). It provides legal mechanisms to ensure that authors of materials can retain acknowledgement for their work while allowing it to be shared, can seek to restrict commercial activity if they wish, and can aim to prevent people from adapting it if appropriate. Thus, an author who applies a Creative Commons (CC) license to their work specifically seeks to retain copyright over that work, but agrees – through the license – to give away some of those rights.

A bit about Creative Commons (CC):

- The CC approach provides user-friendly open licenses for digital materials and so avoids automatically applied copyright restrictions.
- The CC licenses take account of different copyright laws in different countries or jurisdictions and also allow for different language versions.
- To make the licensing process as simple as possible for users, the Creative Commons site makes use of a license generator that suggests the most appropriate license based on a user's response to specific questions regarding how their work can be used.
- All of the CC licenses include basic rights that are retained by the authors, asserting the author's right over copyright and the granting of copyright freedoms.
- Within this framework, the CC licenses allow authors, in a user-friendly way, to grant other people the right to make copies of their work and, if they wish, to allow other people to make changes to their work without seeking permission.
- The CC licenses also allow users to apply some restrictions on these permissions, for example, requiring attribution of the authorship of the original work, or restricting reuse of the resource for commercial purposes.

See Creative Commons licenses for more information.

Q: What is the difference between OER and open access publishing?

Open access publishing is an important concept, which is clearly related to – but distinct from – that of OER.

Wikipedia notes that the term 'open access' is applied to many concepts, but usually refers either to:

- 'open access (publishing)'; or
- 'access to material (mainly scholarly publications) via the Internet in such a way that the material is free for all to read, and to use (or reuse) to various extents'; or

- ‘open access journal, journals that give open access to all or a sizable part of their articles’.

Open access publishing is typically referring to research publications of some kind released under an open license. OER refers to teaching and learning materials released under such a license. Clearly, especially in higher education, there is an overlap, as research publications typically form an important part of the overall set of materials that students need to access to complete their studies successfully, particularly at postgraduate level.

Nevertheless, the distinction seems worth applying because it allows more nuanced discussion and planning about which kinds of open licenses would be most appropriate for different types of resources.

Q: How is open education important to educators and students?

Open education practices give educators the opportunity to rethink their instruction practice to focus on students as partners in the knowledge creation process. Open education gives students the opportunity to authentically engage in the creation of knowledge that is then shared openly adding value to the world.

Open educational resources give educators the flexibility to adapt already existing resources for the specific needs. This ensures the resources are up-to-date and reflect the learning of objectives of a particular class. Open educational resources similarly benefit students by ensuring the content is developed with their specific needs in mind and that cost is not a barrier to accessing high-quality resources for their course.

Q: How are libraries engaging in open education?

Academic libraries are key stakeholders in open education in several ways, and faculty are increasingly recognizing their expertise and resources. Academic libraries are:

- Collaborating with faculty in finding open educational resource content for use in their courses.
- Applying their expertise in copyright, open copyright licenses, and intellectual property toward the acts of creation and adaptation or remixing. For open pedagogy courses, students not only need to understand copyright and intellectual property but also how to use tools for content creation (e.g. Pressbooks, H5P).
- Engaging in education and training of faculty and students in the elements needed to be successful in their open education practices.
- Hosting the tools needed for open educational resources publishing (e.g. open journal systems, open monograph systems).

Providing expertise in discoverability and sharing of open education resources, including consulting on resource release plans that often include library support for metadata, archiving, and communication. More information on Creative Commons Licensing is provided in the infographic.

Q: What are some open educational resources useful for supporting faculty?

Faculty OER Toolkit

The Faculty OER Toolkit is intended as an introductory guide for faculty interested in incorporating Open Educational Resources (OER) into their teaching practice. Beginning with a definition of OER, reasons to use OER, and online collections of OER to use, the Toolkit also covers basic information about adapting, adopting, and evaluating OER. Additionally, there is information about licensing and copyright, including an explanation of Creative Commons licenses and attribution statements.

OER Toolkit for Trades Instructors

The "OER Toolkit for Trades Instructors: Adopting an Open Education Resource & Integrating it into a Trades Course" illustrates a snapshot of the OER adoption process. This Toolkit is designed to answer questions posed by BC Trades instructors specifically, but the steps described will also support similar projects in other disciplines and programs.

Adaptation Guide

The BCcampus Open Education Adaptation Guide is a practical guide to adapting or revising open textbooks using the PressBooks platform. Included are tips to revising this OER, how to use the Pressbooks publishing platform, and general information on open textbooks and other open educational resources (OER).

Accessibility toolkit

Provides resources needed to create a truly open and accessible textbook.

Virtual Lab abs Science Resource Directory

The BCcampus Open Education Virtual Lab and Science Resource Directory lists free science resources designed to support remote science education. Note that, while all resources in this directory are free, not all are open.

Pressbooks Guide

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