

# Open Education: Content

## Scenario

Melinda McGyver, a professor of environmental studies at Parkview College, was initially skeptical about using open educational resources (OER) as curricular material. Several factors led her to change her mind. One was that a growing number of her students were showing up to class without the required textbook; students said they simply could not afford the high price of that book. In addition, she was intrigued by the possibilities of OER after hearing a presentation at a conference about how colleagues in her discipline had used them successfully in their courses.

George Masters, a librarian at Parkview, offered to help McGyver locate a number of relevant OER for her to consider. With his help, McGyver discovered a rich lode of pertinent OER that were available at no charge from several repositories. She assessed a wide range of materials thoroughly and was pleased to find OER that would work well for her students. One item McGyver found was an open textbook. With the assistance of Parkview's IT staff, she was able to revise the textbook to better match her goals for student learning. The inherent flexibility of the openly licensed material enabled her to seamlessly integrate course modules and resources from several sources.

McGyver was also pleased with how well learners used the open textbook. In one assignment, students documented local environmental issues, including air pollution from a local factory and concerns about the impact of fracking on drinking water. Once their projects were complete, the students integrated them into the open textbook so that future students could learn about these local issues. McGyver noticed that her students were motivated by this real-world application of their work, and she was excited that the open textbook she was using was being continuously improved by her students.

Student learning assessments showed that students in sections using open content scored a bit better than those using conventional materials. Based on her own day-to-day observations and anecdotal end-of-semester observations from students, McGyver theorized that students using the open content had performed better because they learned the content and concepts more deeply when they were asked to co-create knowledge used in the course. Many students thanked her for assigning free course materials and for empowering them to co-author improvements to the course.

## 1 What is it?

Open educational resources (OER) are teaching, learning, and research materials in any medium that reside in the public domain or that have been released under an open license that permits no-cost access, use, adaptation, and redistribution by others. OER include textbooks, curricula, syllabi, lecture notes, video, audio, simulations, assessments, and any other content used in education. OER provide ubiquitous access to high-quality, effective learning materials that can be easily tailored and freely adapted, revised, expanded, translated, and shared with educators and learners around the world. OER support the practice of open education, an umbrella term for the mix of open content, practices, policies, and communities that, properly leveraged, can provide broad access to effective learning opportunities for everyone.

## 2 How does it work?

Most OER are available in digital form, which allows them to be stored, copied, and distributed online at minimal cost. OER also includes printed content that is openly licensed. In some cases, students prefer online materials; at other times, printed content is necessary when computers or high-speed internet access is not available. Advocates believe open resources should be provided as editable files with the legal permission to engage in the “5Rs”: *retain* (make, own, and control copies of the content, including downloading, duplicating, and storing that material); *reuse* (use the content in a wide range of ways, such as in a class, on a website, or via video); *revise* (adapt, adjust, modify, or alter the content itself, such as translation to another language); *remix* (combine the original or revised content with other material to create something new, such as a mashup of content); and *redistribute* (share copies of the original content along with revisions). Open licenses, such as those provided by [Creative Commons](#), make it simple to allow such free and open use of content while retaining one's copyright for that work.

## 3 Who's doing it?

[OpenStax](#), based at Rice University, has developed 35 textbooks that are used by students in college and in high school Advanced Placement courses. The [Open Textbook Network](#), based at the University of Minnesota, provides the [Open Textbook Library](#), a growing catalogue of over 480 free, peer-reviewed, and openly licensed textbooks and anchors an [alliance of higher](#)

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[education institutions](#) committed to open content. The [BC Open Education Textbook Collection](#), via [BCCampus](#), is a curated library of more than 240 open textbooks used by thousands of faculty and students. [Lumen Learning](#) has a catalogue of over 45 complete sets of OER course materials. Examples and repositories of open resources can be found at the [Open Education Consortium](#), [OER Commons](#), and [MERLOT](#). The Washington State Community College System operates [Open Washington](#), which helps faculty learn about and find OER. Creative Commons hosts a list of OER [repositories](#) and runs [CC Search](#).

## 4 Why is it significant?

Open educational resources are flexible and adaptable, free to use, easily shared, and can be kept forever. They enable faculty and students to readily adapt educational content to meet local needs. For students, OER confer significant dollar savings while also giving learners ready access to a wide range of high-quality, highly flexible educational materials. Many practitioners argue that open education could be positioned as a core education practice, with learners producing, evaluating, using, revising, and sharing OER. For faculty, open content affords rich opportunities to shape educational materials and tailor them to learners' needs, share knowledge across higher education, and participate more broadly in their field than might otherwise be possible.

## 5 What are the downsides?

Although OER are free to use, like all educational resources they require an investment to create, adopt, and maintain. Not all institutions are prepared to provide compensation, service support, and policies to support the development of open resources; institutions could investigate redirecting funds away from other content models to support OER development. One impediment to adoption is that some in the academy still consider open content to be inferior to traditional educational materials, and resistance to the concept of open education persists. Work is needed to raise awareness about the value and quality of OER and research about its impact of OER in the academy. Work is also needed to develop policies—particularly for tenure and promotion—that support the development and distribution of open content.

## 6 Where is it going?

As evidenced in the steady rise of open resources on [ELI's annual survey of key issues](#), acceptance of OER in higher education is growing. To the extent that the open education movement becomes more fully developed and endorsed—and if pushback continues to build against expensive textbooks, static educational materials, and business models that provide limited and costly access to educational resources—faculty and students will create, adopt, and share more OER. The breadth of open content will expand across a wider range of disciplines. Institutional policies concerning the use and sharing of open resources and their impact on tenure and promotion decisions will continue to evolve, enabling OER to be more commonly accepted as a fundamental tool for learning and contributing to academe. More funding will be dedicated to the development and maintenance of OER. Governments and governing agencies for higher education will continue to increase their recognition of open content, and research in this area will expand.

## 7 What are the implications for teaching and learning?

In an era when questions loom large about access and affordability in higher education, OER provide a channel to address some of those concerns. Research shows that students [save money](#) and can have [better outcomes](#) in learning environments where OER is used. Open content offers faculty a means to customize curriculum to better align with learner needs and interests and to collaborate in new ways with peers worldwide. The nature of open resources directly supports some of the most fundamental principles of education in that they are readily accessible, learner centered, collaborative, flexible, and capable of being adapted to encompass new knowledge. Working in an open education environment might better prepare students for work in today's increasingly collaborative and interdisciplinary workplaces.