

Open Educational Resources in Higher Education

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Abstract

Open Educational Resources (OERs) are materials such as books, articles, videos of lectures, and other resources provided to students free of charge. The increase in textbook costs has caused students to depend upon OERs. OERs are excellent teaching resources for students and instructors because they are free or low-cost and easy to adapt to instructor curricula.

Furthermore, they can help students from low-income families save money. This paper will discuss the importance, challenges, and benefits of open educational resources in higher

education institutions.

Keywords: Open Educational Resources, textbooks, electronic books, higher education, reuse, revise, and remix

Introduction

Open Educational Resources(OERs) are “freely and publicly available 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 re-purposing by others.” (Mtebe and Raisamo 2014). OERs are resources available to students free of charge. Those resources include but are not limited to videos of lectures, homework assignments, articles, simulations, electronic books, and academic videos (Mtebe & Raisamo, 2014). Educational institutions acquire open educational resources free to students through donations and grants. The goal of OERs is to promote accessible educational tools to all students.

The purpose of OERs is to enhance student's learning experience by providing adequate tools for learning and succeeding in college. The five R's of open educational resources are retained, reused, revised, remixed, and redistributed (Bass et al., 2022). The flexibility of OERs equips students with current information. A benefit of OERs is that instructors can update textbook information more frequently. The slow update of information from publishing companies can inhibit the learning process for pre-med, engineering, and nursing majors. Science, Technology Engineering, and Mathematics (STEM) majors must stay updated on current trends and technology.

Open educational resources are available on many platforms, including Skills Common, OpenStax, The OpenCourse Library, Creative Commons, and Merlot, just to name a few. Due to the high cost of textbooks in the science and education fields, the subject areas of biology, chemistry, mathematics, nursing, and education are the most utilized in OERs. Textbooks for these subject areas can be costly, and the cost of textbooks will also be discussed later in the article.

In recent years, open educational resources (OER) have become invaluable to librarians, students, and faculty at academic institutions. OERs were introduced in 2002 (Mtebe & Raisamo, 2014), but only some educators are familiar with the resource. According to *Teaching with OER*, during pandemics and beyond, less than forty percent of educators are aware of open educational resources (Allen & Katz, 2020). The low percentage of awareness by instructors of open educational resources can cause students' grades to suffer and potentially lower graduation rates, which is why promoting OERs is essential (Allen & Katz, 2020). Higher education institutions can increase knowledge of open educational resources to assist students by encouraging the use of these resources.

Libraries are essential in the educational system for students pursuing degrees in higher education because of the different resources they offer. Librarians often have the daunting task of supplying university and college students with needed resources such as information literacy sessions, computers, and books to complete research projects and other academic studies. In recent years, the costs of textbooks have risen, and the 2019 COVID pandemic has only worsened matters. Since the COVID-19 pandemic began, it has caused an increase in the average textbook cost to \$105.37 (Hanson, 2023). In the past ten years, the yearly average cost of textbooks has risen from \$1,223 to \$1,465 (Hanson, 2023). When textbooks are unaffordable,

students, faculty, and staff look to librarians for affordable resources. Librarians know it is not always possible or easy for students to obtain the required course materials. Students need to have course materials for their classes to understand the course. Scholars who cannot obtain these materials may have lower grades due to needing books to study. It can also cause them to drop or fail the class, delaying graduation. Librarians try to assist students in locating needed course materials so that students can graduate on time. Next, we will discuss the benefits and challenges of open education resources in higher education.

Benefits of OERs

OERs provide all students equity and access to learning (Allen & Katz, 2020). Students who have used OERs find them easier to use than traditional textbooks (Allen & Katz, 2020). One reason is that instructors design OERs to fit students' educational needs. Traditional textbooks sometimes include chapters' instructors, and students feel are unnecessary to teach because of time constraints. Therefore, OERs allow professors to redesign their lesson plans frequently and update pertinent information. Students say they enjoy reading articles and watching videos about the subject matter versus reading dated textbooks (Allen & Katz, 2020). One reason is that the information is easy to retain. Another reason students enjoy using OERs is because of accessibility. All students need to access OERs is a computer device and an internet connection. One of the primary purposes of OERs is to provide students with educational resources free of charge, but it also has other benefits. One benefit is that it encourages students to gain insight into critical issues and current events. For example, events such as the Russian and Ukraine Wars are not yet in textbooks, but articles and videos allow professors to teach about these current events with background information. Another benefit of

OERs is that when faculty want to change or update lesson plans, they can easily do so with open-access materials (Allen & Katz, 2020).

Furthermore, with OERs, students taking online courses can begin studying course materials immediately. Additionally, courses that utilize OERs can have higher grades (Colvard et al., 2018). Open Educational Resources such as videos and articles can potentially increase grades (Zhao et al., 2020). Overall, Open Educational Resources have the potential to make learning worthwhile.

Another benefit of OERs is that they have the potential to help students close the attainment gap. (Colvard et al. 2018). The attainment gap “is the rate at which different ethnicities earn college degrees” (Colvard et al., 2018, p.1). According to the National Center for Education Statistics, White Americans have a college graduation rate of 37.3% compared to African Americans at 21.8% and Hispanics at 15.4% (National Center for Education Statistics, 2016). There are various reasons why different ethnicities have lower graduation rates, but Colvard and colleagues cite not being able to afford textbooks as one reason (Colvard et al., 2018). An additional benefit is that OERs can potentially enhance students' critical thinking skills. Textbooks are incredible tools for learning, but first-year students may have difficulty understanding the material in textbooks, and OERs can help them. Articles and videos on the subject can help instructors tap into the different learning styles of students, such as visual, auditory, read/write, or kinesthetic.

Challenges of OERs

Although there are many benefits to OERs, such as updated course materials and accessibility, there are also several challenges. One challenge is that faculty and librarians may

need help agreeing to use OERs. Also, approval is required from the university to utilize OERs. Some professors are not open to adopting OERs because they may have to redesign their courses to fit the new book design (Bass et al., 2022), which can be time-consuming. It can be challenging for an instructor to create a new curriculum on short notice because colleges and universities must meet specific standards. All higher education institutions have standards that facilitate improvements in instruction and student learning and improve outreach and collaboration with families and communities (Association, 2023).

A reason instructors are reluctant to utilize OERs is the need to understand the purpose of the resource. In the study conducted by Bass and colleagues, instructors admitted that they did not understand how to use OER but were open to learning how to use the resource (Bass et al., 2022). According to Bass, yet another challenge is determining whether or not shared resources should be quality-checked (Bass et al., 2022). Quality checking information is vital because, in the education field, instructors do not want to teach incorrect information to students.

“OER addresses affordability, completion, attainment gap concerns, and learning.” (Colvard et al., 2018, p.1). Open educational resources save students money (Colvard et al., 2018). They are also instrumental in helping students complete their coursework and can potentially increase graduation rates. Students who cannot afford textbooks may drop the courses they have registered for or fail because they do not have a textbook to study the course material. University professors sometimes attempt to leave course reserves for students enrolled in their courses, but this does not work for several reasons. One reason this may not work is because there are not enough copies for the entire class. Some students cannot access the needed course material if only a few textbook copies are available. Also, the textbook can become dated

and not have current information on the subject area. This is not to say that libraries should not have course reserves because they should do so due to the great benefit to students, such as no cost. However, librarians should regularly monitor the course reserve section to ensure that books are current. To ensure all students can access course materials, they can be placed online, even when libraries are closed, such as during the COVID-19 pandemic.

In addition, Open Educational Resources are convenient for online students. Students who take courses online have the difficult task of ordering books through the university bookstore, Amazon, Barnes & Noble, Books a Million, or Chegg. Online learners need course materials before they can begin their studies. They often need to catch up on their coursework because they can only order their textbooks after they receive their syllabi on the first day of class. However, with the quick availability of open educational resources, online learners can access course materials immediately.

Another reason open education resources are essential is the cost of textbooks. Brandle says textbook costs can range from \$1,240 to \$1,460 at colleges and universities (Brandle, 2022). With rising inflation, books can cost as much as tuition. It is difficult for students to attend classes, work to pay for books, fulfill other obligations, and still find time to study. Open educational resources are an excellent way for students to obtain the resources they need for their course, have extra money for other school obligations, and have time to study.

Not only are open educational resources helpful to students, but they are also important to professors. With OERs, professors can teach the courses in a way that they feel is helpful and do not have to cancel classes for which students cannot obtain books. Previously, instructors had to cancel courses because there was insufficient course material to teach them. Delaying essential

courses for students can postpone graduation and deny them a much-needed education. According to Appedu and colleagues, students from lower-income families are the most affected by the increasing cost of textbooks (Appedu et. al 2021). When they cannot afford textbooks, they have no other avenues to purchase books and risk failing the courses.

Another option for students who cannot afford textbooks is purchasing the books through student loans. Students who choose this option receive their textbooks and have a fair chance of passing the course. However, students who use student loans to purchase their textbooks borrow more money, and it takes longer to pay the loan off.

Conclusion

Open educational resources (OERs) are essential in higher education. They are valuable because they allow instructors to revise, reuse, and remix lesson plans. OERs come in many forms, such as journal articles and videos. Students and instructors rely on OERs to supplement the costs of textbooks. The benefits of OERs include saving students money and providing accessibility to resources.

Additionally, instructors can change and update electronic books when necessary. A challenge for OERs is for instructors to become more familiar with them. Also, OERs are essential in closing the attainment gap between students of different ethnicities. They are especially beneficial for students of low-income families who need more money to purchase costly textbooks. Instructors find OERs beneficial because they can revise lesson plans in a short period. Open educational resources are increasingly developing resources, although they

are often overlooked. If instructors and universities work together, OERs can help supply students with the resources they need for success.

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