Open education can make universities more inclusionary

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Universities are by nature exclusionary — there are limited spots and often only those with the highest grades and test scores are accepted. In the 1940s, people began referring to academic institutions as ivory towers, where an elite few engaged in intellectual pursuits, largely "disengaged" from the concerns or needs of the public (Shapin, 2012). If anything, the perception of universities as ivory towers has only grown over the last decades, as competition for student and faculty positions increases, leaving many more on the outside. As Shapin writes, "Today, almost no one has anything good to say about the Ivory Tower and specifically about the university in its supposed Ivory Tower mode" (Shapin, 2012).

How can institutions move away from this negative image and become more inclusionary? Increasing acceptance rates is not feasible for economic and infrastructure reasons. However, universities can allow everyone access to the knowledge created inside their walls. Open educational resources (OERs) are a prime example of openness increasing inclusion (Bossu et al., 2012; Conole, 2012) and are especially important for increasing access to education in developing countries (Kanwar et al, 2010; Kumar, 2009). When universities make lecture notes, exams, and textbooks openly available online, even those who cannot attend in person can benefit from what the institution has to offer. In fact, 20%-50% of surveyed visitors to open courseware (OCW) websites identify as "self learners" (Organisation for Economic Co-operation and Development, 2007). Educators also benefit from OCW sites, making up around a quarter of visitors from regions like Latin America, Eastern Europe, and the Middle East and North Africa (Carson, 2006). As an educator in Mexico, I use open textbooks available through projects like OpenStax, run by Rice University, because I know my students cannot afford expensive textbooks but still need access to quality information to learn.

The recent growth of massive online open courses (MOOCs) (Yuan & Powell, 2013), particularly large-scale, free course initiatives by prestigious United States universities (e.g., edX, run by Harvard and the Massachusetts Institute of Technology), is one indication that institutions are recognizing their exclusionary nature as a problem and trying to improve access to education by lowering financial and presential barriers. While this can be seen as positive, it is also important to not lose sight of the goal to increase inclusion. The issue is not just access but also participation (Czerniewicz, 2013): who is creating knowledge, and how do their experiences influence and inherently bias educational content? If the majority of OERs are produced by prestigious US universities, it represents another form of exclusion and reinforces the problem of Western perspectives (and the English language) dominating educational content (Crissinger, 2015; Kanwar et al, 2010; Organisation for Economic Co-operation and Development, 2007). Resource-rich universities in Canada, the US, and Europe should look for ways to support, raise visibility, and increase the use of OERs from other countries with diverse global perspectives to facilitate a "true knowledge exchange" (Crissinger, 2015). An example of an OER project from Africa is the Science Education Exchange for Sustainable Development (SeeSD), based in Senegal, which is designing open resources to improve access to education and participation in science, technology, engineering, and mathematics (STEM). SeeSD is also developing a MOOC-style online learning

platform called Afreecademy. Examples from South Asia and Southeast Asia, respectively, include Sakshat from India and the Vietnam Open Educational Resources program. More on OER projects in Asia can be found in Dhanarajan & Porter, 2013. An example from Latin America comes from the Universidad Nacional Autónoma de México (UNAM), where I work. UNAM does not have a financial barrier to entry, because tuition is not charged, but there is a huge demand for a small number of places. UNAM annually accepts only approximately 10% of bachelor's degree applicants through open admissions testing. In 2011, the university launched "Todo la UNAM en Línea" ("All of UNAM Online") to provide open access to the knowledge generated by the institution for the benefit of society.

Beyond the societal benefits, universities have reasons to adopt OERs to benefit their own student population. Surveys show that many students do not buy textbooks due to high costs, and that this may be associated with failure to pass classes and high dropout rates (Donaldson et al., 2016;, Senack & PIRG, 2015). OERs can help address financial disparities among students and may improve performance. In 2013, Tidewater Community College became the first US institution to offer a degree program using exclusively OERs. Not only have they shown it is feasible to run such a program but, also, data up to 2015 indicate that switching to OERs is associated with better student learning outcomes and retention rates, which may ultimately lead to quicker graduation times (Hilton et al., 2016). Such statistics on student performance, retention, and degree completion contribute to university rankings and, consequently, to funding and recruitment power.

While there are benefits for students and the university, it should not be overlooked that the development of OERs implies investment of time and effort by faculty. In addition to content creation, there exist higher standards when materials are shared via public platforms. For example, the University of California, Berkeley, was recently told by the US Department of Justice that their online open educational materials did not meet accessibility standards required by the Americans with Disabilities Act (Straumsheim, 2017). There are additional concerns with OERs, such as ensuring that images pulled from primary sources are licensed for reuse. This added effort, in turn, requires institutional recognition and support if OER creation is to be undertaken by more than just a few altruistic individuals. Some evaluation systems for hiring, promotion, and tenure put less weight on the publication of books and book chapters than journal articles. Worse yet, electronic resources may not be recognized at all if not published by "prestigious" publishing houses (Harley et al., 2010). OER creation must be recognized in its multiple forms if faculty are going to participate. A few steps universities could take to support OERs are listed in Box 1.

Box 1:

1. **Redirect textbook purchasing funds to support faculty.** Purchasing textbooks involves buying a limited number of copies and requires buying new editions every few years. Money would be better invested in openly licensed, electronic textbooks, for which there is no limit on copy number, and these e-books can be updated in real time as new discoveries are made. Faculty could be awarded small grants to write, maintain, or even peer review open e-books. Support could also include providing formal guidance on accessibility standards and licensing issues to lower the burden of OER creation for faculty.

2. **Develop 2-5-year plans to convert existing degree programs to OERs.** Plans of study typically undergo periodic evaluations. This would be a natural time to review class syllabi, search for open alternatives to current textbooks, and identify areas in which OERs are missing and could be developed by faculty.

3. **Require all new degree programs to use primarily OERs.** If new degree programs are proposed, faculty can design core courses to rely primarily on OERs from the start. Academic boards reviewing these proposals can be advised to evaluate OER use as part of the approval criteria.

4. **Devise incentives for OER creation and open educational practices.** One incentive would be positive mention of OERs in guidelines for promotion and tenure. An example of such a [policy comes from the University of British Columbia](#), which lists creation of OERs as one way faculty can demonstrate "evidence of educational leadership". Another incentive could be teaching prizes based on open educational practices. This would be one way for institutions to establish prestige around open education and signal their support.

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