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## Open To What? A Critical Evaluation of OER Efficacy Studies

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Ian McDermott

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# OPEN TO WHAT? A CRITICAL EVALUATION OF OER EFFICACY STUDIES

## ***In Brief***

*This selective literature review evaluates open educational resources (OER) efficacy studies through the lens of critical pedagogy. OER have radical potential as transformative tools for critical pedagogy or they can serve as a cost-free version of the status quo, inclined toward propagating austerity. This review analyzes studies published since 2008 with regard to cost, access, pedagogy, commercialization, and labor. These criteria are used to make explicit subjects indirectly addressed, if not ignored completely, in the existing literature. Typically, ample attention is paid to a study's design and methodology but the underlying institutional infrastructure and decision-making process is unexamined. What emerges is an incomplete picture of how OER are adopted, developed, and sustained in higher education. Measurables like student outcomes, while important, are too often foregrounded to appeal to administrators and funding organizations. The review concludes with suggestions for how to utilize critical pedagogy for future studies and grassroots OER initiatives.*

By Ian McDermott

## Introduction

Open Educational Resources (OER) are misunderstood and underutilized in higher education (higher ed). In part, this situation can be traced to definitions. What are OER? In 2002, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) coined the term OER (2002) and defined them as non-commercial learning materials. In 2012, UNESCO refined their definition to include “any type of educational materials that are in the public domain or introduced with an open license” (UNESCO, 2012). These educational materials encompass everything from textbooks and curricula to lecture notes and animation. The William and Flora Hewlett Foundation, a charitable foundation that supports OER initiatives, states OER are “high-quality teaching, learning, and research materials that are free for people everywhere to use and repurpose” (2018). David Wiley, Founder and Chief Academic Officer at Lumen Learning, argues that it is flexible licensing and permissions in opposition to conventional, restrictive copyright that are central to OER. Wiley cites the 5 Rs of OER as the most important features: the ability to retain, reuse, revise, remix, and redistribute (Hilton, Wiley, Stein & Johnson, 2010; Wiley, Bliss & McEwen, 2014).

These definitions, while useful, hint at the motivations of the organizations and individuals behind them. As an international, aspirational organization, UNESCO’s broad definition is inclusive and emphasizes the public domain and open licenses. The Hewlett Foundation’s definition signals an interesting shift, emphasizing “high quality” OER, which is not surprising since Hewlett, as an OER funder, has a financial stake in OER development. In 2019 Hewlett granted nearly \$8 million to 18 OER initiatives at universities and organizations, including the University of California at Berkeley, University of Cape Town, Creative Commons, and the Wiki Education Foundation (Hewlett Foundation, Grants). Wiley’s 5 Rs model is arguably the preeminent OER definition. It is clear and concise while articulating a broad set of practices. One critique points out that several of the 5 Rs require access to technology and the requisite skills (Lambert, 2018). Like the Hewlett Foundation, Wiley has a vested interest in the success of OER. Lumen Learning is a company that provides a suite of educational technology products that colleges and universities pay to use; Lumen’s Candela, Waymaker and OHM provide the infrastructure for many instructors teaching with OER. While their products are often less expensive than commercial textbooks and platforms, some argue their business model betrays the ethos of open access initiatives (Downes, 2017; see Wiley, 2017, for counterpoint). Critically, Wiley’s initial definition of 2007 only included 4 Rs (Wiley, 2007). He added retain as the fifth R in 2014. As a practice, creators of any work should retain certain rights. Coincidentally or not, the right to retain is critical to the

Lumen business model. It enables Lumen to monetize OER materials by packaging them in a proprietary, fee-based system.

These definitions vary enough to preclude a shared understanding of OER. In fact, a majority of college and university faculty are not familiar with OER (Seaman & Seaman, 2017, p. 16). Current OER practice varies depending on the practitioner's affiliation (e.g. professor at a public university, academic librarian, Lumen employee, adjunct faculty member, student). Beyond sharing resources, higher ed lacks a common OER practice and existing OER practices lack an explicit social justice mission.

This situation presents an excellent opportunity to define, develop, implement, and advocate for OER in critical ways that address social justice issues facing higher ed: cost and access, pedagogical practice, and academic labor. Studies that assess OER's impact on higher ed tend to focus on efficacy and perceptions. When compared to commercial textbooks and learning materials, these studies measure whether OER are effective at producing positive student outcomes and if they are perceived favorably by students and instructors. To develop a social justice-oriented analysis of OER, I am going to use critical pedagogy as a theoretical lens to review OER efficacy studies. Listed below are criteria and examples for evaluating these studies. This literature review examines OER efficacy case studies based on how they address the below criteria. Subsequent studies should be judged for how well they remedy them.

## Critical Pedagogy Criteria 1: Cost & Access

OER adoption eliminates textbook costs and democratizes access; online books are available in multiple formats and accessible for all learners, including formats that do not rely on consistent internet access (e.g. PDF download); acknowledges that high priced textbooks are a barrier to learning because many students do not purchase expensive textbooks; cost and access to textbooks and learning materials are connected to students outcomes: course grade, enrollment intensity, withdrawal rates, etc.

## Critical Pedagogy Criteria 2: Pedagogical Practice

Replacing commercial textbooks with OER is a pedagogical decision, beyond cost and access; details are provided about commercial textbooks and OER; faculty are making pedagogical decisions and are transparent about materials adopted,

including relevant software (e.g. learning management software); open and critical pedagogy is used to involve and reflect students' voices.

## Critical Pedagogy Criteria 3: Academic Labor

Labor required for OER initiative is described, including work done by faculty, educational technologists, graduate assistants, librarians, undergraduate students, and others; price of academic labor and funding sources included.

## Critical Pedagogy

Critical pedagogy has been used to analyze and reimagine education for over 50 years. OER have this potential when put into critical pedagogy practice. For this review, I define critical pedagogy via two foundational texts: Paulo Freire's *Pedagogy of the Oppressed* (1968) and bell hooks's *Teaching to Transgress: Education as the Practice of Freedom* (1994). Brazilian educator and theorist Freire (1968) argues for liberatory education, "[w]here knowledge emerges only through invention and re-invention, through the restless, impatient, continuing, hopeful human inquiry human beings pursue in the world, with the world, and with each other" (p. 72). Teachers minimize their authoritative role through a reconciliation of the teacher-student contradiction, "so that both are simultaneously teachers and students" (Freire, 1968, p. 72). This model of education combats what Freire (1968) termed the banking concept of education, "in which the students are the depositories and the teacher is the depositor" (p. 72). For Freire, education is one site in the struggle against larger forces of oppression. Leveling hierarchy as much as possible in the student-teacher relationship is fundamental to the struggle.

Though his ideas have influenced educators throughout the world, Freire's early writings emerged from his experience teaching the illiterate poor in Brazil how to read. In the United States, feminist educator and author bell hooks has explored critical pedagogy for decades in higher ed, as it intersects with race, gender, and class. In *Teaching to Transgress* hooks (1994) contrasts her ecstatic experience of education as "the practice of freedom" when she was a child in all-black schools in the south with the oppressive, racist schools she attended during integration that strove to "reinforce domination" (p. 4). For hooks, critical pedagogy means "creating [a] democratic setting where everyone feels a responsibility to contribute" (1994, p. 39). This practice requires a desire to transgress, to empower the oppressed through critical pedagogy: students of color, queer students, poor students.

More recently, classroom faculty, librarians, instructional designers, and others in higher education have examined OER with a critical pedagogy perspective (e.g. Darder, Torres, Baltodano, 2017; Accardi, Drabinski, and Kumbier, 2010). In her analysis of OER and the open access movement in libraries and higher education, Crissinger warns “how openness, when disconnected from its political underpinnings, could become as exploitative as the traditional system it had replaced” (2015). In analyzing key texts of open educational practice (OEP), Lambert finds little explicit social justice (2018).

Critical pedagogy must be a part of OER practice. If students cannot afford a textbook, they are already oppressed. Faced with this contradiction, how can we possibly create the “democratic setting” hooks strives for? Replacing an expensive textbook with a free one is not critical pedagogy, because expensive textbooks are one symptom of higher ed’s disease. Eliminating expensive textbooks is a first step toward confronting the contradictions students and faculty face in higher ed. For example, five publishers control 80% of the textbook market (Senack and Donoghue, 2016, p. 4) and over 70% of faculty members hold contingent positions (American Association of University Professors, n.d.). Can the strategic use of OER effect the kind of change in higher education that places critical pedagogy at its center and eschews the austerity mindset that currently governs the field?

## Background

Some broader context on the unaffordability of higher education is necessary to understand why OER are a pressing topic. First and foremost, the price of higher education continues to increase as the cost burden has been shifted to students and their families. According to the State Higher Education Executive Officers Association (SHEEO), 2017 was the first year a majority of states relied on tuition and fees more than state and local educational appropriations (SHEEO, 2018, pp. 8-9) to fund public higher education. Nationwide, spending per student by public higher educational institutions has decreased by 8% since 1992 while per student tuition has increased 96% (SHEEO, 2018; Brownstein, 2018). Student debt now exceeds individual credit card debt (Johnson, 2019).

Focusing on textbooks, the Bureau of Labor Statistics (BLS) reports that the price of college textbooks has increased 88% between 2006-2016, far outpacing tuition, fees and college housing during the same period (2016); a similar study by the U.S. Government Accountability Office (GAO) reached similar results (2013, p. 6). In some

cases, the price of textbooks is greater than the price of tuition (Fischer, Hilton, Robinson, & Wiley, 2015, p. 160; Goodwin, 2011, p. 15). 65% of surveyed students admitted high cost prevented them from buying a textbook (Senack, 2014, p. 11). Students specifically cite textbook prices as an impediment preventing them from passing, completing, or even enrolling in classes (Florida Virtual Campus, 2019, pp. 31-32). Therefore, reducing or eliminating the cost of textbooks is one step toward lowering the barriers to higher education.

## **Scope, Methods, Objectives**

This review is limited to OER efficacy studies in higher education published in North America between 2008 and 2019. Books, news articles, reports issued by governmental and non-profit organizations, and blogs are included as secondary sources. The body of literature on OER efficacy is not voluminous, but it is growing. A comprehensive article-length review is not possible or desirable.

As much as possible, the studies, reports, and articles selected for this review are published in open access journals and websites, though articles from the following databases and search engines were used: Education Resources Information Center (ERIC), Library and Information Science Source (EBSCOhost), Education Source (EBSCOhost), and Google Scholar. The Open Education Group's The Review Project is an indispensable resource, which "provides a summary of all known empirical research on the impacts of OER adoption (including our own)" (Open Education Group, 2019). To date, this ongoing literature review includes 48 peer-reviewed articles, theses/dissertations, and white papers.

The studies were chosen as a representative sample and for their ability to meet the criteria discussed above: cost and access, pedagogical practice, and academic labor. Past and current literature reviews on OER efficacy (Hilton III, 2016; Abri and Dabbagh, 2018; Hilton III, 2019) emphasize quantitative and qualitative data and survey design. Following Crissinger's (2015) and Lambert's (2018) analyses, the objective for this study is to search for evidence of critical pedagogy and social justice in OER efficacy studies.

## **Analysis and Commentary**

This section organizes OER efficacy case studies into three subsections. These subsections are organized in descending order by the frequency with which they are addressed in the studies under review.

### **1. Cost Reduction, Increased Access, and Student Outcomes**

Every study addresses how OER help reduce the cost of higher education and increases access to textbooks and learning materials. The studies measure student outcomes in classes using OER (test group) compared with classes using commercial textbooks (control group); student outcomes include A, B, C grades, D, F, Withdrawal rates, enrollment intensity, final exam grades, and others. Often, student outcomes are similar across the test and control groups, though some studies present a case for correlation between cost and access and improved student outcomes.

### **2. OER and Pedagogy**

Some studies provide details about the pedagogical decisions made with regard to OER adoption. For example, which OER textbook replaced the commercial option. But studies rarely name the commercial textbook. Even fewer studies discuss how OER intersect with pedagogical theories or faculty/student/staff collaborations.

### **3. OER and Academic Labor**

Rarest of all is the study that provides details about the academic labor required for OER initiatives. Adopting an OER textbook may require a significant amount of work for a single professor teaching a single section. The number of people only increases for large, multi-section courses reliant on course management software. Very few studies detail the personnel involved or the costs required.

Some studies are discussed in more than one subsection, though each subsection foregrounds one of the above topics. While I use critical pedagogy as a lens to analyze OER efficacy studies, I am not primarily concerned with how critical pedagogy is used in specific OER textbooks or learning materials. The below studies do not provide such granular detail. Instead, I am analyzing these studies for evidence, or lack thereof, of critical approaches to OER adoption and survey design as it relates to cost and access, pedagogy, and academic labor.

## **Cost Reduction, Increased Access, and Student Outcomes**

Many OER studies identify cost reduction and increased access as the initial motivation for OER adoption. The authors and investigators then track student outcomes for test and control groups across a variety of metrics. In nearly all studies, student outcomes are the same or better in classes taught with OER.

The University of California, Davis (UC Davis), created the STEMWiki Hyperlibrary to provide students with a no-cost replacement for existing commercial textbooks (Allen, Guzman-Alvarez, Molinaro, & Larsen, 2015, p. 3). ChemWiki (part of the Hyperlibrary) was used as the exclusive textbook in seven chemistry classes at UC Davis, Purdue University, Sacramento City College, and Howard University. Allen, et al. (2015) claim that ChemWiki implementation saved students approximately \$500,000 dollars in textbook expenditures (p. 3), though the commercial textbook replaced by ChemWiki is not mentioned by name. It is not clear how the authors arrived at this figure; perhaps it is based on an estimate assuming all students purchased the commercial textbooks. All available research indicates many students do not purchase expensive textbooks. Such opacity is not helpful. For OER to flourish, it is important to name the resources being replaced, and their cost. Readers, especially those considering adopting OER, deserve to know these details to help them make informed decisions at their own institutions.

The Virginia State University School of Business turned to OER in hopes of reducing inequality in the classroom and improving student outcomes. Prior to this study, only 47% of VSU students purchased textbooks for their courses. Students cited affordability as the primary barrier; many VSU students struggle financially and work at least one job in addition to their full-time courseload (Feldstein, Hilton III, Hudson, Martin, & Wiley, 2012, p. 1). VSU faculty investigated ebook alternatives in order to lower costs and ensure students would have ongoing access to course materials. They contracted Flat World Knowledge (FWK), then an OER provider, and paid for per-student seat licenses. VSU faculty purposely avoided commercial and proprietary platforms that would restrict access for students without regular internet access. Therefore, students could read the textbooks online or download and retain all materials in several formats (Feldstein, et al., 2012, pp. 1-2).

However, working with commercial entities on OER initiatives has considerable drawbacks. One year after the VSU study, FWK “evolved from open education resources to fair pricing” according to their website. This means that the textbooks VSU faculty had hoped to make available for free were now subject to “fair pricing.” FWK and VSU students and faculty may have divergent ideas of what’s a fair price for a textbook. At the time of this writing, the FWK website lists most e-textbooks

between \$25-\$30 and most print copies (ebook included) list for \$55. This price is much lower than many commercial alternatives, but it is a lot more than free.

The percentage of African American and Latinx students that receive a bachelor's degree or higher lags far behind white students. In a 2018 study at the University of Georgia (UGA), Colvard, Watson, and Park sought to address the attainment gap through OER adoption in eight general education courses. The authors point to the connection between public disinvestment in higher education and rising costs for students. They argue that shifting the cost burden away from taxpayers and onto students exacerbates ethnic and racial disparities in educational attainment. Students saved over 3 million dollars as a result of these OER adoptions. Cleverly, this study disambiguated student data in order to determine if OER have a greater impact on students eligible for Pell Grants, part time students, and non-white students (Colvard, Watson, & Park, 2018, p. 264). The results are promising as the percentage of students receiving grades A, A-, and B+ in OER test courses increased dramatically for all three populations (Colvard, et al., 2018, pp. 269-271).

The last study in this subsection presents a convincing argument for cost reduction as a contributor to student outcomes. Fischer, Hilton, Robinson, and Wiley designed the largest efficacy study upon its publication in 2015. It is a quasi-experimental study that analyzed efficacy results across four four-year colleges and six community colleges for approximately 16,000 students in fifteen undergraduate courses: approx. 5,000 in the test group and 11,000 in the control group (Fischer, Hilton, Robinson, & Wiley, 2015, p. 164). The study measured outcomes in four categories: course completion, passing courses with at least a C- grade, credit hours during the semester tested (enrollment intensity), and credit hours in the following semester.

Fischer, et al. claim that cost is more impactful on student outcomes than instructional design and mode of delivery (Fischer, et al., 2015, p. 169). In this study and others like it, student outcomes are similar when using OER or commercial textbooks. However, the authors see a correlation between saving money on textbooks and enrollment intensity. The test group (those using OER) enrolled in more credits in the surveyed semester, and the following semester, than the control group (Fischer, et al., 2015, pp. 167-168). Their argument is that students use their savings to enroll in more classes. Causation is impossible to prove but this hypothesis is provocative.

The refrain that student outcomes are the same or better when using OER is increasingly common. This argument is used to encourage OER adoption. But OER

need practitioners committed to critical pedagogy to move beyond a free version of the status quo. Fischer, et al. (2015) admit that future studies should analyze textbook quality and teacher effects (p. 170). They do not provide any details about the learning materials used in their study. This omission is too common in OER efficacy studies. These issues are taken up in the following subsections.

## OER and Pedagogy

The fact that the vast majority of OER efficacy studies show that student outcomes are the same or better when using OER is promising. However, most studies lack an in-depth analysis of the pedagogical choices driving OER initiatives. This section examines case studies for evidence of critical pedagogy with regard to OER adoption.

Though never specifically mentioned, critical pedagogy is at the center of the UC Davis, ChemWiki study discussed above. Allen, et al. stress the importance of faculty and student engagement in authoring and reviewing CHEMWiki teaching materials. As the name suggests, ChemWiki utilizes a model similar to Wikipedia, a comparison the authors embrace (Allen, et al., 2015, p. 2). Teaching modules are created by many instructors and can be hyperlinked within each course's instance of ChemWiki. In other words, labor is distributed horizontally in an effort to draw on collective expertise and avoid the centralization of expertise used in authoring traditional textbooks.

Colvard, et al. argue that their study, and OER by extension, addresses all three of the great challenges facing higher education: affordability; retention and completion; quality of student learning (Colvard, et al., 2018, p. 273). Quality of student learning is measured by academic performance, which improved in the test group. But the study reveals little about pedagogy. Most of the classes adopted OpenStax textbooks, a major OER textbook publisher based out of Rice University. UGA's Center for Teaching and Learning assisted with some OER adoptions but no further details are provided. As a result, pedagogy and academic labor are hinted at but never discussed. One study cannot cover all topics and this one does a remarkable job of situating OER in a social justice context. Perhaps a future study could widen the aperture of social justice to better account for pedagogy and the academic labor required to adopt OER at a large, public university.

Hendricks, Reinsberg, and Rieger acknowledge that most studies ignore pedagogy by providing, "a very specific description of how the open textbook used in the course we are studying has been adapted to fit into that course" (2017, p. 82). In this study

at the University of British Columbia (UBC), the authors adopted an OpenStax physics textbook and edited out sections of the textbook that were not relevant to the course (Hendricks, Reinsberg, & Rieger, 2017, p. 90). Professors also stopped using a commercial software package for homework. Instead, they added the textbook's review questions to the course website in an attempt to reduce cost, simplify administration, and simplify students' experience (Hendricks, et al., 2017, p. 83-84). In this instance, getting rid of the commercial homework system, rather than the textbook, generated the greatest savings.

Hendricks, et al. found that students' problem-solving abilities were slightly negatively impacted by the new homework system. The previous commercial system provided hints and tutorials as students completed their homework, whereas the new system simply provided correct/incorrect feedback. However, their transparency demonstrates that moving away from commercial entities in higher education may not be painless. Critical pedagogies are necessarily difficult because the intention is to leave behind pre-existing approaches. In this regard, the authors show that there is much more to student outcomes than "the same or better results."

Critical approaches factored into the decision-making process in the Virginia State University study. Feldstein, et al. do not provide details on pedagogical methods used in the courses, but VSU Business School faculty identified the value in adopting OER with Creative Commons licenses. This way, materials are relatively easy to revise and remix and their teaching materials can reflect current events and different points of view (Feldstein, et al., 2012, pp. 1-2). As one professor put it, "Since students now had permanent access to content, the value was in the information and not in the textbook as a commodity" (Feldstein, et al., 2012, p. 8).

Pawlyshyn, Braddlee, Casper, and Miller document OER adoption for ten high enrollment courses at seven institutions, part of the Project Kaleidoscope Open Course Initiative (KOCI). Their writing is reflective to an extent rarely found in OER efficacy studies. They dedicate just as much space to pedagogical decision-making as to costs and student outcomes. This fact may be connected to the project design. Participants collaborated across institutions (and held weekly Skype calls!), which surfaced important differences at the respective institutions. For example, student populations varied from remedial to college entry (Pawlyshyn, Braddlee, Casper, & Miller, 2013). Consequently, faculty developed targets for their specific student populations. For OER initiatives to succeed, the authors make the following recommendation: "Introduce and facilitate OER efforts through faculty initiative

rather than making a top-down institutional directive. Eventually, institutional policy must support emergent practice” (Pawlyshyn, et al., 2013).

Even when documenting KOCl’s shortcomings, Pawlyshyn et al. provide critical reflections. Some faculty resisted KOCl based on perceived limitations to academic freedom and of “corporate interference” since KOCl used Lumen Learning and received funding from the Bill and Melinda Gates Foundation and the Hewlett Foundation (Pawlyshyn, et al., 2013).

The following section examines how decisions regarding academic labor, which can include collaborating with commercial vendors, is discussed in OER efficacy studies—when academic labor is discussed at all.

## OER and Academic Labor

Academic labor is rarely covered in these studies. This is understandable insofar as the focus of most studies is cost savings and student outcomes. However, academic labor is central to any OER initiative. Who is doing the work? Are they getting paid? Is this work acknowledged for promotion and tenure? Based on the available literature, it is difficult to answer these questions. Calling attention to the matter will hopefully help remedy this glaring omission in the literature.

Hendricks, et al. (2017) acknowledge the costs of adopting OER: “the literature on open textbooks related to cost focuses on cost savings to students, but it’s important to keep in mind the possible costs for faculty and institutions in terms of time and support when using open textbooks” (p. 94). Faculty and graduate assistants worked together during the summer months to prepare the course. The latter were paid with a teaching and learning grant of C\$20,000 from University of British Columbia. Ensuring fair compensation for graduate assistants and contingent workers is crucial from a critical pedagogy perspective. However, there is no indication the grant covered the time and effort spent by faculty planning the project, securing funds, selecting materials, and learning new systems. Are these tasks considered part of their job, were they paid a stipend for extra labor, or given course release time, to name a few payment options? Transparency on the working conditions of all faculty and staff, contingent and full time, is necessary as we use critical pedagogy to implement and document just labor practices for OER initiatives.

Pawlyshyn, et al. directly address payment and incentives in a section called “Motivations.” In addition to a small stipend, faculty participants received travel

funds to attend OER conferences. The authors claim this was an even greater motivator than the stipend and they make explicit recommendations for other OER initiatives to allocate funds for conference attendance (Pawlyshyn, et al., 2013). Though the authors do not explain why professional development funds were so popular, the implication is that faculty relished the opportunity to share their work and learn from others in a community of practice. One shortcoming of their report is it does not include any information about how Lumen Learning was involved in KOCl, especially with regard to MyOpenMath (MOM), a free, online course management system. It would be helpful to know if KOCl used the free version of MOM or the Lumen-supported version, Lumen OHM. Each option presents distinct cost and maintenance issues, namely vendor fees versus local maintenance expenses.

Allen, et al. contrast the commercial textbook publishing process—a small group of experts deciding on relevant content—with the horizontal crowdsourcing of ChemWiki. The infrastructure of ChemWiki is developed and maintained by professors, research assistants, and students who regularly review and update content for difficulty (Allen, et al., 2015, p. 3). The authors do not discuss how, or if, in the case of students, this labor is compensated or otherwise supported.

The final example in this subsection examines a study that looks to OER as an institutional cost saving measure. Bowen, Chingos, Lack, and Nygren (2012) examine an OER hybrid learning environment (a mix of in-person and online). Published by Ithaka S+R, a consulting non-profit, the study tested traditional and hybrid classes for a basic statistics course designed at Carnegie Mellon University and taught at six public universities. Like most studies, Bowen, et al. (2012) found the hybrid format produced the same or better results than traditional classroom instruction (pp. 18-21).

Unlike most OER studies, Bowen, et al. also tested whether or not the OER/hybrid method can lower instructor costs. In their model, the hybrid course would be supervised by tenure-track faculty, with in-person sections led by “teaching assistants” and administrative work handled by a “part-time instructor” (Bowen, et al., 2012, p. 25). Admittedly, this is one line of inquiry in a lengthy report, but using OER as a way to lower operating costs is anathema to critical pedagogy and social justice. The authors estimate large scale implementation could reduce instructor costs 36%-57% (Bowen, et al., 2012, p. 26). They do not include how they reach these numbers, likely because they would be perceived as controversial, if not incendiary.

## Conclusion and Future Considerations

OER efficacy studies are just as revealing for what they omit as for what they include. It is challenging to design a methodologically sound study, especially under tight timelines and tight(er) budgets. Given this reality, OER efficacy studies tell the tidiest story: saving students money is good and OER may improve student learning. In this respect, these studies conform to the logics of funders and administrators, not students, faculty, librarians, and staff working at colleges and universities. But this story elides an inconvenient truth: if students are not buying expensive textbooks to begin with (Florida Virtual Campus, 2019; Feldstein, et al., 2012), are they saving money or are they not spending money they do not have in the first place?

This is not to say that well-designed OER efficacy studies are irrelevant. The above studies are valuable for their analysis of and advocacy for OER initiatives. But the desire to quantify all aspects of higher ed is reflected in the literature. The statistics are given primacy over pedagogy. Can an education committed to measuring “student success” ever be liberatory? Critical pedagogy does not reduce students to their letter grades or how many dollars they saved. Rather, students and faculty engage in dialog about defining academic success. In contrast to the above OER efficacy studies, qualitative approaches used in OER perception studies could be incorporated more often to center students’ voices. Action research is another approach. According to Sagor, action research, “is a disciplined process of inquiry conducted by and for those taking the action. The primary reason for engaging in action research is to assist the ‘actor’ in improving and/or refining his or her actions” (Sagor, 2000). Action research on OER initiatives would be a welcome addition to the literature, as the method aligns nicely with critical pedagogy.

Bowen, et al. (2012) seem to accept the divestment of public funds for higher education as a permanent reality, instead of an ongoing struggle (pp. 4-6). Their solutions address the perspective of administration, not faculty or students. Moreover, how are OER being commercialized? David Wiley, a co-author on several above studies, and many others, is the Chief Academic Officer at Lumen Learning. A deeper investigation into “open washing,” or proprietary practices disguised as open access/licensing, as defined by Watters (2014), in OER initiatives is needed.

Alternative perspectives abound. Brier and Fabricant decry austerity and commercialization in their full-throated defense of public higher education, *Austerity Blues: Fighting for the Soul of Public Higher Education* (2016). Winn’s (2012) Marxist

analysis of OER in higher education cautions against administrators' attempts to exploit OER for surplus value in the form of increased enrollment, lower teaching costs, and cultural prestige (pp. 143-144). Farrow (2017) criticizes the austerity mindset, obsessed with efficiencies that "promote the idea that technological innovation can offer neat solutions to challenges faced by educational institutions" (p. 131).

As the title of this article asks, open to what? A free version of the status quo? The above analysis shows that OER efficacy studies would benefit from greater transparency. This transparency applies to pedagogy, technology, and the financial and emotional costs for students, faculty, and staff. It is one thing to use critical pedagogy to diagnose the problem with the above studies. It is a far more important challenge to address higher ed's contradictions and power struggles: teacher/student, faculty/administrator, proprietary/open access, banking education/open pedagogy. Critical pedagogy opens the door.

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