"Open"-ing Up Courses for Diversity and Deeper Learning

Marcos D. Rivera, Kaity Prieto, Shanna Smith Jaggars,
e alexander, Amanda L. Folk
The Ohio State University

Abstract

Universities increasingly require students to enroll in diversity coursework, which is positively associated with a range of academic and social outcomes and psychological wellbeing. However, these courses can be challenging for both students and faculty to navigate. For institutions to effectively engage diversity on campus, attention must be paid to pedagogical and curricular transformation—not only in stand-alone diversity classes, but in major-specific coursework as well. This conceptual paper explores the benefits of using open educational resources (OER) and open educational practices (OEP), in combination with the Hewlett Foundation's Deeper Learning framework and empathic scaffolding, in promot-

ing social justice and equity in courses by diversifying curricular content and enhancing students' learning and skill development. Pedagogical and curricular examples from instructors' diversity initiatives in two academic fields, drawing from a larger study on OER creation and adoption, are shared as a potential reference point for faculty interested in implementing similar practices.

Keywords: open educational resources (OER), open educational practices (OEP), curricular diversity, deeper learning

Cursos "abiertos" para la diversidad y el aprendizaje más profundo

Resumen

Las universidades exigen cada vez más que los estudiantes se inscriban en cursos de diversidad, lo que se asocia positivamente con una variedad de resultados académicos y sociales, así como con el bienestar psicológico. Sin embargo, estos cursos pueden ser difíciles de navegar tanto para los estudiantes como para los profesores. Para que las instituciones involucren efectivamente la diversidad en el campus, se debe prestar atención a la transformación pedagógica y curricular, no solo en los cursos de diversidad independientes, sino también en los campos principales. Este documento conceptual explora los beneficios de usar recursos educativos abiertos (REA) y prácticas educativas abiertas (OEP), en combinación con el marco de aprendizaje más profundo de la Fundación Hewlett y el andamiaje empático, para promover la justicia social y la equidad en los cursos mediante la diversificación del contenido curricular y la mejora de los estudiantes. 'aprendizaje y desarrollo de habilidades. Los ejemplos pedagógicos y curriculares de las iniciativas de diversidad de los instructores en dos campos académicos, extraídos de un estudio más amplio sobre la creación y adopción de REA, se comparten como un punto de referencia potencial para los profesores interesados en implementar prácticas similares.

Palabras clave: recursos educativos abiertos, prácticas educativas abiertas, diversidad curricular, aprendizaje más profundo

为多样性和深度学习"开放"课程

摘要

大学越来越多地要求学生注册多样化课程，这与一系列学术结果、社会结果、以及心理福祉呈正相关。然而对学生和教师而言，如何完成这些课程可能是一场挑战。为了让机构能有效参与校园多样性，则必须关注教学法和课程转型—不仅针对独立的多样性课程，对主要学科领域而言也是如此。本篇概念性文章探究了使用开放教育资源（OER）和开放教育实践（OEP）的益处，结合休利特基金会的深度学习框架和共情框架，通过对课程内容进行多样化并提升学生的学习发展和技能发展，进而推动社会正义和课程公平。分享了两个学术领域的教师多样性倡议计划所提供的教学实例与课程实例（取自一项关于OER创造与采纳的大型研究），以供对执行相似实践感兴趣的教师参考。

关键词：开放教育资源，开放教育实践，课程多样性，深度学习

Introduction

Universities increasingly require students to enroll in diversity coursework (Ravitch, 2015), which is positively associated with a range of academic and social outcomes and psychological wellbeing (Bowman, 2010; Bowman et al., 2011). These courses, however, can be emotionally and cognitively challenging for both students and faculty to navigate (Peters-Davis & Shultz, 2016). When poorly executed, diversity experiences can negatively impact student development (Bowman, 2010; Milem et al., 2005). For institutions to effectively engage diversity on campus, attention must be paid to pedagogical and curricular transformation—not only by diversity, equity, and inclusion facilitators in stand-alone diversity classes, but by instructors in all major-specific coursework (Milem et al., 2005; Ukpokodu, 2010). Customizable learning materials, such as open educational resources (OER), and a focus on open pedagogical opportunities offer a way to effectively develop diversity coursework and support the introduction of curricular and pedagogical diversity in the classroom.

Black feminist scholars have long been calling for pedagogical approaches that center personal experience, promote empathy, and uplift the voices of marginalized communities (Henry, 2005). Diversity efforts in education are not new. Yet as campus communities grapple with widening equity

gaps as a result of a global pandemic and seek to support students of color in the wake of racist violence, there is a national call-to-action for diversity work. Instructors who may have never considered the importance of diversifying their curriculum or infusing empathy into their practice are now compelled to do so. As diversity work moves towards the mainstream and #KeepTeaching efforts prioritize equity and inclusion, the need to provide faculty with resources becomes more important than ever.

This conceptual paper explores the benefits of using OER and open educational practices (OEP), in combination with the Hewlett Foundation's (2012) Deeper Learning framework and empathic scaffolding (Bauer & Clancy, 2018), to promote social justice and equity in higher education by diversifying curricular content and enhancing students' learning and skill development. Assignments designed using OEP, coupled with the Deeper Learning competencies of collaboration and communication, can prepare students to interact with specific communities and the world more broadly—essentially moving learning from an individual to a societal benefit. Through OEP, educators and students can develop relationships with local communities and design collaborative projects for students to learn more about the population, document its history, and share their work with the community and beyond. Yet while OEP provides a promising opportunity for more inclusive and effective pedagogy, instructors may be hesitant to explore these new modes of instruction because they may

not know how to engage with them (Harley, 2008).

In the absence of models for effective pedagogical implementation, instructors often default to teaching in the same way they successfully learned as students, creating a barrier to innovation (Mehta & Fine, 2015). With this in mind, this paper offers pedagogical and curricular examples from diversity initiatives in two academic fields, drawing from a larger study on OER creation and adoption, as a potential reference point for faculty interested in implementing similar practices.

Framing the Conversation

Open education refers to educational materials and practices that improve access, efficacy, and equity (Open Education Consortium, n.d.). It describes a range of policies, practices, materials, and pedagogies, as well as the values inherent in the free exchange of information (Cronin & MacLaren, 2018). The current conversation around open education has privileged OER, or those teaching, learning, and research materials that can be freely used, modified, and redistributed (Hewlett Foundation, n.d.). The focus on materials that can reduce cost is unsurprising given the variety of textbook affordability initiatives saving students millions of dollars per year (Jaggars et al., 2019). The cost conversation alone, however, does not communicate the full benefits of OER as a pedagogical resource (Rivera et al., 2019). Research has shown students and faculty are generally pleased with the quality

and experience of using OER (Jaggars et al., 2018) and that courses utilizing OER tend to exhibit positive or neutral difference in academic outcomes compared to courses using traditional texts (Croteau, 2017; Hilton et al., 2013; Shaw et al., 2020). This suggests OER do not harm, and potentially may benefit, student learning. Positive outcomes in courses that use OER include increases to final grades and lower "D," "F," or withdrawal (DFW) rates (Colvard et al., 2018) The positive influences of OER may be particularly significant for traditionally high-risk groups including Pell grant recipients, part-time students, and those who have been historically underserved by higher education (Colvard et al., 2018).

Further, faculty members perceive higher student interest and engagement with OER materials, allowing them to increase the depth and breadth of content in courses or to include additional educational activities (Bliss et al., 2013). Because of their customizability, OERs also allow educators to tailor materials to meet the needs of diverse learners and implement culturally responsive teaching practices (Hockings et al., 2012; Prescott et al., 2018), which research has demonstrated is indispensable for teaching social justice (Bauer & Clancy, 2018). OER are particularly adaptable because they are premised on what Willey (2014) calls the "Five Rs" of open education. This includes the rights to retain, reuse, revise, remix, and redistribute content. The flexibility and ethos of sharing offered by OER makes them an effective tool for teaching and learning (Rech & Mortimore, 2020; Scronce et al., 2020).

While the definition of OER is generally well accepted, definitions of OEP have ranged from the basic use of open materials to an intentional focus on both the cultural and pedagogical dimensions of openness disconnected from OER (Cronin & MacLaren, 2018; Hodgkinson-Williams, 2014). In this paper, we use the term OEP when referencing the "practices which support the (re)use and production of OER through institutional policies, promote innovative pedagogical models, and respect and empower learners as co-producers on their lifelong learning path" (Andrade et al., 2011, p. 12). Examples of OEPs include students completing assignments that contribute to websites and e-portfolios, or even developing their own OER to be used in future classes (Paskevicius, 2017). OEPs have the potential to provide instructors with curricular opportunities to enhance teaching and learning (Conole, 2018; Ehlers & Conole, 2010). Built on the foundation provided by customizable OER, OEPs further allow for what Bauer and Clancy (2018) call empathic scaffolding, whereby instructors structure content and pedagogy—through the "strategic selection and arrangement of course content"—to expand students' comfort discussing race and social justice (p. 74). OEP and the customizable materials associated with them offer educators opportunities to (re)design courses in an intentional way. Yet the varying definitions of OEP, along with related terms such as connected learning and open pedagogy, create a barrier

to successful implementation. There is a need for scholarship that clarifies terminology and offers practical guidance to educators. We begin to address this gap by demonstrating varying dimensions of diversity in education before discussing how OER and OEP can support teaching and learning.

Dimensions of Diversity (in) Education

Diversity education and diversity of educational materials are necessary for student development and skill attainment, including the development of different perspectives, challenging biases and stereotypes, and learning to interact with diverse peers (Bowman, 2010; Bowman et al., 2011). OEP and OER can contribute to various dimensions of diversity—content, cognitive, and pedagogical—that support the development of these skills, enhance diverse representation, and improve engagement with the curriculum. Although discussed here as distinct concepts, these three dimensions are often interconnected and overlap in educational contexts.

Diversity Coursework

Diverse content included in diversity courses supports cultural competency through a reduction in students' prejudices and encourages students to challenge social injustices (Denson & Chang 2009; Engberg, 2004; Nelson Laird, 2005; Zúñiga et al., 2005). Further, diversity courses promote multicultural competency, or the ability to engage with diverse peers and understand different cultural perspectives (Chang, 2002; Hurtado et al., 2008). The American Association of Colleges and Universities (2002) referred to this skill set as social responsibility; it includes considering multiple perspectives, negotiating conflict, and being open to having one's views challenged (Hurtado et al., 2012). Pedagogy must include recognition of difference for students to become civic equals (Gutmann, 2004). However, diversity courses tend to be relegated to the humanities and social sciences instead of housed widely in all disciplines (Acosta et al., 2015). Students are returning to campuses amidst heightened racial tensions and campus protests (Douglas et al., 2020) and faculty must be ready to navigate and contribute to the difficult conversations that result. Further, students and community leaders across the country are demanding their high schools and colleges diversify the curriculum and provide anti-racist texts (Jurado, 2020; Natanson, 2020; Nguyen, 2020). The customizability of OER/OEP offers the opportunity to expand this dimension of diversity to ensure students are engaging with multiple perspectives and developing cultural competencies and skills.

Cognitive Diversity

The 2012 President's Council of Advisors on Science and Technology observed that the topic of demographic diversification across disciplines also supports increasing cognitive diversity, or the ability to approach learning with a variety of cognitive strategies and to

synthesize a range of divergent perspectives (National Academies of Sciences, Engineering, & Medicine, 2018). Cognitive diversity can also describe the diversity of a group's composition across different beliefs, perspectives, ideas, and preferences (Miller et al., 1998). Students benefit when they collaborate with individuals across differences and grapple with conflicting perspectives. For example, groups are more adept at the creation of new knowledge when diverse perspectives are represented (Mitchell & Nicholas, 2006). Additionally, academic opportunities that integrate various disciplines, including arts, humanities, social sciences, and science, technology, engineering, and math (STEM) fields expand learners' cognitive repertoire (National Academies of Sciences, Engineering, and Medicine, 2018); OER/OEP create opportunity for structuring course materials and activities with interdisciplinarity in mind. Apart from considering the diversity of course content and the student perspectives represented in the classroom, faculty can diversify their pedagogical approaches to engage students more effectively with the material.

Pedagogical Diversity

In addition to limiting cognitive diversity, traditional pedagogies create barriers in diversifying fields of study by historically disregarding and discouraging certain populations—including women and students of color—from more technical majors and careers (Byars-Winston et al., 2010; President's Council of Advisors on Science and Technology,

2012). Without practical guidance on effective instruction, faculty members often replicate how they successfully learned as students, limiting pedagogical innovation (Mehta & Fine, 2015). Many postsecondary instructors use traditional "knowledge transmission" styles of teaching (Bailey et al., 2015), mirroring the teacher-directed instruction that results in the rote learning common in under-resourced high schools (Knoester & Au, 2017). The creation and adoption of OER materials provides an opportunity for instructors to reflect on how they plan to integrate the materials in their courses and the pedagogical approaches used in their classroom; changing materials can, but does not necessarily, encourage instructors to break away from the knowledge transition model in favor of learning facilitation (e.g., Hendricks et al., 2017; Pawlyshyn et al., 2013). Although OEP builds on the foundation provided by OER to offer instructors opportunities to enhance and innovate pedagogically (Ehlers & Conole, 2010), instructors seek additional support and resources for implementation (Harley, 2008). Frameworks for learning, such as Deeper Learning and empathic scaffolding, are such supports that can serve as guides for the creation and implementation of OER and OEP.

Deeper Learning

The Hewlett Foundation's (2012) Deeper Learning framework offers a practical guide for the creation and implementation of open education while also encouraging student

development. The introduction of new materials and practices, which are often necessary to successfully implement Deeper Learning, can also enhance the development of the dimensions of diversity discussed above. The National Research Council (2012) defined Deeper Learning as "the process through which an individual becomes capable of taking what was learned in one situation and applying it to new situations" (p. 5). Deeper Learning emphasizes interpersonal, intrapersonal, and cognitive skills development. The cognitive domain refers to how a student thinks critically about complex problems and how they understand and apply content knowledge. The intrapersonal domain pertains to students' ability to self-regulate their learning and includes skills such as learning to learn and developing an academic mindset. Finally, the interpersonal domain focuses on interactions with others. Skills associated with this include effective communication and collaboration.

In practice, Deeper Learning-aligned pedagogy emphasizes a focus on symbiotic relationships between real-world conditions and classroom concepts, ongoing assessment of understanding, and active participation in developing knowledge through (re)source curation (see Petrides et al., 2017; Rivera et al., 2019). When thoughtfully implemented, these types of project- and inquiry-based approaches, along with service-learning and community-based research, have been shown to benefit student learning and development (Coker et al., 2017; Hébert & Hauf, 2015; Kuh, 2008). Research has demonstrated that community and peer engagement positively influence students' cultural awareness, self-efficacy, and communication skills and that these benefits persist long-term (George et al., 2017; Vaz & Quinn, 2014).

Empathic Scaffolding

The introduction of new materials and new perspectives in a course opens an opportunity to strategically present challenging topics to students. Diversity is one such topic with which students may be uncomfortable engaging and they may react in ways not conducive to classroom dialogue (Bauer & Clancy, 2018; Cole et al., 2011). In the case of race, in particular, students of color are often burdened with the task of educating their white classmates (Harris et al., 2015) and white students are hesitant—and often opposed—to discuss their privilege (Peters-Davis & Shultz, 2016). The customizability of OER/OEP allows instructors to mitigate harm or foster engagement by structuring content and pedagogy to expand students' comfort in discussing race and social justice (i.e., empathic scaffolding; Bauer & Clancy, 2018). For example, students in an engineering class might be asked to reflect on a time they felt frustrated navigating campus, perhaps due to a physical barrier they encountered. This empathy-building activity then becomes the starting point for a conversation around ableism and assistive technologies. Further, the open nature of OER and OEP allow educators to integrate opportunities for reflection necessary for taking stock of students' comprehension. For

instance, journaling activities provide students with privileged identities an opportunity to process their thinking in such a way that does not further harm their peers while simultaneously allowing marginalized students space to privately reflect—without the obligation to perform for others. As Bauer and Clancy (2018) stressed, "building in a framework for capturing that (lack of) understanding through frequent checks of understanding and feedback is vital to effectively scaffolding content" (p. 76). For example, using anonymous polls with software students can access on their mobile devices can be a useful tool for quick assessments during lectures. Instructors can also purposefully implement reflection activities and practices, such as small group discussion, to encourage students to grapple with content and conversations that make them uncomfortable (Bauer & Clancy, 2018). As previously described, these conversations are taking place on campuses whether or not instructors feel prepared to guide them. Well-trained and thoughtful educators have the responsibility to ensure that difficult conversations around race and other aspects of identity do not perpetuate harm.

Below, we detail how these learning frameworks may be applied to coursework while simultaneously enhancing curricular diversity and skill development. We do this by providing examples from Midwestern University's[1] Affordable Learning Program to demonstrate how this might look in practice.

Open Education in Context: Midwestern's Affordable Learning Program

In 2015, Midwestern University introduced an OER initiative to address rising textbook costs at the institution. The initiative provided grants to instructors across a range of disciplines who wanted to replace traditional course texts with high-quality open and affordable alternatives. Instructors were encouraged to select educational resources that best met their needs by adopting an existing open textbook, authoring a textbook, or curating a suite of library materials or other freely available digital readings. Although the initiative was largely framed as an affordability project, it also sought to improve student learning and encourage faculty innovation.

The examples for practice highlighted throughout this paper were drawn from a larger study of Midwestern's affordable learning initiative and serve as illustrative examples of potential implementation. Interviews explored the production of OER, instructor satisfaction with OER materials, and changes in teaching and learning. Interviews with nine instructors from two academic fields—six from Social Work and three from STEM Education—are discussed below, demonstrating OER/OEP's utility across divergent academic disciplines. The social work materials were used to renovate a diversity sequence for their major and minor programs and the STEM education ma-

---

1   We use a pseudonym for the institution and the learning program to protect confidentiality.

terials were developed for an intermediate writing course.

Drawing on the extant literature and practical insights gained at Midwestern, we present two ideas for how OER/OEP, coupled with Deeper Learning and empathic scaffolding, can help introduce different dimensions of diversity in teaching and learning across fields of study, and create opportunities for longer-term social justice outcomes:

1. The customizability and flexibility of OER can assist instructors in creating curricular diversity and introduce empathic scaffolding to meet desired alignment and learning outcomes.

2. Deeper Learning offers a practical guide for creating and implementing open education while encouraging students' skill development. The learning goals and competencies can also potentially support social justice education.

Within the ideas presented, we share insights gleaned conversations with instructors about their motivations and experiences engaging with OER/OEP. The value of OEP/OER to present content, cognitive, and pedagogical diversity in the classroom for the betterment of learning is illustrated through these ideas and insights.

Leveraging the Customizability of OER to Develop Curricular Diversity

The customizable nature of OER allows educators to tailor materials to better address students' respective needs. A blanket approach to textbook and material adoption may not be appropriate for all learners, particularly when some learning materials can be exclusionary to diverse populations by centering whiteness (Alemán, 2014; Burrows, 2017) and Americentric ideals (Bartolini et al., 2009). In studying collaborations between Rice University and the Creative Commons Consortium, Baker et al. (2009) found that "publishers' textbooks are inappropriate for use in community college courses because … they contain generic information that lacks regional, local, or cultural relevance to diverse community college student populations" (p. 3). Further, a survey of British Columbia college educators found that, on average, faculty felt OER better accommodated diverse learners and increased learner satisfaction, experimentation, engagement, discussion participation, and interest in the subject (Jhangiani et al., 2016). This was in part because open materials allowed for "teaching to the content and the learner's needs rather than teaching to the book" (Jhangiani et al., 2016, p. 29). Although not a universal solution to meet the needs of learners, the customizable option of OER presents educators with multiple opportunities to enhance their course materials with diverse perspectives and content.

Several instructors we spoke with saw the ability to customize the learning material and include diverse and relevant sources as a benefit to using OER. They discussed intentionally interweaving various educational resources as part of their curricular development—either to present students with multiple perspectives on one topic or to ensure that students reached desired learning outcomes when no single resource achieved this goal on its own. Instructors discussed developing weekly modules and writing content to "knit" together disparate source materials or assigning exemplary videos in combination with articles, which helped with perceived student engagement in the course. The materials used were selected for their relevance *and* the intention to get students more involved and motivated about learning. Another instructor, whose course focused on perspectives of marginalized groups, discussed how the ability to adapt the course's design and content enables them to appeal to, engage, and pique the interests of students who are older, veterans, and of color. Bringing attention to experiences and curricular needs of students who may be marginalized in ways that are not class-related highlights the importance of conceptualizing access more inclusively.

These perspectives and content can also be intentionally introduced to mitigate the unease that comes from discussing challenging topics. Instructors discussed using OER in curriculum design to facilitate empathic scaffolding so that students were willing to engage in uncomfortable conversa-tions that support cultural responsive-ness and empathic scaffolding. Course materials can give attention to under-served groups that are also underrep-resented among this field's students, faculty, and professionals, as well as in college textbooks and curricular appli-cations (Burk, 2007). For example, an instructor used the U.S. Department of Health and Human Services and the U.S. Department of Housing and Urban Development websites, but also includ-ed local data from the Coalition for the Homeless and the National Alliance to End Homelessness. They further per-sonalized the material by discussing the nearby drop-in center for LGBT homeless youth. The movement from national to local (re)sources transferred the content and discussion from an ab-stract national level to a localized exam-ple within the community. Scaffolding such as this can encourage students to connect the material to real-life chal-lenges and consider underrepresent-ed populations in their communities. Along with the opportunity to gain a deeper understanding of local commu-nities and an appreciation for diversity, students can gain skills associated with academic success more broadly.

Skill Development through Diversity Coursework

Teaching race and social justice in a contextually specific and de-velopmentally appropriate way allows for personal growth and bene-fits the campus and surrounding com-munity. However, some students—par-ticularly White and mid- to low-in-

come—may benefit more than others from diversity coursework and related initiatives (Bowman, 2009; Harris et al., 2015). Research on engaging K-12 students in courses designed with Deeper Learning in mind, however, suggests a wider array of students may develop skills and competencies associated with academic success (Bitter et al., 2014; Noguera et al., 2015). For instance, students with lower levels of prior academic achievement and those who were low-income experienced the same benefits from Deeper Learning as their higher-resourced peers, suggesting schools offering Deeper Learning-aligned instruction can provide more equitable opportunities for students at all ability and income levels (Bitter et al., 2014). Thus, by pairing OEP with Deeper Learning, educators can respond to the needs for cultural competence, while also promoting academic, problem solving, communication, and collaborative skill development among all learners.

Cultural Responsiveness

In addition to scaffolding course content in developmentally and pedagogically appropriate ways, instructors can adopt materials and adapt courses to respond to social environments, including current events and specific groups' socio-historical needs. Textbooks and other materials not regularly updated are quickly outdated and may have limited cultural relevance on recent topics like Black Lives Matter and the disproportionate impact of COVID-19 on Indigenous, Black, and Latinx communities. Including timely and culturally

relevant resources encourage students to consider the environment in which they live and will work in. Instructors can further include materials from the communities being studied, including blogs and popular sources, to center the voices of marginalized populations typically absent from textbooks (Alemán, 2014; Burrows, 2017).

Developing assignments that ask students to think critically about general practices can also be an effective strategy to encourage the application of content knowledge. For example, a social work instructor adjusted their curriculum to include an assignment specific to addressing the needs of an underserved ethnic population in the neighboring community. They realized students will need to work with populations that receive little concentration in the extant literature. Students were asked to read culturally relevant material on the population, identify general substance abuse interventions, and consider culturally responsive adaptations to better serve the population.

By having students work through the gap in resources for the specific population, the instructor's approach served as a pedagogical intervention that not only addressed the topical information, but also encouraged students to develop their critical thinking and problem-solving skills. Another instructor adjusted lesson materials in response to current events and created an assignment that prompted students to explore how different news sources discussed the same incident. The instructor saw value in having students read materials that are "here and

now" and that encourage them to think more critically and reflect on how information from different sources affects them daily.

Not only was learning about different cultures and communities important to instructors, but students' engagement with each other and with the community was also discussed as a critical component in their overall learning and development. Community-based projects can enhance students' level of peer engagement and collaboration. Two instructors designed major class projects that required students to assess social services available to an assigned population. Similarly, a third instructor provided an opportunity for students to engage with the local community and identify what social service agencies were doing to specifically serve diverse populations. Students moved beyond the classroom to develop a deeper awareness of the gaps in services, what providers are doing well, and where improvements could be made. Designing an assignment with practical outcomes allowed students to apply in-class concepts to external scenarios. Instructors emphasized skills development to help students become better practitioners and citizens, but also better and continued learners after college.

Cognitive Development

OER materials can encourage cognitive development—a domain integral to Deeper Learning—and introduce cognitive diversity to a course when assignments come from an array of sources with varying formats. Whereas a traditional textbook is highly structured, the disparate formatting of OER materials was itself a developmental tool, compelling students to pay attention to and think more critically about information. One instructor felt the "messiness" of OER was advantageous in supporting student growth. The sources used placed more responsibility on students to make connections across texts in the absence of an intentionally sequenced textbook—while simultaneously connecting social justice concepts and modern discourses to their discipline's more traditional ones. These insights from faculty illustrate how OER can simultaneously support cognitive development and empathic scaffolding.

Another marker of students' cognitive development has been their critique of course materials; students provided feedback to instructors about a lack of representation of some marginalized populations and a need to edit or reorganize course content. Purposely including students in revising course materials engages them in a co-creation process, which is itself an OEP (Lane & McAndrew, 2010); encouraging students to critically examine provided resources helps them to further develop cognitive skills and competencies as well.

Considerations for Implementation

Instructors should feel empowered to design educational materials, assignments, and assessments with their localized context and student body in mind. Although our research

team is a proponent of using OEP toward a more socially conscious end for learners, we recognize the majority of faculty may not be thinking about using open education in this way, further emphasizing the need for professional development and practical support. There is also a need for faculty to strengthen their pedagogical skillsets so that they are better equipped to implement open materials that they adopt for their classes with a more critical lens toward topics of study.

Moreover, instructors must be willing to take on the additional labor that is necessary for curating and cultivating a pedagogically strong course based on open education. Of the instructor examples presented, only one underscored the fact that using OER materials calls on instructors to frequently update both their knowledge and materials for the issues discussed in classes. This professor also suggested that their coworkers saw the need to constantly self-educate and update their courses as a burden—rather than as a best practice. Although this requires more work, updating materials allows faculty to be responsive to students' daily realities and stay well informed of relevant content. This speaks to the importance of faculty being as proactive about teaching as they expect students to be about learning. Instructors must take on constant self-education in contemporary social issues if they are to effectively support students in their development (Acosta et al., 2015; Nicotera & Kang, 2009). This is perhaps truer for fields that have historically been homogenous, or unwelcoming or inaccessible

to marginalized students. Littlejohn and Hood (2017) identified the need for educators to continually develop their practice, including through their ongoing learning, as critical in keeping up with pedagogical advancement. Fortunately, both racial justice movements and the shift to virtual learning necessitated by COVID-19 have prompted colleges and universities to ramp up diversity efforts. Many have begun offering training on implicit bias, curricular diversity, and pedagogical inclusivity in which instructors should participate.

Regarding Deeper Learning, it is difficult to ascertain the specific degree to which students learn cognitively, interpersonally, or intrapersonally. One possibility is that OERs, when enacted in a meaningful way, support the learning of students in these domains simultaneously. By asking students to engage with peers and collaborate with community partners (interpersonal development), faculty members place them in positions that challenge their ideas about course concepts (cognitive development). Consequently, students reflect on their reactions to the new material, informed by previously held ideas about the topics, which may foster intrapersonal development.

Lessons Learned

An overarching lesson we gleaned working with faculty who were using affordable materials is that OER and OEP have great potential for supporting more inclusive and tailored learning for students—but this potential requires proactivity, com-

mitment, and imagination on the part of educators to be realized. "Too often, new technologies are themselves presented as transformational agents," and the role of the educator in educational transformation is lost (Fisher, 2006, p. 301). OER alone cannot drive social change; rather, "it is through educators' engagement with OER within the contexts of their practice that they develop the necessary knowledge (theoretical, socio-cultural, and practical–experiential) to develop their practice" (Littlejohn & Hood, 2017, pp. 506-507). Admittedly, this demands a commitment on the part of the educator.

Interviews with instructors consistently revealed the degree to which they put time and energy into course design and developing of learning objectives and goals; researching, collecting, curating, and organizing course materials; matching course materials with course assignments and desired learning outcomes; and assessing student learning to adjust or restructure assignments—which then may prompt more researching, collecting, curating, and organizing of course materials. Although these steps of course design theoretically exist for most educators, they are even more necessary for those who design courses completely with OER—especially courses that incorporate social justice education.

Conversations with instructors also suggest they rely on and promote collaboration, using the 5Rs of OER, as part of their curricular design. Interviewees continuously discussed *reusing* OER in lessons, particularly for engaging current events or rapidly-shifting social movements; *revising* colleagues' shared content for their courses, to later *redistribute* to colleagues who did their own *revising*; and *remixing* content to tailor lessons to their specific desired learning outcomes, when no one resource was sufficient in doing so. Their constant discussion of four of the five Rs suggests that OER fosters a community of learning for educators who use it. In turn, instructors require their students to collaborate—with both each other and community members—to expand perspectives and enhance learning. Collaboration among instructors on OER (re)creation strengthens the ability to produce curricula that is diverse in both structure and perspective—which supports the development of skills, cultural competence, and empathy for students with an array of identities.

Watters (2014) cautioned that we cannot "presume that, because something is 'open' that it necessarily contains all the conditions for equality or freedom or justice" (n.p.). Openness, of materials or practice, does not eliminate the "inequalities, institutions, biases, [or] history" in institutions of higher education (Watters, 2014, n.p.). Educators must proactively work towards improving materials and practices with a social justice agenda. With Watters' caution in mind, we argue OEP, when paired with the Deeper Learning framework and the principals of empathic scaffolding, can enhance curricular diversity and develop students' cultural competence and other necessary skills for success.

References

Acosta, K. M., Moore, H. A., Perry, G. K., & Edwards, C. (2015). Dialogue on diversity teaching: On research, pedagogy, and passion for social justice. In N. Peters–Davis & J. Shultz (Eds.), *Challenges of multicultural education: Teaching and taking courses* (pp. 20–38). Routledge. http://digitalcommons.unl.edu/cgi/view content.cgi?article=1094&context=sociologyfacpub

Alemán, S. M. (2014). Locating whiteness in journalism pedagogy. *Critical Studies in Media Communication, 31*(1), 72-88. https://doi.org/ 10.1080/15295036. 2013.808355

American Association of Colleges and Universities. (2002). *Greater expectations: A new vision for learning as a nation goes to college.* Association of American Colleges and Universities. https://www.aacu.org/sites/default/files/files/publications/GreaterExpectations.pdf

Andrade, A., Ehlers, U.-D., Caine, A., Carneiro, R., Conole, G., Kairamo, A.-K., Koskinen, T., Kretschmer, T., Moe-Pryce, N., Mundin, P., Nozes, J., Reinhardt, R., Richter, T., Silva, G., Holmberg, C. (2011). *Beyond OER: Shifting focus to open educational practices* (OPAL Report 2011). https://www.oerknowledgecloud.org/archive/OPAL2011.pdf

Bailey, T. R., Jaggars, S. S., & Jenkins, D. (2015). *Redesigning America's Community Colleges: A Clearer Path to Student Success*. Harvard University Press.

Baker, J., Thierstein, J., Fletcher, K., Kaur, M., & Emmons, J. (2009). Open textbook proof-of-concept via Connexions. *The International Review of Research in Open and Distributed Learning, 10*(5), 1-13. https://doi.org/10.19173/irrodl.v10i5.633

Bartolini, L., Gharib, A., & Phillips, W. (2009). Internationalizing the psychology curriculum. In R. A. R. Gurung & L. R. Prieto (Eds.), *Getting culture: Incorporating diversity across the curriculum* (pp. 181-189). Stylus.

Bauer, K., & Clancy, K. (2018). Teaching race and social justice at a predominantly white institution. *Journal of Political Science Education, 14*(1), 72-85. https://doi.org/10.1080/15512169.2017.1358175

Bitter, C., Taylor, J., Zeiser, K. L., & Rickles, J. (2014). *Providing opportunities for Deeper Learning: Findings from the study of Deeper Learning opportunities and outcomes* (Report 2). American Institutes for Research. https://www.air.org/resource/providing-opportunities-deeper-learning-2-3

Bliss T., Robinson, T. J., Hilton, J., & Wiley, D. (2013). An OER COUP: College teacher and student perceptions of open educational resources. *Journal of Interactive Media in Education, 2013*(1). https://doi.org/10.5334/2013-04

Bowman, N. A. (2009). College diversity courses and cognitive development among students from privileged and marginalized groups. *Journal of Diversity in Higher Education, 2*(3), 182. https://doi.org/10.1037/a0016639

Bowman, N. A. (2010). Disequilibrium and resolution: The nonlinear effects of diversity courses on well-being and orientations toward diversity. *The Review of Higher Education*, *33*(4), 543-568. https://doi.org/10.1353/rhe.0.0172

Bowman, N. A., Brandenberger, J. W., Hill, P. L., & Lapsley, D. K. (2011). The long-term effects of college diversity experiences: Well-being and social concerns 13 years after graduation. *Journal of College Student Development*, *52*(6), 729-739. https://doi.org/10.1353/csd.2011.0075

Burk, N. M. (2007). Conceptualizing American Indian/Alaska Native college students' classroom experiences: Negotiating cultural identity between faculty and students. *Journal of American Indian Education*, *46*(2), 1-18. https://www.jstor.org/stable/24398566

Burrows, C. (2017). How whiteness haunts the textbook industry: The reception of nonwhites in composition textbooks. In T. M. Kennedy, J. I. Middleton, & K. Ratcliffe (Eds.), *Rhetorics of whiteness: Postracial haunting in popular culture, social media, and education* (pp. 171-181). Southern Illinois University Press.

Byars-Winston, A., Estrada, Y., Howard, C., Davis, D., & Zalapa, J. (2010). Influence of social cognitive and ethnic variables on academic goals of underrepresented students in science and engineering: a multiple-groups analysis. *Journal of Counseling Psychology, 57*(2), 205-218. https://doi.org/10.1037/a0018608

Chang, M. J. (2002). The impact of an undergraduate diversity course requirement on students' racial views and attitudes. *Journal of General Education, 51*(1), 21–42. https://www.jstor.org/stable/27797900

Coker, J. S., Heiser, E., Taylor, L., & Book, C. (2017). Impacts of experiential learning depth and breadth on student outcomes. *Journal of Experiential Education*, *40*(1), 5-23. https://doi.org/10.1177/1053825916678265

Cole, E. R., Case, K. A., Rios, D., & Curtin, N. (2011). Understanding what students bring to the classroom: Moderators of the effects of diversity courses on stu-

dent attitudes. *Cultural Diversity and Ethnic Minority Psychology*, *17*(4), 397-405. https://doi.org/10.1037/a0025433

Colvard, N. B., Watson, E. C., & Park, H. (2018). The impact of open educational resources on various student success metrics. *International Journal of Teaching and Learning in Higher Education, 30*(2), 262-276. http://www.isetl.org/ijtlhe/pdf/IJTLHE3386.pdf

Conole, G. (2018). Learning Design and Open Education. *International Journal of Open Educational Resources*, *1*(1). https://www.ijoer.org/learning-design-and-open-education_doi-10-18278-ijoer-1-1-6/

Cronin, C., & MacLaren, I. (2018). Conceptualising OEP: A review of theoretical and empirical literature in open educational practices. *Open Praxis*, *10*(2), 127-143. https://openpraxis.org/index.php/OpenPraxis/article/view/825/446

Croteau, E. (2017). Measures of student success with textbook transformations: The Affordable Learning Georgia Initiative. *Open Praxis*, *9*(1), 93-108. https://openpraxis.org/index.php/OpenPraxis/article/view/505/377

Denson, N., & Chang, M. J. (2009). Racial diversity matters: The impact of diversity-related student engagement and institutional context. *American Educational Research Journal, 46*(2), 322-353. https://doi.org/10.3102/0002831208323278

Douglas, T. M. O., Shockley, K. G., & Toldson, I. (Eds.) (2020). *Campus uprisings: How student activists and collegiate leaders resist racism and create hope.* Teachers College Press.

Ehlers, U. D., & Conole, G. C. (2010). Open educational practices: Unleashing the power of OER. Paper presented to *UNESCO Workshop on OER in Namibia 2010*. Windhoek, Namibia. https://www.oerknowledgecloud.org/archive/OEP_Unleashing-the-power-of-OER.pdf

Engberg, M. E. (2004). Improving intergroup relations in higher education: A critical examination of the influence of educational interventions on racial bias. *Review of Educational Research, 74*(4), 473–524. https://doi.org/10.3102/00346543074004473

Fisher, T. (2006). Educational transformation: Is it like "beauty" in the eye of the beholder, or will we know it when we see it? *Education and Information Technologies, 11*, 293–303. https://doi.org/10.1007/s10639-006-9009-1

George, C. L., Wood-Kanupka, J., & Oriel, K. N. (2017). Impact of participation in community-based research among undergraduate and graduate students. *Journal*

of Allied Health, 46(1), 15E-24E. https://www.ingentaconnect.com/content/asahp/jah/2017/00000046/00000001/art00012

Gutmann, A. (2004). Unity and diversity in democratic multicultural education: Creative and destructive tensions. In J. A. Banks (Ed.), *Diversity and citizenship education: Global perspectives* (pp. 71–97). Jossey-Bass.

Harley, D. (2008). Why understanding the use and users of open matters. In T. Iiyoshi & M. S. V. Kumar (Eds.), *Opening up education: The collective advancement of education through open technology, open content, and open knowledge* (pp. 197–211). MIT Press.

Harris, J. C., Barone, R. P., & Davis, L. P. (2015). Who benefits?: A critical race analysis of the (d)evolving language of inclusion in higher education. *Thought & Action*, *2015*, 21-38. http://achievementgaps.org/assets/docs/TnA-Winter-2015--harrispdf.pdf

Hébert, A., & Hauf, P. (2015). Student learning through service learning: Effects on academic development, civic responsibility, interpersonal skills and practical skills. *Active Learning in Higher Education*, *16*(1), 37-49. https://doi.org/10.1177/1469787415573357

Hendricks, C., Reinsberg, S. A., & Rieger, G. W. (2017). The adoption of an open textbook in a large physics course: An analysis of cost, outcomes, use, and perceptions. *The International Review of Research in Open and Distributed Learning*, *18*(4). https://doi.org/10.19173/irrodl.v18i4.3006

Henry, A. (2005). Chapter four: Black feminist pedagogy: Critiques and contributions. *Counterpoints*, *237*, 89-105. https://www.jstor.org/stable/42978676

Hewlett Foundation. (2012). Deeper learning strategic plan summary education program. https://www.hewlett.org/wp-content/uploads/2016/09/Education_Deeper_Learning_Strategy.pdf

Hewlett Foundation. (n.d.). Open educational resources. https://hewlett.org/strategy/open-educational-resources/

Hilton, J., Gaudet, D., Clark, P., Robinson, J., & Wiley, D. (2013). The adoption of open educational resources by one community college math department. *The International Review of Research in Open and Distance Learning, 14*(4), 37–50. https://doi.org/10.19173/irrodl.v14i4.1523

Hockings, C., Brett, P., & Terentjevs, M. (2012). Making a difference—Inclusive

learning and teaching in higher education through open educational resources. *Distance Education, 33*(2), 237-252. https://doi.org/10.1080/01587919.2012.692066

Hodgkinson-Williams, C. (2014). Degrees of ease: Adoption of OER, open textbooks and MOOCs in the Global South. In *2nd Regional Symposium on Open Educational Resources: Beyond Advocacy, Research and Policy. Penang, Malaysia.* https://open.uct.ac.za/handle/11427/1188

Hurtado, S., Alvarez, C. L., Guillermo-Wann, C., Cuellar, M., & Arellano, L. (2012). A model for diverse learning environments: The scholarship on creating and assessing conditions for student success. In J. C. Smart & M. B. Paulsen (Eds.), *Higher education: Handbook of theory and research* (Vol. 27, pp. 41-122). Springer.

Hurtado, S., Griffin, K. A., Arellano, L., & Cuellar, M. (2008). Assessing the value of climate assessments: Progress and future directions. *Journal of Diversity in Higher Education, 1*(4), 204-221. https://heri.ucla.edu/PDFs/surveyAdmin/dle/JDHE.Hurtadoetal2008.pdf

Jaggars, S. S., Folk, A. L., & Mullins, D. (2018). Understanding students' satisfaction with OERs as course materials. *Performance Measurement and Metrics, 19*(1), 66-74. https://doi.org/10.1108/PMM-12-2017-0059

Jaggars, S. S., Rivera, M. D., & Akani, B. (2019). *College textbook affordability: Landscape, evidence, and policy directions.* Midwestern Higher Education Compact: Minneapolis, MN. https://www.mhec.org/sites/default/files/resources/mhec_affordability_series10.pdf

Jhangiani, R. S., Pitt, R., Hendricks, C., Key, J., & Lalonde, C. (2016). *Exploring faculty use of open educational resources at British Columbia post-secondary institutions.* BCcampus. https://bccampus.ca/files/2016/01/BCFacultyUseOfOER_final.pdf

Jurado, J. (2020, August 4). Illinois lawmaker and community leaders are working to suspend current history curriculum that 'leads to white privilege and a racist society.' *The Root.* https://www.theroot.com/illinois-lawmaker-and-community-leaders-are-working-to-1844608778

Knoester, M., & Au, W. (2017). Standardized testing and school segregation: Like tinder for fire? *Race Ethnicity and Education, 20*(1), 1-14. https://doi.org/10.1080/13613324.2015.1121474

Kuh, G.D. (2008). *High-impact educational practices: What they are, who has access to them, and why they matter*. Association of American Colleges and Universities.

Lane A., & McAndrew P. (2010) Are open educational resources systematic or systemic change agents for teaching practice? *British Journal of Educational Technology, 41*(6), 952-962. https://doi.org/10.1111/j.1467-8535.2010.01119.x

Littlejohn, A., & Hood, N. (2017). How educators build knowledge and expand their practice: The case of open education resources. *British Journal of Educational Technology, 48*(2), 499-510. https://doi.org/10.1111/bjet.12438

Mehta, J., & Fine, S. (2015). The why, what, where, and how of deeper learning in American secondary schools. *Students at the Center, Deeper Learning Research Series.* Jobs for the Future. https://jfforg-prod-prime.s3.amazonaws.com/media/documents/The-Why-What-Where-How-121415.pdf

Milem, H., Chang, M., & Antonio, A. (2005). *Making diversity work on campus: A research-based perspective*. Association of American Colleges and Universities. https://www.aacu.org/sites/default/files/files/mei/MakingDiversityWork.pdf

Miller, C. C., Burke, L. M., & Glick, W. H. (1998). Cognitive diversity among upper-echelon executives: Implications for strategic decision processes. *Strategic Management Journal*, *19*(1), 39-58. https://www.jstor.org/stable/3094179

Mitchell, R., & Nicholas, S. (2006). Knowledge creation in groups: The value of cognitive diversity, transactive memory and open-mindedness norms. *The Electronic Journal of Knowledge Management*, *4*(1), 67-74. http://www.ejkm.com/issue/download.html?idArticle=68

Natanson, H. (2020, August 17). High school students are demanding schools teach more Black history, include more Black authors. *The Washington Post.* https://www.washingtonpost.com/local/education/high-schoolers-across-the-country-are-banding-together-to-demand-their-schools-teach-more-black-history-and-read-more-black-authors/2020/08/15/a42e6d12-dbef-11ea-809e-b8be57ba616e_story.html

National Academies of Sciences, Engineering, and Medicine. (2018). *The integration of the humanities and arts with sciences, engineering, and medicine in higher education: Branches from the same tree*. The National Academies Press. https://doi.org/10.17226/24988

National Research Council. (2012). *Education for life and work: Developing transferable knowledge and skills in the 21st century*. The National Academies Press.

https://www.nap.edu/catalog/13398/education-for-life-and-work-developing-transferable-knowledge-and-skills

Nelson Laird, T. F. (2005). College students' experiences with diversity and their effects on academic self-confidence, social agency, and disposition toward critical thinking. *Research in Higher Education, 46*(4), 365–387. https://doi.org/10.1007/s11162-005-2966-1

Nguyen, T. (2020, July 29). Student activists want change - and they're starting in the classroom. *Vox.* https://www.vox.com/identities/2020/7/29/21345114/students-diversify-curriculum-change-antiracist

Nicotera, N., & Kang, H. K. (2009). Beyond diversity courses: Strategies for integrating critical consciousness across social work curriculum. *Journal of Teaching in Social Work*, *29*(2), 188-203. https://doi.org/10.1080/08841230802240738

Noguera, P., Darling-Hammond, L., & Friedlaender, D. (2015). *Equal opportunity for deeper learning.* Jobs for the Future. https://edpolicy.stanford.edu/sites/default/files/publications/jff-report-equal-opportunity-deeper-learning.pdf

Ukpokodu, O. N. (2010). How a sustainable campus-wide diversity curriculum fosters academic success. *Multicultural Education*, *17*(2), 27-36.

Open Education Consortium. (n.d.). About the Open Education Consortium. http://www.oeconsortium.org/about-oec/

Paskevicius, M. (2017). Conceptualizing open educational practices through the lens of constructive alignment. *Open Praxis*, *9*(2), 125-140. http://dx.doi.org/10.5944/openpraxis.9.2.519

Pawlyshyn, N., Braddlee, D., Casper, L., & Miller, H. (2013). *Adopting OER: A case study of cross-institutional collaboration and innovation.* Educause Review. https://er.educause.edu/articles/2013/11/adopting-oer-a-case-study-of-crossinstitutional-collaboration-and-innovation

Peters-Davis, N., & Shultz, J. (2016). *Challenges of multicultural education: Teaching and taking diversity courses.* Routledge.

Petrides, L., Godwin, A. E., & Jimes, C. (2017, October 16). *Supporting Deeper Learning through OER and open education practice.* https://www.iskme.org/our-ideas/supporting-deeper-learning-through-oer-and-open-educational-practice-0

Prescott, S., Muñiz, J., & Ishmael, K. (2018, September 20). *How to bring equity*

and inclusion to the classroom [Blog post]. https://www.newamerica.org/weekly/edition-218/how-bring-equity-and-inclusion-classroom/

President's Council of Advisors on Science and Technology. (2012). Report to the President: Engage to excel: Producing one million additional college graduates with degrees in science, technology, engineering, and mathematics. https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/pcast-engage-to-excel-final_2-25-12.pdf

Ravitch, S. M. (2015). Introduction: Pluralism, power, and politics–Discourses of diverse pedagogies and pedagogies of diversity. In N. Peters–Davis & J. Shultz (Eds.), *Challenges of multicultural education: Teaching and taking courses* (pp. 1-20). Routledge.

Rech, D., & Mortimore, J. (2020). From soup to nuts: Expanding liaison and technical services for OER development. *International Journal of Open Educational Resources, 2*(1). https://www.ijoer.org/from-soup-to-nuts-expanding-liaison-and-technical-services-for-oer-development-doi10-18278-ijoer-2-1-12

Rivera, M. D., Folk, A. L., Jaggars, S. S., Prieto, K., & Lally, M. (2019). Recasting the affordable learning conversation: Considering both cost-savings and Deeper Learning opportunities. Paper presented at *Association of College & Research Libraries (ACRL).* http://www.ala.org/acrl/sites/ala.org.acrl/files/content/conferences/confsandpreconfs/2019/RecastingtheAffordableLearningConvo.pdf

Scronce, G., Kraft, A., and Van Arnhem, J. (2020). Building a Community of Inquiry around OER. International Journal of Open Educational Resources, *2*(1). https://ijoer.org/building-a-community-of-inquiry-around-oer/. doi:10.18278/ijer.2.1.3

Shaw, C. S., Irwin, K. C., & Blanton, D. (2019). Impact of open educational resources on course DFWI rates in undergraduate online education. *International Journal of Open Educational Resources, 1*(2). https://www.ijoer.org/impact-of-open-educational-resources-on-course-dfwi-rates-in-undergraduate-online-education/

Vaz, R., & Quinn, P. (2014, October). Long term impacts of off-campus project work on student learning and development. In *Proceedings of FIE 2014*, Madrid, Spain. https://doi.org/10.1109/FIE.2014.7044128

Watters, A. (2014, November 16). From "open" to justice: #opencon2014 [Blog post]. http://hackeducation.com/2014/11/16/from-open-to-justice

Wiley, D. (2014, March 5). The access compromise and the 5th R [Blog post]. https://opencontent.org/blog/archives/3221

Zúñiga, X., Williams, E. A., & Berger, J. B. (2005). Action-oriented democratic outcomes: The impact of student involvement with campus diversity. *Journal of College Student Development, 46*(6), 660-678. https://doi.org/10.1353/csd.2005.0069