Chapter 3
Open Educational Resources Grant Program: A Strategy for Student Savings in Texas

Kylah Torre

The Cost of Higher Education in Texas

College success is dependent on a complex array of factors, one of which is simple access to necessary educational materials. With textbook costs rising quickly in the past few decades, access to the resources required to succeed has become more challenging for students. Recognizing this problem, the Texas Legislature and the Texas Higher Education Coordinating Board (THECB), the agency providing direction for higher education in the state, have been working together to provide students in the state with the materials they need by incentivizing the use of Open Educational Resources (OER). OER are generally digital materials that students can access as no or low cost. In 2017, the 85th Texas Legislature, Regular Session, instituted a grant program to incentivize faculty members at public institutions of higher education in the state to develop courses using only OER, which were offered to students at no cost other than the cost of printing. Defined in statute as resources for teaching, learning, or research that are in the public domain or licensed for copyright in such a way that they can be adopted and adapted for use by any person, OER reduce costs for students, but also allow faculty and students the freedom to adapt the resources to their needs (Texas Education Code 51.451 (4-a)). The Texas OER Grant Program aids faculty members in adopting, adapting, and/or creating OER in order to offer these educational materials free to students.

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author and do not necessarily reflect the views of the Texas Higher Education Coordinating Board (THECB).

K. Torre (✉)
Texas Higher Education Coordinating Board (THECB), Austin, TX, USA
e-mail: kylah.torre@thecb.state.tx.us

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The OER Grant Program was initiated in 2018, with the first round of grants going to faculty who developed or adopted OER for general education courses in the Texas Core Curriculum (TCC). These are classes that are required for all undergraduate students who attend public institutions in Texas and are meant to provide a solid foundation of essential knowledge and skills. TCC courses are transferable to any public institution in the state. While courses within the TCC might be comparable from institution to institution, the freedom to develop courses to fit the culture and demands of each individual institution is also crucial in a state as large and diverse as Texas. The OER Grant Program's focus on TCC courses is essential for serving the needs of students in the state public institutions and for working toward the goals of the state strategic plan for higher education, *60x30TX*.

This chapter will examine the particulars of the inaugural 2018 OER Grant Program, as well as other OER work in the state, and discuss the implications of this work for the *60x30TX* strategic plan. Strengths and challenges of the grant program will be explored in order to develop suggestions for the implementation of similar programs in other states. One example of a strength of the program is its focus on TCC courses.

OER and the Texas Higher Education Coordinating Board's Strategic Plan

In 2015, the THECB, the state agency that provides leadership and coordination for Texas higher education, launched a strategic plan, *60X30TX*,[1] with the overarching goal of having 60% of Texans ages 25–34 having completed a certificate or degree by 2030. *60X30TX* is a student-centered plan, with all of its goals reflecting the needs of students in the state to achieve higher education goals and be prepared to succeed in the workforce. Only 20% of students who were 8th graders in Texas in 2006 completed a college degree by 2017. This is far less than what will be necessary for the future job market in Texas. In order to maintain a strong economy and ensure the success of young people in Texas, it is essential that more students earn college credentials. Thus, *60X30TX* was conceived. The second goal of the *60X30TX* plan also has to do with completion of college credentials. In the year 2030, 550,000 students should complete a certificate, associate, bachelors, or master's from an institution of higher education in Texas. Completion is the first step toward building an educated workforce in Texas. The strategic plan was built around the assumption that an ever-increasing number of jobs will require college credentials. According to the Georgetown Center on Education and the Workforce, two out of three jobs in the United States now require some training beyond high school [4]. The *60X30TX* strategic plan is in part a plan for the future workforce of Texas, meant to maintain the economic strength of the state. Texas is currently the second largest economy in

[1] See 60x30TX.com for more information.

the country, behind only California [10], but will need to grow its population of educated workers for that to remain the case.

60X30TX considers not only the future of the state economy but also the well-being of its students and workers. Not only should students be earning credentials, they should be entering the workforce with awareness of how those credentials will help them to find and keep a job. Having a degree or certificate is crucial, but students also need to be able to articulate what they have learned in that process to employers. Students should be confident of the knowledge and skills that they bring into the job market. The third goal of *60X30TX* addresses these marketable skills gained in pursuit of college credentials. Degree and certificate programs should have identified marketable skills that are clearly communicated to students so that students can, in turn, communicate those skills to employers. Under the strategic plan, programs are required to clearly advertise the marketable skills that students are expected to take away.

Another way in which the strategic plan considers the well-being of students is to address the affordability of a college credential. With tuition having increased at exponential rates in the past few decades, many students are compelled to borrow money in order to be able to complete their programs. The *60X30TX* strategic plan recognizes the importance of student debt as a tool for completion of a college education, but aims to maintain that debt at reasonable levels so that students are not unduly burdened when trying to repay what they owe. The fourth goal of the strategic plan is to maintain student debt levels at less than 60% of first-year wages for graduates of Texas institutions of higher education.

The cost of attending college, as measured by tuition and fees, rose 63% between 2006 and 2016, according to the Bureau of Labor Statistics [3]. This compared to an increase in cost of 21% for all items. Currently, Texas ranks about average in the nation for the tuition and fees portion of the cost of public education [5]. Of course, tuition and fees are only a portion of the total. Housing costs for students grew 51% between 2006 and 2016, and housing insecurity is a troubling reality for some college students [3]. A survey conducted by the Hope Center for College, Community, and Justice found that 48% of community college and 41% of four-year university students who responded were food insecure [13]. The overall cost of attending college has risen substantially, and this can have dire consequences for students.

While the price of tuition and fees has become more burdensome, so too has the cost of educational materials. The price of college textbooks rose 88% between 2006 and 2016 [3]. This large increase in the price of educational materials is unsustainable for students. The end result is that students either wait to buy materials for their classes or decide to forego purchasing textbooks altogether [9]. Students may take fewer classes in a term so that they can buy books, potentially increasing their time to degree and their debt load [9]. If students choose not to buy books, their ability to succeed in their courses is compromised. Students may drop or fail courses as a direct result of the cost of the materials required. The cost of educational materials should be addressed when considering how to make the college experience more affordable for Texas students.

When considering how to maintain reasonable levels of student debt, the THECB and the state legislature have considered broadly the costs involved for students, and one of these costs is textbooks and other course materials. The affordability of these materials has been a topic of interest for the state legislature in its last two sessions (in 2017 and 2019). Several bills introduced in the state House of Representative and Senate have addressed the high price of textbooks and introduced possible alternatives to this cost for students. These bills, including the one that initiated a grant program to incentivize faculty to introduce free educational materials in their courses, will be discussed in depth later in the chapter.

The Possibilities of Open Educational Resources

The THECB and the Texas Legislature have, in the past two legislative sessions, been looking to Open Educational Resources (OER) as one way to address the high cost of educational materials. OER are materials that are licensed for copyright in such a way that they are available to others to adopt, adapt, and remix (while usually including proper attribution to the original author). A good litmus test for identifying OER is the 5 Rs as developed by David Wiley [14]:

1. Retain – can you make and own copies of the content?
2. Reuse – can the content be used in multiple ways?
3. Revise – can the content be altered?
4. Remix – can the content be combined with other materials to create something new?
5. Redistribute – can you share copies of the original content, remixes, or revisions?

OER are freely available for use in classrooms and are often cost-free to students as well. That said, the use of OER is not only about reducing costs for students but also about access. OER are available to students from day one of a course as there is no purchase required. The resources are adaptable and flexible and are (usually) digital and thus accessible from anywhere. There are many benefits to using OER in the classroom and even some evidence to suggest that the use of these materials improves student outcomes, which will be discussed further later in the chapter.

MIT's OpenCourseWare program was perhaps the first, best-known collection of OER (beginning in 2002), and the OER landscape has grown tremendously since those materials were first made available. Today there are multiple digital repositories of resources (such as OER Commons). There exist publishers of peer-reviewed OER textbooks (such as OpenStax), which are competing effectively with commercial publishers. The use of OER is booming worldwide, and several states have enacted grant programs or other policies to expand the use of OER. In 2017, the 85th Texas Legislature recognized the promise of these resources in meeting the goals of *60X30TX*.

Senate Bill 810: Open Educational Resources in Texas

Senate Bill 810 of the 85th Texas Legislature, Regular Session (now codified in statute as Texas Education Code 61.0068), was a result of the legislature recognizing the problem of affordability of educational resources. It had several parts, some of which addressed the affordability of resources for elementary and secondary education, which will not be discussed in this chapter. Two pieces of the bill were important to higher education in the state. First, the bill mandated that the THECB conduct a study on the feasibility of creating a digital repository of OER. Second, the bill called for a grant program to incentivize faculty at institutions of higher education to use OER in their courses.

A State Repository of OER

The study mandated by Senate Bill 810 consisted of a literature review and a gathering of stakeholders in the state to examine the feasibility and desirability of building a repository of OER for higher education. From 2009 to 2014, there had existed an online repository for digital resources utilized by some institutions of higher education in Texas, called the Texas Learning Object Repository (TxLOR). Unreliable funding eventually led to the repository becoming nonoperational. The report mandated by the 85th Texas Legislature examined the possibility of reopening TxLOR but found that it would be an expensive endeavor to resurrect that resource from scratch, as it had been out of use for several years. However, the conclusion of the report was that opening a digital repository for OER in Texas, focused on higher education, would be possible if the state contracted with an existing entity engaged in such work, such as OER Commons or the Texas Digital Library. The report made several other suggestions for how to maintain the portal and expand the use of OER in the state, including requiring that materials created with state funds be licensed with a Creative Commons license (i.e., be available for others to adopt and remix) and be made available through the repository. The report also recommended that faculty at institutions of higher education be incentivized to create, maintain, adopt, and review OER for the repository. Explicitly stated was a warning against mandating such activity for faculty in favor of encouraging them to participate through monetary and other incentives.

Encouraging faculty to create, adopt, and adapt OER for their courses was the second goal of Senate Bill 810. The bill created a grant program, administered by the THECB, which would pay stipends to faculty who adopted, adapted, or otherwise used only OER in the design of their courses. This grant program would be a first step in curating and creating a collection of OER that could be utilized by faculty and students across the state. The OER would be free to use and would replace costly textbooks and other course materials.

Open Educational Resources Grant Program

The first Request for Applications (RFA) for the Open Educational Resources Grant Program (OERGP) was released in July 2018, and in October 2018, a first round of awardees was announced. These were individual faculty members at both 2-year and 4-year public institutions in the state. Faculty were initially awarded $5000 for using OER in a single course and $10,000 for using OER in multiple courses. It was required that the courses utilize only OER and that all materials be free to students with the exception of printing costs (should students choose to print the resources). Most faculty awardees chose to adopt and adapt existing OER (usually a digital textbook) and to develop ancillary materials to complete the course resources. Some faculty worked from scratch to create OER in their content area. The grant is flexible in allowing faculty members, who are the experts in their particular fields, the freedom to curate existing OER or create OER as they see fit. There were 41 applications in the initial round of grant making, and 15 awardees were chosen from among them (Fig. 3.1).[2]

Type of Institution	Course(s)	Type of Project
4-year	Introduction to Philosophy	Adoption and adaptation
2-year	General Biology for Majors	Adoption and creation
4-year	Social Problems	Adoption and adaptation
4-year	Elementary Statistics I & II	Adoption and creation
2-year	College Algebra	Adoption, adaptation and creation
2-year	Introduction to Macroeconomics, Introduction to Microeconomics	Adoption and creation
4-year	U.S. History II	Adoption and creation
2-year	Introduction to Computing	Adoption, adaptation, and creation
2-year	Introduction to Symbolic Logic	Adoption and creation
4-year	General Chemistry for Majors I & II	Adoption and creation
2-year	Introduction to Sociology	Adoption and creation
2-year	Mathematics for Teachers	Adoption, adaptation, and creation
2-year	British Literature	Adoption and creation
2-year	English Composition I & II	Creation
4-year	U.S. History I	Adoption and creation

Fig. 3.1 2018 OERGP awardees

[2] More information about the grants and the evaluation instrument for the grant awards can be found in the Request for Applications at www.thecb.state.tx.us/OERGP

The statute for the grant program is written in such a way that funding is awarded directly to faculty members and individuals as income to compensate for the time and labor that it takes to create and/or curate OER for their courses. The institution that the faculty member is employed by has no official role in the distribution of funds, although successful grant applications generally did include some plan for institutional support, whether that be from the library, instructional designer(s), and/or department head. Several applicants who were awarded grants planned to collaborate with other faculty in their department in order to spread the use of OER for particular courses, and some faculty members enlisted the help of institutional research departments to track outcomes. One of the goals of the program is to have other faculty adopt the resources curated and created by grantees, and so institutional recognition and support of the work of the faculty applicant was taken into consideration, although not required. The institution employing the grantee faculty member had to certify that they were aware that an application was being submitted, but did not have an official role in either the application or grant administration process.

Three content experts reviewed all applications to the grant program. These were faculty at institutions of higher education in the state who volunteered their time to read and score applications. Applications that were not chosen for an award received feedback from the reviewers anonymously in the form of comments made on each section. One possibly future opportunity for the OERGP is in expanding the role of peer review. While content experts reviewed applications, there was no requirement in the statute for the OER adopted, adapted, or created for the program to be peer reviewed. While the RFA called for the OER in question to be of sufficient quality to enhance the course curricula, there was no external review process for deliverables built into the first round of the grant program. Such a peer review process would require significant time on the part of faculty reviewers, and funding allotted to the grant program was insufficient to compensate external experts for such a process. As surveys indicate that one of the main concerns among faculty who consider adopting OER is the quality of the materials [12], a method for peer review could help to facilitate this process. Some existing repositories, such as Merlot, allow individuals who use available materials to review them on an informal basis through ratings and entering comments. Some process such as this may be a consideration for when and if a state repository for OER and other digital materials is created.

The statute is fairly prescriptive about how the success of the grant program should be measured. Legislators seemed to be most concerned with saving students money, and so that is an important metric of success for the program. THECB also wanted to learn about student outcomes and so the RFA for the program mandated that drop/withdraw rates and grades also be provided for a baseline semester (before OER were used to teach the course) and for each semester that OER were used. Because the RFA also required that all of the materials for courses under the program used only OER, the intention was to determine whether the use of OER improved student learning outcomes as well as saving students money on textbooks. Faculty members are required to teach the course or courses using OER four times

over the course of the grant period and to track student savings and outcomes for each of those terms.

Initially the RFA for the grant program called for the use of a Creative Commons-Attribution-NonCommercial-ShareAlike license (CC BY-NC-SA) for all OER created under the program. This license would allow others to copy and change the work but would prohibit use of the work or derivatives for commercial purposes and would require that derivatives be licensed with the same CC BY-NC-SA license when shared. There are several varieties of Creative Commons licensing, and CC BY-NC-SA is among the most restrictive in terms of the permissions it allows users of the OER carrying the license.

OER advocates in the state protested the CC BY-NC-SA requirement, suggesting that a license with fewer restrictions would be more useful to faculty. After consulting with several interested parties, an addendum was issued to the RFA for the OERGP, which changed the license required for works created under the grant program to a Creative Commons Attribution (CC-BY) license. The thought was that a more open license would allow faculty at other institutions greater freedom in adopting and adapting the materials created by awardees of the grant program. Ultimately, the goal of the grant program was to create OER for courses within the Texas Core Curriculum, which are a set of general education courses that are required for students in Texas. Making those resources freely available to all faculty and students across the state and as easy to use as possible could help to incentivize more faculty to utilize OER in their classes, which was the ultimate goal of the program.

The first round of the grant program focused on TCC courses. These are general education courses that all students in Texas must complete for a degree. Forty-two semester credit hours are required in categories of Communication, Mathematics, Life and Physical Science, Language, Philosophy and Culture, Creative Arts, American History, Government/Political Science, and Social and Behavioral Sciences. Institutions submit courses to fulfill core requirements, which are approved by the THECB based on a set of criteria in each category. TCC courses are transferable between any institution in the state, and a student who is "core complete" (has taken all 42 required hours) cannot be asked to take additional courses at a transfer institution in the core areas.

The initial round of the OER Grant Program focused on courses within the TCC with high proven enrollments. Applicants could earn priority points during the scoring of applications for courses that had high enrollments in the baseline semester (the semester that the course was taught immediately prior to submitting the application). Due to the fact that these courses are offered in many institutions around the state, the creation and curation of OER materials in these areas could have a significant impact on student savings, should faculty at multiple institutions be inspired to use the OER available. Regardless, courses with high enrollments at a single institution could have an effect on a fairly large number of students throughout the grant period. Faculty grantees are required to teach the applicable course(s) with OER four times during the grant period (which is roughly 2 years long). Potentially, a large number of students could be impacted with the focus on high enrollment

courses even if faculty at other institutions did not choose to adopt the OER curated and created under the grant program. Another goal of the program was to have faculty grantees encourage other faculty members within their department to adopt OER and so the potential for student savings could increase with success in that endeavor.

The potential for student savings was ultimately the point of the grant program, and there is evidence from other states to suggest that such an endeavor could be successful. North Dakota and Georgia have instituted OER programs and have seen large returns for students. Affordable Learning Georgia OER programs have saved students $61.9 million dollars since fiscal year 2014–2015 [1]. In North Dakota, OER programs have saved students between $1.1 million and $2.4 million since the fall semester of 2014 [11]. SPARC, an advocacy group that tracks OER adoption worldwide, estimates that students have saved over $1 billion through the use of OER since the organization issued a challenge in 2013 to spread the use of OER [2]. The Texas OER Grant Program holds great promise for decreasing the cost of educational materials for a significant number of students in the state.

Not only do OER programs save students money, there is some evidence to suggest that the use of OER in courses improves student outcomes. At Tidewater Community College Virginia, a comparison of OER sections and sections using traditional textbooks found that students using OER had a slightly better "course throughput" rate (encompassing drop/withdrawal rates and students passing with a C or better) [8]. At the University of Georgia, a comparison of student outcomes (grades and drop/fail/withdrawal rates) of courses pre-OER adoption and after found that students performed better when using OER [6]. This was true for Pell grant recipients, part-time students, and underrepresented populations when disaggregated. In a multi-institutional study, a comparison of OER sections and sections using traditional textbooks at four 4-year institutions and six community colleges found that students in OER sections performed as well or better than those who used traditional textbooks. Students in OER sections also enrolled in a significantly higher number of credits in the following semester [7]. While there has not yet been a great amount of research done about the impacts of OER on student savings and student course outcomes, it is clear from these select studies that OER at least has the potential to greatly benefit students and is one tool for state governments and institutions to consider when contemplating how to better serve students. The first round of data on the Texas OER Grant Program will be collected in December 2019, including dollars saved and the impact of the program on grades and drop/withdrawal rates.

Challenges in Administration of the Grant Program

The first round of the OER Grant Program was not without some challenges. One was the logistical challenge of providing grants directly to individual faculty members. THECB administers several grant programs, but in the past funding has been directed to institutions. The statute for the OER Grant Program, however, was writ-

ten in such a way that faculty members were to be the direct beneficiaries. Institutions were not to have an administrative role in distributing grant funds. Also, institutions had no direct role in ensuring the quality of the OER adopted, adapted, or produced as part of the grant program. However, as stated, most successful grant applications had faculty partnering with librarians, instructional designers, or others at their institutions to fulfill the grant requirements. Of course, those staff members were not necessarily compensated for their time and effort.

Another demanding piece for faculty was ensuring that the materials curated and created were actually OER (licensed with an appropriate Creative Commons license) and that there were no copyright infringement issues with the materials they chose to adopt or adapt for their courses. As many of the faculty who were awarded grants had not previously worked with OER, this was a learning process that often involved working with library personnel.

Another challenge of the program was the requirement for faculty to make the OER they were adopting, adapting, or creating freely available to students and faculty across the state. This was mandated in the RFA for the program and, indeed, was the ultimate purpose of the grant program. The idea was to have resources for TCC courses that were free, open, and accessible so that anyone teaching one of the funded courses could adopt or adapt the OER and provide no cost materials to their students. Although the THECB has future plans to build an OER repository for the state, there was no central site in existence available to faculty to upload their materials when these first deliverables were due. Some faculty used sites like MyOpenMath to curate their materials. Others wanted to develop course shells for Learning Management Systems such as Canvas. However, the requirement that the materials be openly available to anyone limited faculty grantees as they could only post the materials on sites that were publicly accessible and not password-protected or behind a pay wall. Some institutions already had digital repositories for educational materials that were available to faculty and some grantees adopted/adapted OER that was publicly available on other sites. This means that the deliverables for the first round of the OER Grant Program are technically available to anyone to use but are not yet curated in a centralized location. This creates a challenge for faculty at other institutions who might be willing to adopt the OER that grantees have developed if it was readily available.

Future Directions

In the 86th legislative session (in 2019), the THECB requested $250,000 from the legislature to initiate a state repository for OER, in lieu of the findings of the feasibility study that came out of the 2017 legislative session. House Bill 3652 called for the creation of the repository, for it to be searchable, and for materials created with state funds to be licensed with a Creative Commons license and made available to the repository. The THECB.legislative request also called for $200,000 to continue the OER Grant Program. These requests were granted in legislative appropriations.

This means that a state OER repository will be created by September of 2020. The THECB has plans to further incentivize the 2018 faculty grantees to upload or link their materials in the repository and then create plans for the maintenance and updating of those materials over the course of the grant period, which ends in August of 2021. As well, all future rounds of the OER Grant Program will include a requirement that faculty make their materials available through the repository so that faculty at other institutions can search and find the materials that have already been discovered, created, and curated for particular courses.

The plan for the creation of the state repository has THECB partnering with an existing entity to create a Texas-specific site. One benefit of this plan is that existing digital repositories, such OER Commons, do have some mechanisms in place for peer review, although those mechanisms are generally informal and require that faculty or others who use the materials take the time to review them and leave their comments as to the effectiveness of the materials. Future considerations for the OER Grant Program may include designing appropriate systems for peer review of the materials. That said, one advantage of using OER is that the materials can be revised by anyone, and so, in theory at least, those materials uploaded into the state repository can be improved over time as they are used.

The 2019 Texas Legislature showed a lot of interest in moving forward with OER projects in the state. Interestingly, a bill which would have allowed institutions of higher education to include the price of course materials in tuition and required fees, which would essentially pave the way for institutions to engage in Inclusive Access programs, did not move forward. Inclusive Access programs are products of commercial publishers where students pay for their course materials up front and have the option of opting out. Publishers can charge less for these programs than traditional textbooks because they are guaranteed to have a substantial percentage of students buying into their product. Although ensuring more affordable course materials seemed to be a goal of the 86th Texas Legislature, HB 3652 did not leave committee to go to a full vote. OER advocates have warned against Inclusive Access programs because of the possibility of price increases once students are locked into the required materials and because of the possibility of student data being misused. It is unclear whether these concerns were taken into consideration in the decision not to move the bill forward.

Final Thoughts

OER have been one tool utilized by the Texas Legislature and the THECB to address the high cost of educational materials for college students and work toward achieving the goals of the strategic plan, *60X30TX*. The first round of the OER Grant Program was not without challenges, and out of it emerged several ideas for how to best serve students through OER programs.

1. Incentivize faculty

   The OER Grant Program was meant to encourage faculty to adopt, adapt, or create OER. Faculty in the state are not in any way required to use these materials. Mandating the use of OER, even in general education courses, would likely backfire as faculty are rightly used to choosing the appropriate materials for their courses based on their expertise and comfort. Providing additional income for faculty who put in the time and labor necessary to convert their course to OER is one way of incentivizing the spread of OER in the state. The hope is that once there is a library of available OER that has been tested by faculty, others will follow suit. The state chose to incentivize the use of OER rather that requiring it, which maintains the academic freedom of faculty.
2. Encourage institutional support

   OER Grant Program applicants were seemingly most successful when they achieved institutional buy-in to their plans to convert their courses to OER. This could be as simple as enlisting the support of a department chair who would encourage other faculty members to use the OER created or adapted for a particular course by a grantee. This level of support is key when working toward the goal of spreading the use of OER and offering the benefits of free and accessible materials to more students.
3. Focus on high enrollment

   The focus of the OER Grant Program on general education, high enrollment courses, is one way to maximize the return on investment for the state as the more students who have access to OER, the more the state investment results in student savings. The next round of the OER Grant Program may expand the targeted courses to allow for high enrollment classes within particular popular majors or fields.
4. Facilitate peer review of materials

   While not currently a focus of the OER Grant Program, peer review of the materials created could be helpful in encouraging more faculty to use OER. The quality of the materials might be in question until content experts have adopted and recommended them. Partially this concern can be addressed by the grantees themselves using the materials with success in their courses, but it would be a helpful consideration moving forward to have some mechanism for peer review built into the program. Including some means for informal peer review in the upcoming state repository could be a first step to addressing this issue and could be easily done by partnering with an existing digital OER portal to create a Texas-specific site where faculty can rate available OER.
5. Provide a centralized location

   The digital repository for OER that will be built by the Texas Higher Education Coordinating Board should facilitate further adoption of materials created or adapted under the grant program by considering ease of use. If faculty are able to access OER in a centralized location, they may be more likely to be willing to try out those materials in their courses. Advertising the existence of the OER repository could be a challenge. THECB could utilize existing channels of communication with institutions in the form of administrative committees and desig-

nated liaisons to help spread the word that these materials are accessible to faculty and students alike.

OER programs in Texas are in their infancy, and it has been a learning process for all involved to determine how to best spread the use of these low-cost materials in order to serve the students in the state. The next round of the OER Grant Program is currently under development, and the repository is scheduled to launch by September 2020. OER have become a popular tool in Texas for addressing the high cost of a college education, and the state OER programs should continue to grow and adapt as lessons are learned about how to make them more effective.

References

1. Affordable Learning Georgia. (2019). *ALG student savings data: Updated to spring 2019 data*. https://www.affordablelearninggeorgia.org/about/reports. Accessed 14 July 2019.
2. Allen, N. (2018). $1 billion in savings through open educational resources. *SPARC*. https://sparcopen.org/news/2018/1-billion-in-savings-through-open-educational-resources/. Accessed 14 July 2019.
3. Bureau of Labor Statistics (BLS). (2016). *College tuition and fees increase 63 percent since January 2006*. https://www.bls.gov/opub/ted/2016/college-tuition-and-fees-increase-63-percent-since-january-2006.htm. Accessed 14 July 2019.
4. Carnevale, A.P., Strohl, J., Ridley, N., and Gulish, A. (2018). *Three educational pathways to good jobs*. https://1gyhoq479ufd3yna29x7ubjn-wpengine.netdna-ssl.com/wp-content/uploads/3ways-FR.pdf. Accessed 14 July 2019.
5. College Board. (2019). *2018–19 tuition and fees at public four-year institutions by state and five-year percentage change in in-state tuition and fees*. https://trends.collegeboard.org/college-pricing/figures-tables/2018-19-state-tuition-and-fees-public-four-year-institutions-state-and-five-year-percentage. Accessed 14 July 2019.
6. Colvard, N. B., Watson, C. E., & 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). http://www.isetl.org/ijtlhe/pdf/IJTLHE3386.pdf. Accessed 14 July 2019.
7. Fischer, L., Hilton, J., Robinson, J., & Wiley, D. (2015). A multi-institutional study of the impact of open textbook adoption on the learning outcomes of post-secondary students. *Journal of Computing in Higher Education, 27*(3). https://link.springer.com/article/10.1007/s12528-015-9101-x. Accessed 14 July 2019.
8. Fischer, L., Hilton, J., Wiley, D. and William, L. (2016) Maintaining momentum toward graduation: OER and the course throughput rate. *IRRODL, 17*(6). http://www.irrodl.org/index.php/irrodl/article/view/2686/3967. Accessed 14 July 2019.
9. Florida Virtual College. (2018). *2018 student textbook and course materials survey*. https://dlss.flvc.org/documents/210036/1314923/2018+Student+Textbook+and+Course+Materials+Survey+-+Executive+Summary.pdf/3c0970b0-ea4b-9407-7119-0477f7290a8b. Accessed 14 July 2019.
10. Forbes. (2019). Best states for business: Texas. https://www.forbes.com/places/tx/. Accessed 14 July 2019.
11. North Dakota University System. (2018). *Open educational resources performance audit report*. https://www.nd.gov/auditor/sites/www/files/documents/Reports/State/2018%20NDUS%20-%20Performance%20Audit%20-%20Open%20Educational%20Resources.pdf. Accessed 14 July 2019.

12. Seaman, J.E., & Seaman, J. (2018). *Freeing the textbook: Educational resources in U.S. higher education 2018*. https://www.onlinelearningsurvey.com/reports/freeingthetextbook2018.pdf. Accessed 14 July 2019.
13. Smith, A. (2019). Discrepancies in estimates on food insecurity. *Inside Higher Education*. https://www.insidehighered.com/news/2019/04/30/new-research-finds-discrepancies-estimates-food-insecurity-among-college-students. Accessed 14 July 2019.
14. Wiley, D. (2019). *Defining the "open" in open content and open educational resources*. https://opencontent.org/definition/. Accessed 14 July 2019.