



Students' and Instructors' Experiences With Open and Culturally Responsive Instruction: Findings From a State OER Program

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Executive Summary

Open educational resources (OER) have gained widespread adoption in higher education courses as an alternative to traditional textbooks. Using OER course materials reduces the financial burden on students and ensures they have access to course materials from day one. Further, the affordances of OER, which allow instructors to revise and remix content, open up possibilities for instructors to transform the substance and delivery of their courses. For example, instructors can give students more agency over course topics and assignments, select more relevant and meaningful texts, and give students opportunities to create original content. These possibilities are collectively referred to as open educational practices (OEP).

A previous study by SRI Education (SRI) in partnership with Achieving the Dream (ATD) explored the ways in which OEP can be used across components of a course and further examined intersections between OEP and culturally responsive educational practices rooted in a long history of scholarship. We found that the use of transformative instructional practices with OER was uneven and lacked sufficient resources through institution-wide initiatives. Further, there was limited empirical evidence to show how the use of OEP impacts students' experiences and outcomes, or how faculty development programming could support these practices.

A state's annual OER grant program presented a unique opportunity to explore how OER materials can support open and culturally responsive practices through a statewide program. SRI partnered with ATD and the state agency overseeing higher education institutions to conduct a mixed-methods study to understand how 2- and 4-year college instructors use open and culturally responsive practices as enabled by OER and how students experience them.

With professional learning support from ATD and the state agency, grantees redesigned their courses to integrate OER materials and OER-enabled open and culturally responsive practices. For 2 years, SRI collected survey, instructor log, interview, observation, and administrative data to unpack instructors' and students' experiences with redesigning and learning from courses, respectively, that used open and culturally responsive practices. To design the study, the SRI study team used the Framework for Enacting Open and Culturally Responsive Practices, which draws from literature on both OEP and culturally responsive educational practices.ⁱ

We found that instructors made material changes to their course design and delivery, integrating student-centered practices and inclusive content and fostering peer-to-peer collaboration through open-ended activities that offered students greater voice and choice. Using OER-enabled open and culturally responsive practices improved instructors' ability to deliver high-quality instruction and helped students experience more peer-to-peer learning. Instructors also became more flexible in their courses and shifted their course goals to include the development of more soft skills and more critical-thinking skills.

Students in the redesigned courses appreciated the agency they had in learning, although some preferred traditional activities and assessments. Additionally, students in the redesigned courses favored the range of perspectives offered by and the relevance of the instructional materials. Although we did not find overall differences in course grades for students in redesigned courses, we observed a significant increase in course grades for students receiving Pell grants. Furthermore, students in the redesigned courses reported greater participation and more opportunities for their voices to be heard in the courses, among other improvements in their social-emotional outcomes, such as students' functional skills, intrapersonal competencies, and behaviors.ⁱⁱ

These findings suggest that concerted institutional efforts can catalyze transformative teaching practices when combined with supports for OER course conversion. Further, students and instructors felt engaged and more involved in teaching and learning through these changes. In some cases, instructors and students experienced challenges in designing and engaging with these courses, respectively. While our results do not support claims that these transformative practices led to differences in academic outcomes, we encourage additional research given the limitations of any individual study. The benefits of this program also merit investigation into barriers to and facilitators in scaling, in particular how generative AI tools might reduce the burden of producing high-quality OER course content.

Introduction

The benefits to students from the use of open educational resources (OER), such as immediate access to course materials,ⁱⁱⁱ cost savings,^{iv} and improved academic outcomes,^v are well documented. However, there is limited evidence showing how student-centered practices such as open educational practices (OEP) and culturally responsive educational (CRE) practices, as enabled by the use of OER materials, can lead to changes in instructors' pedagogy and improvement in students' course experiences and outcomes.

A state agency overseeing higher education institutions has led a multiyear program to support adoption of OER in 2- and 4-year colleges statewide. SRI Education (SRI), Achieving the Dream (ATD), and the state agency discovered a common interest in learning how the system could integrate support for transformative teaching practices into this grant program and what differences these supports would make for students and instructors. Consequently, SRI and ATD partnered with the state agency to integrate new supports and research activities into the third cycle of its grant program. As part of the program, a subset of grantees not only redesigned their courses to include OER materials but also integrated OER-enabled open and culturally responsive practices. SRI conducted a 2-year, mixed-methods study to understand how instructors transformed their courses and how students experienced these materials and practices.

Over the course of the 2 years, the SRI study team collected quantitative and qualitative data to unpack instructors' and students' experiences redesigning and learning from courses, respectively, that used open and culturally responsive practices. The study team aligned data collection and analyses to the Framework for Enacting Open and Culturally Responsive Practices, which draws from literature on both OEP and CRE

Key Terms

Open educational resources (OER) are teaching and learning resources that have an open intellectual property license that permits their free use and repurposing. OER can include everything from full courses, course materials, or modules to textbooks, videos, tests, and assignments. Instructors may adapt, adopt, curate, or create OER materials to support the redesign of a course.

Open educational practices (OEP) are instructional practices that use the affordances of OER to empower students as co-producers of knowledge and to value and incorporate students' backgrounds, needs, and voices in their learning.

Culturally responsive educational (CRE) practices are instructional practices that seek to embed students' cultures deeply in the processes and structures of learning.

Collectively, we refer to these as **OER-enabled open and culturally responsive practices**.

practices and operationalizes dimensions of open and culturally responsive educational practices across course components.^{vi}

This brief shares key study findings. We present how instructors used open and culturally responsive practices, the benefits these practices had for instructors and students, the supports necessary for instructors to use these practices, and the challenges instructors and students experienced with these practices. We discuss similarities and differences in students' experiences and outcomes between redesigned and traditionally taught courses used for comparison. Then, we share lessons learned and suggestions for practical application for instructors looking to apply OER concepts in their own courses.



Study Goals

The study aims to add to the growing body of literature around OER-enabled open and culturally responsive practices by:

- Using findings to improve future professional learning offerings on OER-enabled open and culturally responsive practices.
- Improving our understanding of how OER-enabled open and culturally responsive practices may be implemented in courses.
- Improving our understanding of students' experiences and outcomes in courses using OER-enabled open and culturally responsive practices.

A State OER Grant Program

A state OER grant program aims to increase students' access to quality, low- or no-cost educational materials to improve success rates and academic outcomes for historically underserved students. The grant offers funding and support to teams of instructors and other support staff in public 2- and 4-year colleges to redesign their courses using OER and other low- or no-cost materials.

The first two cycles of the grant program focused on redesigning courses to use OER materials, while the third cycle offered grantees the option to seek additional funding and support for integrating OER-enabled open and culturally responsive practices and to participate in this study. For the third cycle, 11 teams of redesign instructors and support staff from eight 2- and 4-year colleges and universities across the state redesigned 12 courses as part of the grant and the study. Most teams were new to the OER grant program and integrated both the materials and practices into their selected courses. Two teams had participated in a prior cycle and had already

converted their courses to OER; these instructors focused on integrating open and culturally responsive practices.

Grantees attended professional learning offered by the state agency to learn about OER, including sessions on how to adapt, adopt, or create OER materials to support their course redesign. In addition, ATD delivered annual professional learning via a Summer Institute in both 2022 and 2023 about implementing open and culturally responsive practices. ATD continued to offer light-touch coaching to grantees in fall 2022 as they were redesigning their courses.¹ In fall 2023, grantees were invited to a community of practice where they gained deeper knowledge of OER and AI through both peer-to-peer engagement and coaching support.

Study Framework

Open licensing allows instructors the flexibility to adapt, adopt, curate, or create OER materials to use OEP (i.e., practices that empower learners as co-producers of knowledge and value learners' needs, backgrounds, and voices).^{vii} The principles of OEP align closely with CRE practices, which include practices that center students' experiences, identities, and learning goals.^{viii} Experts in both the OEP and CRE fields argue that instructors should center and value different cultural perspectives in course structures and discourse, create opportunities for students to drive their own learning, and facilitate assignments where students can apply course learnings to solve real-world issues.

To design and implement the study, the study team used the Framework for Enacting Open and Culturally Responsive Practices,^{ix} which draws from literature on both OEP and CRE practices.^x The framework captures how different components of a course—the design, materials, teaching practices, assignments, and interactions—can integrate the five dimensions of OER-enabled practices.^{xi}

¹ In the summer of 2023, ATD revised the format of the Summer Institute to emphasize hands-on teamwork and to position experienced faculty members as experts leading sessions.



The Framework for Enacting Open and Culturally Responsive Practices

- **Study agency and ownership:** whether the student has voice, choice, or leadership over their learning.
- **Inclusive content:** whether the course integrates a range of perspectives and tailors content to student needs and interests.
- **Collaborative knowledge generation:** whether the course has opportunities for students to collaboratively apply, evaluate, or create new knowledge.
- **Critical consciousness:** whether the course aims to develop students' critical consciousness of social justice issues.
- **Classroom culture:** whether the course has strong relationships between students and between the students and the instructors, as well as the creation of a safer space.

Data Collection and Analysis

The SRI study team conducted a rigorous, mixed-methods study to examine:

- instructors' and students' experiences with and perceptions of the redesigned courses using OER-enabled open and culturally responsive practices,
- changes in instructors' practices after implementing the courses for a second semester, and,
- the impacts of using OER-enabled open and culturally responsive practices on students' academic and social-emotional outcomes.

Key Terms

We refer to the instructors in the study who redesigned their courses using OER-enabled open and culturally responsive practices as “**redesign instructors**,” their courses as “**redesigned courses**,” and their students as “**students in redesigned courses**.” We refer to instructors teaching traditional courses as “**comparison instructors**,” their courses as “**comparison courses**,” and their students as “**students in comparison courses**.”

A key component of the study was comparing students' experiences and outcomes in sections of courses that used OEP with otherwise similar sections of courses that used traditional materials and instructional practices.

Participants in the study included 24 instructors from 11 redesign teams in Year 1 (2022/23), eight instructors from three redesign teams in Year 2 (2023/24), and seven instructors teaching in a traditional manner for comparison purposes in Year 2. Overall, 379 students enrolled in 20 courses were involved in the study.²

Exhibit 1 shows the timeline of study activities and details of data collection. The study team collected and analyzed data from five data sources during the 2022/23 and 2023/24 academic years. These data sources included observations of professional learning and exit surveys with feedback from the professional learning, site visits consisting of instructor interviews, student focus groups and course observations,

instructor implementation logs and surveys, and student surveys. In fall 2023, the instructor and student surveys were administered in both redesigned and comparison courses.

Next, the study team systematically analyzed qualitative data and synthesized findings into themes. The team also reviewed descriptive statistics from quantitative data and examined the data longitudinally and in aggregate, as applicable.³ Because of sample size limitations, the team

² Students were counted as part of the study if they participated in a focus group in Year 1 or in the student survey in Year 2.

³ Student survey data were analyzed using hierarchical linear models comparing student outcomes while accounting for the grouping of students within instructors and for student characteristics (race/ethnicity, sex, receipt of Pell Grant, full-time or part-time status, first-generation college student status, and high school grade point average), course subject, and course modality.

acknowledged that the study might not have a sufficient sample size to detect significant effects. Therefore, the study team also conducted a secondary analysis using Bayesian inferencing to calculate the probability of the true effect being positive, based on prior studies examining similar outcomes.

Exhibit 1. Timeline of Data Collection Activities

Activity	Academic Year 2022/23			Academic Year 2023/24		
	Summer	Fall	Spring	Summer	Fall	Spring
Observation of professional learning and exit surveys	X			X		
Site visits			X			
Implementation logs			X			
Instructor surveys			X		X	
Student surveys and administrative data					X	X

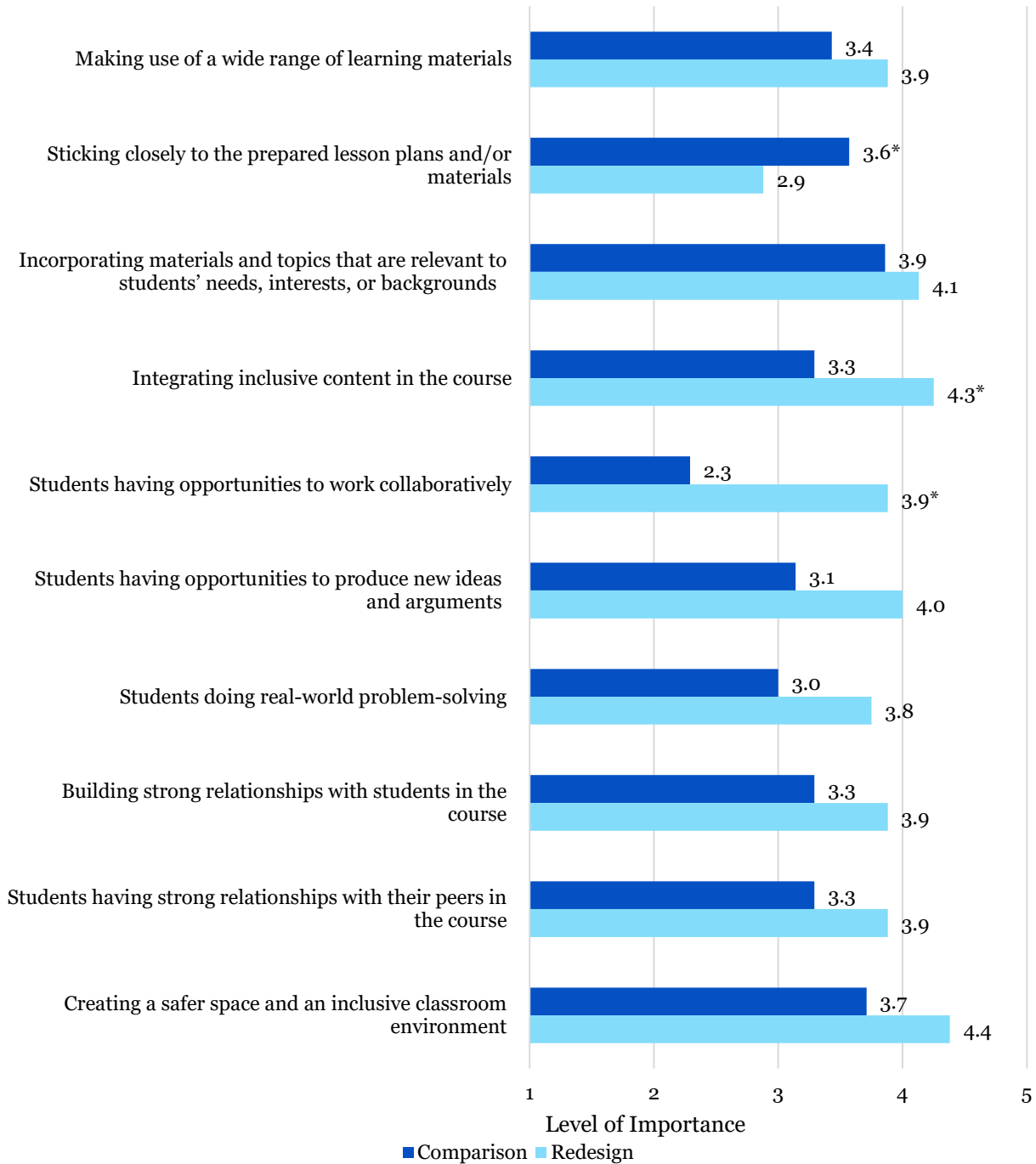
Note: The SRI study team observed professional learning sessions led by ATD in summer 2022 and summer 2023. The team collected de-identified data from exit surveys administered by ATD. Site visits consisted of 11 instructor interviews, 25 student focus group participants, and six classroom observations of five redesign teams at three colleges. These participants represented a range of subject areas and experience levels with using OER-enabled open and culturally responsive practices. The study team administered weekly implementation logs to all 24 redesign instructors in spring 2023, asking about their implementation of OER-enabled open and culturally responsive practices. All instructors completed the weekly implementation logs at least once. The team administered instructor surveys to 24 redesign instructors in spring and to eight redesign instructors and seven comparison instructors in fall; response rates were 92% and 100%, respectively, in spring and fall. The team administered student surveys and collected de-identified administrative data for students in the 15 redesigned and comparison courses. Student surveys were included in the study for students who were age 18 or older and who consented to study participation (*N* = 221). Administrative data were included for all students age 18 or older in redesigned and comparison courses (*N* = 354).

Findings

How did instructors implement OER-enabled open and culturally responsive practices?

Overall, instructors found success with the redesign and implementation of their courses using OER-enabled open and culturally responsive practices. These practices provided students with more opportunities to collaborate, allowed for their feedback and input into the course, and supported their agency and choice in their learning experiences.

Exhibit 2. Importance of Pedagogical Practices for Redesign and Comparison Instructors



Note: The fall 2023 instructor survey asked both redesign and comparison instructors, “How important are each of the following practices to your course in fall 2023? (Instruction includes any synchronous, asynchronous, or hybrid instruction delivered in this time frame).” Instructors rated each item on a 5-point Likert scale ranging from 1 (*not very important*) to 5 (*very important*). Exhibit displays descriptive means for redesign and comparison instructors’ responses. Significant differences between group means were tested using *F*-tests.

**p* < .05.

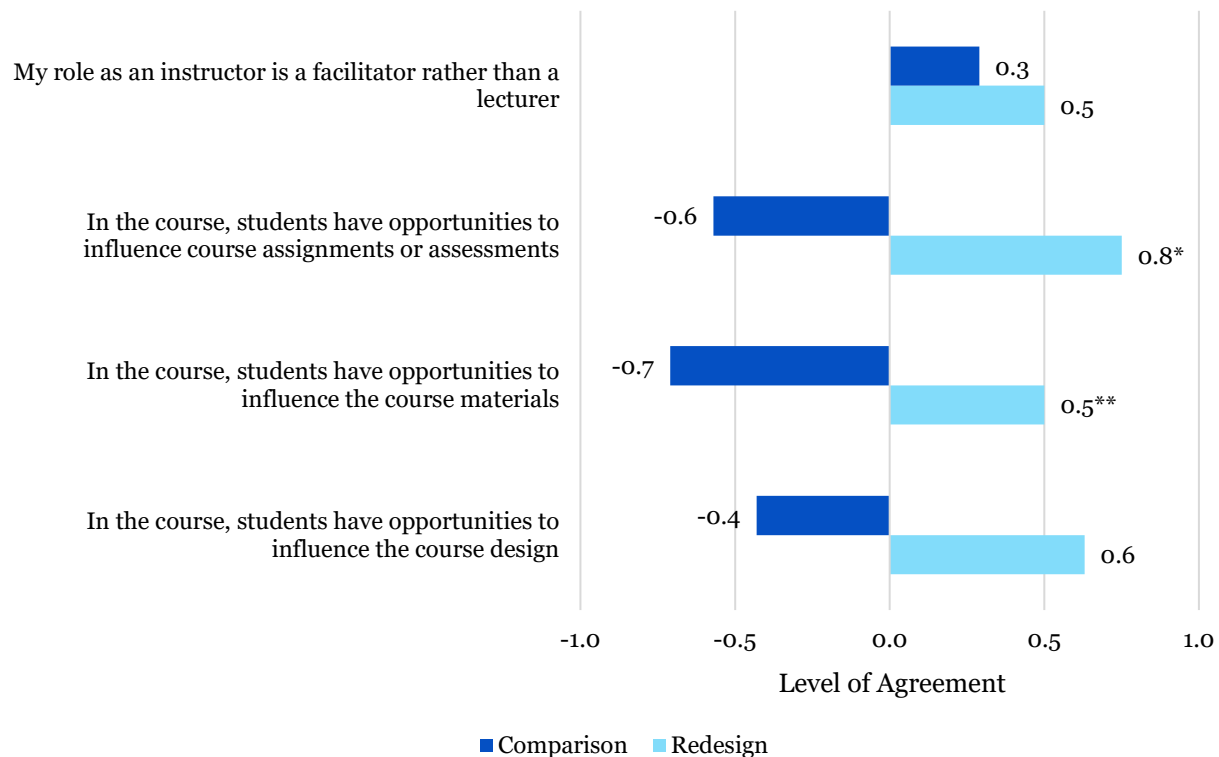
Redesign instructors reported shifts in instructional approaches and priorities.

Redesign instructors reported that they implemented open and culturally responsive practices weekly. Several redesign instructors viewed students as partners in learning. Redesign instructors were more likely to use student-centered practices with high levels of student collaboration, input, and agency, whereas comparison instructors were more likely to adhere to set lesson plans (Exhibit 2). Redesign instructors also described ways in which they invited students' input on course topics. For example, one instructor's log mentioned "distributing a survey requesting student feedback about the topics they wanted to cover in our upcoming workshop on academic research."

Similarly, redesign instructors were significantly more likely to place importance on integrating inclusive content and collaborative learning opportunities, often with the use of OER or other non-OER materials that were low or no cost to students. They were also more likely to report giving more influence in course assignments, assessments, and materials (Exhibit 3). Moreover, redesign instructors made their courses more interactive, incorporating real-world or hands-on assignments and activities and involving students in curating or developing course materials. In one redesigned course, for example, students created a resource repository using course materials they found helpful when completing assignments. In another instance, redesign instructors incorporated TED Talks by Hispanic/Latine speakers and allowed students to choose a talk that resonated with them. They also created assignments and projects with more culturally representative and relevant topics.

In addition, almost all redesign instructors incorporated more small-group activities into their courses. Some redesign instructors incorporated more workshops for peer feedback, whereas others used small groups to have more productive and rich discussions about assignments. A few redesign instructors mentioned gallery walks, which showcase student work and invite peer feedback, as a strategy for student collaboration.

Exhibit 3. Redesign and Comparison Instructors' Level of Agreement Regarding Course Practices



Note: The fall 2023 instructor survey asked both redesign and comparison instructors, “Indicate the extent to which you agree or disagree with the following statements about your pedagogical practices in your focal course in Fall 2023.” Instructors rated each item on 5-point Likert scale ranging from -1.0 (strongly disagree) to 1.0 (strongly agree). Exhibit displays descriptive means for redesign and comparison instructors’ responses. Significant differences between the group means were tested using F-tests.

* $p < .05$. ** $p < .01$.

Redesign instructors prioritized building a safer and more collaborative classroom culture.

Redesign instructors rated class culture as “very important” to their redesigned courses, on average. In fall 2023, all redesign instructors reported applying practices to build a strong classroom culture. These results are comparable to those from the spring 2023 instructional log. Across all subjects, redesign instructors discussed the trusting relationships that had formed in their courses, noting that students were more communicative about their needs than in the past. A few redesign instructors said that the learning environment felt more collaborative, students had good relationships with one another, and students were learning how to apply the materials beyond the classroom. One instructor said that their classroom culture was the best it had been.

Instructors implementing redesigned courses for a second semester reported an increase in their use of student-centered activities.

From spring to fall 2023, redesign instructors increased their use of activities that were student-centered and that encouraged real-world application. For instance, redesign instructors were

significantly more likely to report that their students had opportunities to engage in real-world problem-solving in fall 2023 than in spring 2023.

Making numbers count: How instructors are making statistics meaningful through OEP

A team of grantees redesigned an Introductory Statistics course to integrate OER-enabled open and culturally responsive practices to improve student engagement, access, and outcomes, especially for those who have been historically underserved.

In addition to adopting an OER textbook, the team also added course elements related to OEP. Instructors created engaging classroom materials and video tutorials and added more group- and discussion-based activities to increase student participation. Instructors integrated a “Class Welcome” activity to increase students' sense of belonging and “Embedded Learning Assistants” to promote student academic help-seeking. The course used Excel to build students' transferable skills through developing proficiency in a commonly used program—rather than in the less frequently used and paid analysis program the course had previously used.

Importantly, the team used openly licensed materials to make lessons and assignments more relevant for students. The team described wanting students to be able to apply statistical concepts to fact-check news for misinformation and disinformation. Instructors found and integrated open-source datasets so that students could use what they were learning to investigate and solve real-world problems. For example, one instructor described finding datasets about issues of importance to students, such as public health, safety, or access to resources. Students were assigned to calculate and compare statistics between the United States and other countries. Instructors reduced the breadth of content coverage in their syllabi to prioritize depth and application.

The team also reduced the number of tests to assess student learning. Rebranding these assignments as “performance assessments,” these evaluations focused primarily on basic statistical terminology and the use of Excel functions like median, standard deviation, and quartile. Students

synthesized their knowledge through case studies and group projects rather than solely relying on traditional testing methods. This approach allowed students to apply statistical concepts to current, real-world scenarios that encouraged meaningful engagement with the material.

By using applicable real-world data, paired with quality instruction and supportive classroom culture, this team engaged students and helped them apply their skills with Excel to analyze and interpret data from multiple perspectives. The team also promoted practical learning by breaking away from traditional textbook assignments that prioritize memorization rather than application.



Benefits of OER-enabled open and culturally responsive practices

Using OER-enabled open and culturally responsive practices improved instructors' ability to deliver high-quality instruction and helped students experience more collaborative learning.

Benefits for instructors

Redesign instructors realized the importance of having flexibility in their courses to be responsive to students' needs.

Redesign instructors were more likely than comparison instructors to be flexible in teaching their courses. Redesign instructors learned they could not plan out everything in advance if they wanted to be responsive to interests raised by students. One instructor described course implementation as “messy in an artistic way,” adding that “if you are a planner, then this might cause a lot of anxiety for you.” The same instructor said that instructors need to be willing to go on a journey with students and be open to learning how students learn. In updating their course topics to reflect students' interests, several redesign instructors reported feeling closer to their students and feeling that their courses were more collaborative.

Redesign instructors wanted students to learn more soft skills and critical-thinking skills.

Some redesign instructors mentioned shifting the skills they wanted their students to learn from their redesigned course. Across subjects, redesign instructors reported prioritizing development of students' soft skills such as self-regulated learning, teamwork and independent work, problem-solving, and real-world application of course concepts. For instance, a statistics instructor who previously had “never implemented reflections on this course” before, now often asks students to reflect on their understanding and apply their learning. Similarly, a sociology instructor shared that because course content can change over time and because students from a range of disciplines and background take sociology courses, they wanted to focus more on developing skills such as self-regulation and critical thinking that are more applicable to students across disciplines and course topics.

Benefits for students

From the student perspective, the use of OER-enabled open and culturally responsive practices in redesigned courses was associated with greater course participation and interactiveness (i.e., the extent to which students felt the instructor incorporated their ideas into the course). We also observed a high probability of a true positive effect for students' academic skill engagement, emotional engagement, and ownership over their learning.

These benefits may be explained by shifts in learning experiences for students. Students found redesigned courses to offer them more voice and choice in reading materials and assignments,

as OER usage enabled instructors to be more flexible in assigning course texts. Students felt this choice made the course materials feel more relevant, and they enjoyed more interactivity and collaboration with their peers to generate new ideas.

Benefits to students' social-emotional and academic outcomes

Students in redesigned courses participated more in class and felt their ideas were incorporated into the course by the instructor. They were also more likely to have greater engagement with and ownership over their learning.

Compared with students in traditional courses, students in redesigned courses reported significantly higher levels of course participation and interactiveness.⁴ One student commented, “The teacher always makes us feel like our opinions are important.”

Students in redesigned courses also were more likely to increase their use of academic skills, emotionally engage with course material, and have ownership of their learning. Using Bayesian analysis, we found a high probability (90%+) of the true effect being positive for skill engagement of students in redesigned courses, specifically their use of academic skills such as organization, work completion, and note-taking; emotional engagement (i.e., applying course material to their lives); and ownership over their learning. We did not observe significant differences for sense of belonging or self-efficacy, nor a high probability of a true positive effect.

Students in redesigned courses receiving Pell Grants were more likely to earn a higher course grade.

In terms of academic outcomes for students in redesigned courses, receiving a Pell Grant—i.e., students demonstrating greater financial need—was associated with an increase of a half a letter grade compared with students not receiving a Pell Grant. This difference was statistically significant. A half a letter increase (e.g., going from B+ to an A-) represents a moderate increase in outcomes for students and can have a meaningful impact for students' GPAs or scholarship eligibility (if near a cutoff).

We did not observe significant differences in the probability of students earning any course credit or in their overall course grade. We also did not observe a high probability of a true positive effect, or evidence suggesting that academic outcomes were harmed by the use of open and culturally responsive practices.

⁴ In relation to students in comparison courses, students in redesigned courses reported significantly higher agreement regarding their course participation and their perceptions of course interactiveness. Specifically, students in redesigned courses reported about a half a Likert point higher level of agreement for their level of course participation (**0.4; $p < .01$) and for their perceptions of course interactiveness (**0.4; $p < .01$).

Benefits to students' learning experiences

Advances in students' social-emotional and academic outcomes may be explained by the shifts in students' learning experiences in courses using OER-enabled open and culturally responsive practices.

OER usage enabled redesign instructors to select more relatable materials and to offer students voice and choice in their work, which students appreciated.

Overwhelmingly, students in redesigned courses enjoyed OER textbooks because they were free, easy to access, and easy to read. One student shared:

I have enjoyed reading with the textbook made by the professor, specifically because it has been easier to understand. In the past, history classes have not always been easy for me to engage in, even the ones in person.

Students liked choosing their readings, expressing that course topics seemed more interesting and relevant and reflected a range of viewpoints and real-world examples. For instance, one student in the redesigned statistics course described above reported, "I have enjoyed the real-life examples that have been given in class. It keeps the class entertaining and has made these seven weeks much more enjoyable." Another student said their redesigned course introduced them to reading materials they would not have sought out themselves. By contrast, students in comparison courses less frequently referred to the relevance or representativeness of their course materials in open-ended survey responses.

Additionally, students in redesigned courses liked having choice in their assignments and assessments. Specifically, they appreciated that there was often more than one way to complete an assignment (i.e., they could choose how they would demonstrate their learning) and that there was sometimes more than one answer or way to respond to an assignment. Students also reported that finals were different from the typical format; some were group projects, and some allowed a full range of creativity or a choice from a list of topics offered by the instructor.

Students in redesigned courses enjoyed opportunities for more peer interactions.

As open and culturally responsive practices encourage greater collaboration, students in redesigned courses reported doing more small-group work and peer collaboration and having more discussions in class. Students said they enjoyed more interactivity with peers and reported producing new ideas and arguments by applying the course materials. One student stated, "I like how we do individual and group discussions/work. Doing group work has helped me if I'm not understanding a certain topic or reading, and it makes the class more fun in my opinion."

Supports for implementing OER-enabled open and culturally responsive practices

Redesign instructors found the Summer Institute highly engaging in both years. They also appreciated time with their ATD coaches. After attending the Summer Institute, most redesign instructors felt prepared to integrate open and culturally responsive practices using OER materials into their courses.

On instructor surveys, redesign instructors reported that the Summer Institute was helpful for learning about OER-enabled open and culturally responsive practices. During the Summer Institute, ATD delivered annual professional learning in both 2022 and 2023 about implementing open and culturally responsive practices. Redesign instructors worked with their ATD coaches, who provided a mix of direct instruction on OER, OEP, CRE practices, backward design, and positionality; facilitated small-group discussions and collaboration; and worked with the instructors on setting vision and strategies for redesigned courses. Redesign instructors reported enjoying the opportunity for thought partnership with their ATD coaches on implementing open and culturally responsive practices.

Redesign instructors found the Framework for Enacting Open and Culturally Responsive Practices to be relevant and a useful tool to anchor their work.

Many instructors reported that the Framework for Enacting Open and Culturally Responsive Practices helped them conceptualize and operationalize the dimensions of open and culturally responsive practices and redesign their courses. One redesign instructor said it was a “tool we’ve gone back to again and again, which of the dimensions of the rubric are we most aligned with, which are more challenging because of our discipline ... that tool has been really helpful.” Another instructor said they “thought the [framework] repackages known information, dense and rich, and captures the info well,” while another stated that the “culturally relevant piece seems essential to me as an educator, and I am eager to learn how to best incorporate these into my OER practice.”

Redesign instructors reported wanting more time to collaborate with their peers and more support from ATD coaches.

In response to feedback requesting more collaboration and instructor involvement in delivering the professional learning sessions, sessions in the second Summer Institute were modeled using open pedagogies. This Summer Institute included sessions with more interactive group work and sessions facilitated by instructors who had integrated OER-enabled open and culturally responsive practices in the prior year.

There were some areas of opportunity to improve redesign instructors’ work with their coaches. They wanted more clarity on how they should work with their coaches and preferred workshop-style professional learning over a lecture-based format. Some instructors were interested in

more support on how to incorporate CRE practices, how to use trauma-informed practices to support students, and how to build community in virtual settings.

Challenges to implementing OER-enabled open and culturally responsive practices

The primary challenges for redesign instructors included time constraints and feelings of isolation. Students in redesigned courses felt the courses were more demanding and challenging, expressing some dissatisfaction with course materials and course quality at times.

Challenges for instructors

Instructors reported experiencing challenges in redesigning and implementing their courses using OER-enabled open and culturally responsive practices, such as feeling rushed by time constraints, challenges integrating the practices into their subject areas, and feeling isolated in the work at their institutions.

Redesign instructors reported having insufficient time to redesign their courses as a major challenge to their work. Instructors also mentioned their subject areas as a challenge for redesigning their course content with open and culturally responsive practices. For example, one math instructor expressed, “I think just implementing these [practices] into a math class is challenging overall. It does help that we selected an OER text and created OER guided notes from that text and used an OER homework platform.” This instructor cited students’ lack of self-confidence in math, especially post-COVID, as the biggest hurdle.



Several redesign instructors also reported feeling isolated at their institutions in doing this work. Some instructors said it was sometimes difficult to get their colleagues or their institutions on board with using open and culturally responsive practices. Other challenges included covering required course content using nontraditional methods (especially in 7-week courses); institutional firewalls, which sometimes interfered with sharing course materials with students seamlessly; and concerns or tensions associated with the broader policy environment.

Occasionally, redesign instructors found it challenging to engage students in asynchronous courses.

OER-enabled open and culturally responsive practices require more interaction between students and between students and instructors, as well as greater involvement of students in course activities and feedback, to create spaces of belonging and strong classroom dynamics.

Several redesign instructors cited difficulties in asynchronous courses with students' attendance at optional live Zoom meetings and with superficial responses to reflection prompts. These concerns were not always limited to asynchronous courses. One instructor logged:

[I] have consistently found it difficult to engage the students. It's really hard for me to put my finger on why. Throughout the term, I have tried a lot of things to engage them in creative ways—group activities, creative assignments, etc. But they just don't connect with anything, and this has become very apparent now that the end of the semester is approaching.

Challenges for students

In a few instances, students in redesigned courses felt the materials were sensitive to their personal experiences, and in some cases, they were more comfortable with a more traditional learning experience.

At times, students in redesigned courses felt that the pace, expectations, and demand of activities applying open and culturally responsive practices were challenging. One student was confused by how the course was organized. Another student described that the demand of tasks—such as being asked to write their own test questions rather than just answering them—was challenging. This student shared:

I don't really like having to create our own questions for the text. It's more challenging, and I would rather read the article and answer questions provided [to me], but I also like the idea of giving us freedom to talk about what we want and have learned from each chapter.

In addition, redesigned courses at times covered topics that could be considered sensitive, personal, or triggering. When encountering such topics, a few students reported feeling some discomfort. For example, in one course, the instructor asked students to reflect on facets of their identity and view a film about welcoming all voices. The instructor received feedback from a few students expressing their hesitation with the activity. The instructor shared they had since removed these required activities:

While there is an argument that it might be good to expose students to things they do not want to, I felt it was important to acknowledge that student's experience and perspective, and therefore I removed the requirement of watching that film and have requested a different film for next semester.

Another student said some topics were triggering as they resurfaced past negative experiences, and another said they felt less connected to their peers or instructors if a topic was more sensitive, such as religion. One student recommended that instructors receive more training on selecting trauma-informed materials.

By contrast, on the student survey, students in comparison courses reported that assignments felt more relevant and reported more diversity in the authors they read than did students in redesigned courses. This finding was unexpected and warrants further investigation.

A few students in redesigned courses reported issues with course quality, such as the quality of OER materials or a low level of perceived rigor.

A few students in redesigned courses reported issues with the formatting and typographical errors in the OER materials assigned. One student noted:

The most challenging part is the weekly Q&A assignments that we have to do based on the textbook. The formatting of the textbook makes it difficult to understand at times and even more difficult to actually come up with questions based on the wording. I have also found many spelling errors and sentences that simply end halfway through.

A couple of students in redesigned courses said they felt the courses were less rigorous because the instructors were not strict graders or because the instructors said everyone would pass the course for the most part.

Conclusion

The collaboration between SRI, ATD and the state agency enabled us to take a significant step forward in understanding how a state system can support instructional transformation as part of an OER program and how such a program impacts instructors and students. Redesign instructors reported substantial changes to their instructional practices and courses as a result of the professional learning support ATD offered. For the most part, instructors reflected positively on the changes they made to their practices and course structures and felt these changes were beneficial for students. We observed more consistent and deeper changes in instruction in this set of courses than we had in prior studies of OER programs that lacked support for instructional change. Importantly, some instructors implemented OER-enabled open and culturally responsive practices in an introductory statistics course, demonstrating how these practices could be applied in STEM courses.

Overall, students appreciated having greater voice and choice, increased interactivenss, and the opportunity to apply course concepts to real-world issues. Some students, however, found these practices unfamiliar and challenging. We found a high probability that students in redesigned courses had higher levels of engagement (including finding courses more relevant, increased participation, and applying greater academic skills) and higher levels of interactivenss than those in comparison (traditional) courses, but we did not find evidence of positive effects on course grades, credit attainment, sense of belonging, or self-efficacy.

This study has several important limitations. First, instructors who seek OER grants and choose to redesign their courses using open and culturally responsive practices are distinctive; we cannot assume that the professional learning support and resources these instructors received would produce the same effects if offered to instructors at large. On the other hand, it is likely that some participating instructors who reported no change in their instructional approaches had already used student-centered practices, diminishing their personal potential for change.

Second, course grades and credit attainment are a blunt measure of learning. It is possible that differences in grading policies and assessments in redesigned courses muddied measurement of the true learning impact. Indeed, a core principle of OEP is that students have choice over how to demonstrate their learning. Further, we heard from instructors who participated in the grant program that their priorities for what skills they wanted students to learn changed. Therefore, studies attempting to measure the impact of OER-enabled open and culturally responsive practices by comparing their outcomes with those of traditionally taught sections are likely comparing apples and oranges, to some extent. To assess learning outcomes, future research could examine how students who enrolled in redesigned courses perform in subsequent courses in the same discipline or devise other approaches to measure learning outcomes.

Overall, the evidence from this study supports the expansion of institutional and system-led programs that integrate support for conversion to OER materials with professional learning for instructional change. At the same time, the level of effort for instructors raises questions about the addressable audience for this type of program. Redesign instructors commented on the vulnerability they experienced when wading into sensitive issues and relinquishing structured course plans.

To support broader adoption of OEP and CRE practices, instructors need communities of practice and administrative support in addition to material resources and training. The time and skills required to develop high-quality OER course content also continue to be a barrier to scaling. Future research can focus on how generative AI applications might reduce the burden of creating course materials and facilitate quality control.

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End Notes

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