



The Use of Open Educational Resources and Renewable Assignments in Social Work Ph.D. Programs in the United States

RESEARCH ARTICLE

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ABSTRACT

Open Educational Resources (OER) and renewable assignments that create OER are closely related and promote access to knowledge, collaboration, and community engagement. Through both, PhD students can contribute to the advancement of open education while enhancing their own learning and professional development. Despite many advantages, OER and renewable assignments are widely underutilized in U.S. institutions of higher education. To enhance nationwide adoption, PhD programs may be an important context for using and creating OER because many PhD students will become faculty members in the future. This survey research collected data from April to December 2022 to explore the prevalence and perceptions of OER and renewable assignments among the 72 PhD programs in the top 100 ranked social work programs in the United States. Thirty of the 72 programs were represented in the sample. Most of the respondents (68%) reported using OER materials in at least one course, with audiovisual and textbooks the most reported type of OER used. In contrast, a few (6%) of the respondents reported their programs used renewable assignments. Lack of knowledge or awareness was the most commonly cited reason for not adopting OER or renewable assignments. Representatives from programs that had adopted OER had higher perceptions of positive student impact from OER use or creation than those from programs that had not adopted OER (Mann Whitney U = 61.0, $p = .058$). Our findings indicate a reasonably widespread adoption of OER as course materials in social work PhD programs in the United States. There is an opportunity for increased adoption of renewable assignments to both create suitable, high quality OER materials for use in social work PhD programs and to train future social work faculty in the logistics of creating and using OER.

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Open Educational Resources (OER) are teaching and learning materials such as textbooks, multimedia learning modules, course materials, presentations, lectures, syllabi, and assessments that are available free of charge and are licensed in a way that allows others to reuse, redistribute, revise, remix and retain (i.e., the *5R permissions*) these resources, without requiring additional permission from the copyright holder (Bliss et al., 2013; Butcher & Moore, 2015; Wiley & Hilton, 2018). Because they are free of cost, OER can increase educational access (Bliss et al., 2013; Vengadasalam, 2020). With the rising cost of textbooks and other educational resources, students often struggle to afford the materials they need (Belikov & Bodily, 2016). This hurdle is particularly challenging for those from low-income families and international students (Ikahihifo et al., 2017). OER offers a solution by making educational materials freely available (Ikahihifo et al., 2017). Furthermore, OER incorporates principles of Universal Design for Learning (UDL), ensuring that materials are accessible to students with diverse learning needs and abilities (Nusbaum & Cuttler, 2020). OER materials that include culturally appropriate material for learners and introduce learners to groups that are typically overlooked in educational materials (e.g., Native American community members in the Palouse region of Idaho) have been developed and used in higher education (Seiferle-Valencia, 2020). OER has been associated with students' improved engagement and achievement, active participation in learning, critical thinking, problem-solving skills, and deeper understanding of the subject matter (Rahayu & Sapriati, 2018; Vengadasalam, 2020).

Educators can adapt OER to suit their students, teaching methods, and learning objectives (Bennett et al., 2018), providing more opportunities for creativity and experimentation (Laurillard et al., 2013; Rotellar & Cain, 2016). This can encourage educators to share their expertise and innovative teaching practices freely (Kursun et al., 2014). OER also encourage collaboration between educators (McKnight et al., 2016), through which they can enhance their knowledge and gather valuable insights from peers across different disciplines, leading to the development of high-quality, contextually relevant learning materials (Baas et al., 2023). Since OER are accessible to everyone, they are subject to peer review and evaluation, which helps ensure their accuracy and quality (Hilton, 2016).

OER-enabled pedagogy is defined as “the set of teaching and learning practices that are only possible or practical in the context of the 5R permissions which are characteristic of OER” (Wiley & Hilton, 2018, p. 135). OER-enabled pedagogy emphasizes collaboration, sharing, and full accessibility of educational materials, allowing educators and learners to retain, revise, reuse, remix, and redistribute original content for the benefit of all involved. One concrete example of OER-enabled pedagogy is renewable assignments, which are learning tasks that are designed to have a lasting impact beyond the classroom (Bliss et al., 2013). Unlike traditional “disposable” assignments, such as essays that get written for the course and are seen only by students and their instructor, renewable assignments are designed for use after the course outside the classroom setting (e.g., creating or editing wiki pages). Renewable assignments encourage students to create meaningful contributions to the public domain, including creating OER, conducting practical research, or addressing community issues, and can contribute to the dissemination of valuable educational resources (Van Allen & Katz, 2019).

Renewable assignments have several benefits. They promote student engagement and motivation by connecting classroom learning to real-world issues (Bliss et al., 2013). They encourage critical thinking, problem-solving, and the development of transferable skills (Clinton-Lisell & Gwozdz, 2023). They can also support learner collaboration by enabling students from diverse backgrounds to engage in meaningful collaborations (Clinton-Lisell & Gwozdz, 2023). For example, students created educational materials to spotlight Anna Murray Douglass, a racial justice advocate and the wife of Frederick Douglass, who has been mainly overlooked by traditional educational materials (Seiferle-Valencia, 2020). The inclusivity afforded by renewable assignments can foster cultural competency and empathy and encourage new perspectives when students interact and exchange knowledge with their peers from different geographical and cultural contexts (Wiley & Hilton, 2018).

OER enhances accessibility and customization of learning materials, while renewable assignments promote engagement, critical thinking, and societal impact (Kursun et al., 2014). OER can serve as the foundation for renewable assignments, providing the necessary resources

for students to create meaningful contributions by remixing or revising them (Wiley & Hilton, 2018). Conversely, renewable assignments can motivate students to engage with OER creation, fostering a culture of collaboration and knowledge sharing (Becker et al., 2017). Combined, these approaches can create a powerful synergy that empowers educators and students to contribute to a more open and collaborative educational landscape (Clinton-Lisell & Gwozdz, 2023).

THEORETICAL FRAMEWORK

Using OER and renewable assignments holds transformative potential for education through active learning, collaboration, and inclusivity (Belikov & Bodily, 2016; Clinton-Lisell & Gwozdz, 2023). We use transformative learning theory to understand OER use in higher education, and co-creation in learning and teaching theory to contextualize renewable assignments. Finally, the diffusion of innovations theory is explored to help explain the underutilization of these two components of OER-enabled pedagogy in higher education.

Transformative learning theory, a constructivist view of adult learning, sees students as gaining knowledge through interpreting experiences (Schneppfleitner & Ferreira, 2021). The learning process begins with a disorienting dilemma, which often occurs by receiving new information that conflicts with previously held beliefs (Anand et al., 2020; Katz, 2019; Mezirow, 2000). In the context of OER, this may occur when faculty or students become aware of OER and discover an alternative to commercial textbooks (Katz, 2019). As they learn more, they may discover a growing disconnect between their long-established use of commercial textbooks and the possibilities for affordability and innovative pedagogy presented by OER (Katz, 2019). The disorienting dilemma leads to a critical review of previous assumptions, a recognition that transformation is possible, and explorations of new possibilities. Learners then experiment with new perspectives, acquire requisite resources and skills, and attempt new approaches (Anand et al., 2020; Katz, 2019; Mezirow, 2000). In this stage, faculty may begin to explore, use, or create OER. They may find support by connecting with others, attending trainings, or consulting with librarians (Katz, 2019). At the end of the process, learners gain self-confidence and can fully integrate their transformed perspective (Anand et al., 2020; Katz, 2019; Mezirow, 2000), such as when faculty regularly adopt and adapt OER and suggest it to their colleagues.

Co-creation in learning and teaching is a pedagogical approach that fosters opportunities for students to actively collaborate with both teachers and other students in making decisions about course elements such as content, purpose, teaching approach, or evaluation. Students are given a high level of agency and are empowered to have a strong voice in their educational experience (Bovill, 2020; Kaminskiene et al., 2020). Such approaches have been associated with a wide array of student benefits including improved academic performance, transferring learning into new contexts, increased confidence, and more equalized power dynamics between teacher and learner (Bergmark & Westman, 2016; Bovill, 2014, 2020; Bovill et al., 2010; Deeley & Bovill, 2017). Renewable assignments present a powerful opportunity for students to actively co-create their method of course assessment and, as previously discussed, they frequently emphasize collaboration between students and teachers from diverse cultural backgrounds in addressing real-world problems (Bliss et al., 2013; Clinton-Lisell & Gwozdz, 2023). When renewable assignments are used to create new OER, students and teachers are able to co-create content that may in turn be utilized in future courses, thus further empowering learners.

When applied to both existing OER materials and the creation OER through renewable assignments, the frameworks of transformative learning theory and co-creation in learning can explain why OER-enabled pedagogy is particularly beneficial for PhD students. In the traditional “banking” model of education, teachers are seen as the experts who possess all relevant knowledge, which students receive passively (Christopher et al., 2001; Friere, 1970). This style of education seems to contradict the goal of having PhD students become active producers of knowledge (Chametzky, 2020). Transformative learning and co-creation have been associated with increased student empowerment and self-confidence, two crucial qualities for PhD students to attain if they are to be successful in becoming independent scholars capable of conducting their own research (Bergmark & Westman, 2016; Bovill et al., 2010; Chametzky, 2020; Christopher et al., 2001; Deeley & Bovill, 2017).

Despite the transformative elements of their use for faculty and students alike, OER and renewable assignments remain underutilized in U.S. institutions of higher education (Braddlee & VanScoy, 2019). The diffusion of innovations theory, which describes diffusion as a process in which innovations are adopted by members of a community over time (Rogers, 2003), provides some insights into this discrepancy. In the diffusion process, individuals known as innovators and early adopters are among the first to try a new technology or process, followed by the early majority who form the critical mass necessary for the continuation of the innovation. Individuals in the late majority or laggards delay adopting the innovation and may need external pressure (e.g., policy) to overcome resistance (Katz, 2019; Rogers, 2003). Innovations can fail to have a large impact on society if at least 16% percent of a community does not become innovators or early adopters (Rogers, 2003). Stakeholders promoting OER and renewable assignment use in higher education would do well to increase the number of higher education faculty who are OER/renewable assignment adopters beyond this threshold.

PERCEPTIONS AND PREVALENCE OF OER IN HIGHER EDUCATION

Faculty attitudes can be an important determinant of adoption at the course and program or departmental level. In the United States, 61% of faculty are concerned with the high costs of textbooks (Seaman & Seaman, 2018) and many have reported it as a primary reason for adopting OER in community colleges (Lantrip & Ray, 2021) and 2-year and 4-year Utah universities (Fischer et al., 2020; Martin et al., 2017; Martin & Kimmons, 2019). Faculty tend to believe that students who use OER textbooks are equally or more prepared (Jung et al., 2017; Magro & Tabaei, 2020), more engaged (Jung et al., 2017; Lantrip & Ray, 2021), perform better (Delimont et al., 2016; Jung et al., 2017), are more able to meet course objectives (Abramovich & McBride, 2018), or are more likely to complete the course (Jung et al., 2017) than those who use commercial textbooks.

Nonetheless, in the most recent nationally representative survey of U.S. higher education faculty (Seaman & Seaman, 2018), only 13% of all faculty used OER in any of their courses in the academic year 2017–2018. However, this rate was up from 6.5% in 2016–17 and 4.8% in 2015–2016. This prevalence of faculty who have adopted OER is within the range of early adopters in the diffusion of innovation theory (Rogers, 2003) and not yet in the range of the early majority needed to tip the critical mass needed for the likelihood of sustainable adoption of the innovation.

CURRENT STUDY

OER and renewable resources are closely related as they both promote open access to knowledge, collaboration, and community engagement (Wiley & Hilton, 2018). The incorporation of both OER and renewable assignments into the academic practice of PhD students contributes to the advancement of open education while enhancing their own learning and professional development. Despite their advantages, OER and renewable assignments remain widely underutilized in U.S. institutions of higher education (Braddlee & VanScoy, 2019; Clinton-Lisell & Gwozdz, 2023). Using OER and renewable assignments in PhD programs could increase the rates of adoption in higher education by giving future faculty a first-hand experience of using, searching for, and creating OER. Transformative learning and co-creation in learning and teaching theories suggest that renewable assignments may help PhD students become independent scholars and innovative educators. The Group for the Advancement of Doctoral Education in Social Work (GADE) publishes quality guidelines for social work PhD programs and outlines the core expertise and skills for graduates of social work PhD programs (GADE, 2023). These include, “Demonstrate a commitment to anti-racist and anti-oppressive practices,” “Create a classroom climate that promotes equity and inclusion of students with different abilities, identities, and backgrounds,” “Demonstrate a commitment to anti-racism and other forms of oppression in teaching,” and “Demonstrate skills in the latest instructional technology and online strategies” (GADE, 2023, p. 8). Each of these skills is linked to using or creating OER. Because OER-enabled pedagogy emphasizes the co-creation of knowledge and sharing of power between professors and students, it aligns with social work’s emphasis on equity and social justice (Katz, 2019; Pearce et al., 2022). To date, few if any studies have examined the prevalence and faculty perceptions of OER and renewable assignments in U.S. social

work PhD programs. There is a need for research to refine and enrich current teaching and learning practices in social work PhD programs through the integration of OER and renewable assignments considering previous studies related to PhD programs have predominantly focused on student samples (see e.g., Hosoi et al., 2022; Sousa et al., 2021). The purpose of this study is to address gaps in the knowledge by investigating (1) the prevalence of OER and renewable assignments and (2) faculty perceptions of OER and renewable assignments in PhD programs in the top 100 ranked social work programs in the United States. We posed several exploratory research questions (RQs):

RQ1: What percent of the programs use OER in at least one course?

RQ2: Among the programs that use OER, what types are used?

RQ3: Among the programs that use OER, in what courses are they used?

RQ4: What reasons are reported for not adopting OER?

RQ5: What percent of the programs have renewable assignments in which students create OER for at least one course?

RQ6: Among the programs with renewable assignments, what types of OER are created?

RQ7: Among the programs with renewable assignments, in what course(s) are they used?

RQ8: What reasons are reported for not using renewable assignments?

RQ9: How strongly do program representatives endorse the positive student impacts of using or creating OER?

RQ10: Are program representatives' perceptions of positive student impact related to whether their programs use OER and renewable assignments?

METHODS

This is a quantitative cross-sectional survey (Creswell, 2004) which collected data from April through December 2022. Ethical approval was provided by The University of Texas at Arlington Institutional Review Board. Data are available from the corresponding author [RLM] upon reasonable request.

RECRUITMENT/SAMPLE

The study population was PhD programs in the top 100-ranked social work programs in the United States, as determined by the 2019 U.S. News & World Report ranking. Seventy-two of those had a PhD program. Six PhD student members of the research team invited the PhD program director or other knowledgeable informant from these programs to participate in the study. They placed phone calls, leaving voicemails if necessary, and followed up by sending emails with a link to an online questionnaire. No financial compensation was offered for participation, but those who completed the questionnaire were offered a copy of the study results if desired. After removing responses with no data and duplicate responses, the final study sample size was 30 representing a 42% response rate. This response rate is higher than in other published studies of OER (Anderson et al., 2017; Baas et al., 2019; Bond et al., 2021), which have response rates of 12–14%.

DATA COLLECTION

Participants completed an online survey consisting of closed and open-ended questions using Qualtrics web-based software after providing consent online. The average time for completing the survey was about 4 minutes.

MEASURES

The items on the questionnaire were adapted from the OER Hub Researcher Pack (Farrow et al., 2016) or written by the research team and piloted on a sample of social work faculty members. The questionnaire began with the following definition of OER: “Open educational resources (OER) are freely accessible, openly licensed instructional materials such as text, media, and other digital assets that are useful for teaching, learning, and assessing, as well as for research

purposes. The term OER describes publicly accessible materials and resources for any user to use, re-mix, improve, and redistribute under some licenses.”

OER Usage

One item measured the overall use of the OER asking, “Are any types of OER (textbooks, media, syllabi, PowerPoints, etc.) currently being used in any of the PhD courses offered in your school?” (1 = Yes, 2 = No, 3 = *I don’t know*).

For types of OER used, respondents who indicated OER usage were asked, “What type(s) of OER are currently being used in your PhD program? (Select all that apply)” with options 1 = *OER Textbook(s)*; 2 = *PowerPoints/Slides*; 3 = *Videos, audio podcasts, infographics or other audio/visual resources*; 4 = *Syllabi*; 5 = *Elements of a course* (e.g., lesson plans, module, unit, tutorials); 6 = *Test question banks, quizzes*; 7 = *Other* (please specify).”

Courses

For each type used, a follow-up item asked, “In which course(s) is your program using [OER type]? (Select all that apply)” with options 1 = *Quantitative or Introductory Research Methods*; 2 = *Qualitative Methods*; 3 = *Statistics*; 4 = *Policy*; 5 = *Theory*; 6 = *Pedagogy/Teaching in Higher Education*; 7 = *Other* (please specify).”

Reasons for not Using OER

One item asked, “Describe the reasons that OER materials are not currently being used in your PhD courses. (Select all that apply)” with response options 1 = *Lack of suitable OER materials for our courses*; 2 = *OER materials are not as high quality as commercial products*; 3 = *Too much work to adopt OER*; 4 = *Need more knowledge/awareness of OER*; 5 = *Other* (please specify).

Renewable Assignments Usage

A definition of renewable assignments as “assignments in which students create reusable materials and openly publish their work (i.e., create OER) so that the assignment outcome is inherently valuable to others” was provided. Then participants were asked, “Do any of the courses in your PhD program use renewable assignments in which students create OER materials such as textbooks, open access reports, videos, educational materials, Wikipedia pages, etc.?” (1 = Yes, 2 = No, 3 = *I don’t know*).

To measure the types of OER being created in the programs, respondents who indicated renewable assignments usage were asked, “What type(s) of OER are currently being created as a renewable assignment(s) in your PhD program? (Select all that apply).” Response options were 1 = *OER Textbook(s)*; 2 = *PowerPoints/Slides*; 3 = *Videos, audio podcasts, infographics or other audio/visual resources*; 4 = *Syllabi*; 5 = *Elements of a course* (e.g., lesson plans, module, unit, tutorials); 6 = *Test question banks, quizzes*; 7 = *Other* (please specify).”

Courses with Renewable Assignments

For each type created, subsequent questions asked, “Which course(s) has a renewable assignment to create [OER type]? (Select all that apply)” with options 1 = *Quantitative or Introductory Research Methods*; 2 = *Qualitative Methods*; 3 = *Statistics*; 4 = *Policy*; 5 = *Theory*; 6 = *Pedagogy/Teaching in Higher Education*; 7 = *Other* (please specify).”

Reasons for not Using Renewable Assignments

One item asked, “Describe the reasons that OER materials are not currently being used in your PhD courses. (Select all that apply)” with response options 1 = *Renewable assignments are not suitable for our courses*; 2 = *Too much work to implement renewable assignments*; 3 = *Need more knowledge/awareness of renewable assignments*; 4 = *Need more OER knowledge* (e.g., open licensing, how to publish); 5 = *Other* (please specify).

Perceptions of Positive Student Impact of Using or Creating OER

To assess program representatives’ level of positive perceptions of the student impacts of using or creating OER, we used Farrow et al.’s (2016) OER Hub Researcher Pack Hypothesis

A quantitative survey items to create a Perceptions of Positive Student Impact of OER Scale (PSI-OER). We selected and adapted seven of the items and used the stem, “Based on your experience as a PhD program professional, to what extent do you agree with the following statements? Using or creating OER content in the classroom...” and included statements such as, “increases engagement with lesson content” (Table 2 presents each item). Response options were on a 5-point Likert-type rating scale (1 = *Strongly Disagree*; 2 = *Disagree*; 3 = *Neither agree nor disagree*; 4 = *Agree*; 5 = *Strongly agree*). Higher scores on the PSI-OER indicate perceptions of more positive student impact. The composite score for the scale was calculated as the mean value of the seven items. To our knowledge, these seven modified questions have not been used as a scale in other studies so the psychometric properties of the scale were unknown prior to conducting this research. Among our sample, Cronbach’s alpha for the scale estimated a very good level of internal consistency ($\alpha = .864$).

School Information

An item on the survey’s questionnaire asked, “On average, how many new students do you enroll in your PhD program each year?” with ordinal responses of 1–3, 4–5, 6–8, and 9 or more. We also asked for the name of the school to better understand the types of programs represented in the sample. For identified schools, details were extracted from the GADE program directory (GADE, n.d.) for location, type (public or private non-profit), program type (in-person program only; online program only; partially online, partially in person), average number of students enrolled yearly, and enrollment types (full-time only; full or part-time; part-time only). We used the directory’s location information to determine the school’s region as follows: (1) *Northeast*, consisting of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Washington, DC, (2) *South*, consisting of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia, (3) *Midwest*, consisting of Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin, (4) *Southwest*, consisting of Arizona, New Mexico, Oklahoma, and Texas, and (5) *West*, consisting of Alaska, California, Colorado, Hawaii, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming.

ANALYSIS

To answer the research questions about the prevalence of OER and renewable assignments, types of OER, and courses in which OER or renewable assignments were used (i.e., RQ1 – RQ8), we calculated frequencies and percentages of valid responses. To understand the PhD program representatives’ perceptions of the student impacts of OER (RQ9), we calculated the mean and standard deviation of the Perceptions of Student Impact of OER scale. In addition, we calculated frequencies and percentages of responses for the ordinal rating scales and the means and standard deviation of the numerical value of the responses for each item in the scale. To determine if the perceptions of OER were associated with program use of OER and renewable assignments (RQ10), we used Independent Samples Mann Whitney U non-parametric tests to compare PSI-OER scores from programs that used OER and those that did not and those that used renewable assignments and those that did not. Due to the exploratory nature of the research, alpha was set at $p < .1$. All analyses were conducted on SPSS 29.

Missing Data

Respondents were able to skip questions on the online survey resulting in missing data for some cases. In two cases, we were able to detect responses about prevalence from other responses on the questionnaire (e.g., open-ended explanations for why the program had not adopted OER or renewable assignments) and imputed the missing responses to be 0 = No but did not impute otherwise. Analyses are based on valid responses with missing cases deleted listwise.

FINDINGS

The 30 unique and valid survey respondents were overwhelmingly PhD program directors ($n = 24, 80\%$). One school administrator (3.3%), two other faculty members with direct knowledge of the PhD program (6.7%), and one staff coordinator (3.3%) also participated, and two (6.7%)

did not provide their roles. Of the 28 who provided information on their roles, most had been in their role for more than two years. A plurality had been in their role for over two but less than five years ($n = 11$, 39.3%) and nine (32.1%) had been in their role 5 or more years. In addition, four (14.3%) had been in their role 12 months or less, and four (14.3%) had been in the role 13–24 months.

Most of the programs reported enrolling 4–5 ($n = 13$, 45%) or 6–8 ($n = 7$, 24%) students each year, with five (17%) enrolling 1–3 and four (14%) enrolling nine or more. Of the programs that were identifiable ($n = 20$), seven (35%) were from the Northeast, five (25%) from the South, five (25%) from the Midwest, two (10%) from the Southwest, and one (4%) from the Western region. Half ($n = 10$) enrolled both full-time and part-time students, nine (45%) enrolled only full-time students, and one (5%) allowed only part-time enrollment. The vast majority ($n = 18$, 90%) conducted in-person classes only, one (5%) conducted online classes only, and one (5%) conducted classes both online and in-person classes.

PREVALENCE AND TYPES OF OER IN THE PHD PROGRAMS (RQ1 AND RQ2)

Nineteen of the respondents answered the item about the use of OER in their PhD programs. A majority of these, 68.4% ($n = 13$) indicated some type of OER was used in at least one course in their program. [Table 1](#) presents results from the programs that reported currently using OER. The most common type of OER used was videos/audio podcasts/infographics or other audio/visual resources ($n = 11$, 85%) and OER textbooks ($n = 10$, 77%). Fewer reported using OER PowerPoints or Slides ($n = 7$, 54%), OER course elements such as lesson plans, modules, units, or tutorials ($n = 6$, 46%), or OER Syllabi ($n = 5$, 39%). Only one program (8%) reported using OER test question banks/quizzes.

COURSES IN WHICH OER MATERIALS WERE USED (RQ3)

In general, the courses that most adopted some type of OER were quantitative research methods and theory. Pedagogy courses, in which students learn various instructional methods and theory, were less frequently cited than other courses for using OER. However, the courses that adopted OER varied by type of OER. For example, statistics courses were commonly cited as having adopted PowerPoints/slides, but rarely adopted other audiovisual materials. Half of the programs that used OER textbooks used them in quantitative research methods or theory courses. Among the seven programs that used OER PowerPoints/slides, the top courses that used them were quantitative research methods ($n = 6$, 86%) and statistics ($n = 4$, 57%). Detailed results related to course adoption of the various types of OER can be found in [Table 1](#).

REASONS FOR NOT USING OER (RQ4)

Among the programs stating they had not adopted OER in any of their courses ($n = 6$), half ($n = 3$) stated needing more knowledge/awareness of OER and one-third ($n = 2$) stated lack of suitable OER as reasons. The quality of OER and the amount of work needed to adopt were cited by 1 program each (16.7%) as reasons for non-adoption.

RENEWABLE ASSIGNMENTS (RQ5–RQ7)

Seventeen of the respondents answered the item about the use of renewable in their PhD programs. Of these, one (5.9%) indicated renewable assignments were used. Students in this program were creating OER PowerPoints/Slides in their qualitative research methods, theory, and pedagogy courses.

REASONS FOR NOT USING RENEWABLE ASSIGNMENTS (RQ8)

Among the 16 programs not using renewable assignments, a large majority ($n = 12$, 75%) gave the reason of needing more knowledge/awareness of renewable assignments. In addition, a majority ($n = 10$, 62.5%) stated the need for more OER knowledge (e.g., open licensing, how to publish). Three programs (18.8%) cited that it is too much work to implement renewable assignments and one (6.3%) stated that renewable assignments were not suitable for their courses.

VARIABLE	<i>n</i>	%
Textbooks	10	76.9
Courses using OER Textbooks (more than one could apply)		
Qualitative Research Methods	3	30.0
Quantitative Research Methods	5	50.0
Statistics	1	10.0
Policy	1	10.0
Theory	5	50.0
Pedagogy/Teaching in Higher Education	2	20.0
Other	3	30.0
PowerPoints or Slides	7	53.8
Courses using OER PowerPoints (more than one could apply)		
Qualitative Research Methods	3	42.9
Quantitative Research Methods	6	85.7
Statistics	4	57.1
Policy	1	14.3
Theory	3	42.9
Pedagogy/Teaching in Higher Education	1	14.3
Audio/Video/Infographic/Other	11	84.6
Courses using audio/video/etc. OER (more than one could apply)		
Qualitative Research Methods	5	45.5
Quantitative Research Methods	5	45.5
Statistics	1	9.1
Policy	3	27.3
Theory	10	90.9
Pedagogy/Teaching in Higher Education	4	36.4
Other	1	9.1
Syllabus	5	38.5
Courses using the OER syllabus (more than one could apply)		
Qualitative Research Methods	2	40.0
Quantitative Research Methods	3	60.0
Statistics	3	60.0
Policy	1	20.0
Theory	3	60.0
Pedagogy/Teaching in Higher Education	2	40.0
Other	1	20.0
Elements (Lesson plans, modules, units, tutorials)	6	46.2
Courses using OER elements (Lesson plans, modules, units, tutorials)		
Qualitative Research Methods	2	33.3
Quantitative Research Methods	5	83.3
Statistics	3	50.0
Policy	1	16.7
Theory	4	66.7
Pedagogy/Teaching in Higher Education	3	50.0
Other	0	0.0

Table 1 Types of OER used in the 13 PhD programs that use OER and courses in which they are used in a sample (N = 30) of top-ranked U.S. Social Work PhD programs.

Note: This table presents data from the 13 respondents who indicated using OER in their PhD programs. It does not include data from the 4 respondents who indicated their programs did not use OER or the 13 respondents who did not answer the items related to these variables on the questionnaire. One respondent indicated using OER test question banks or quizzes and one indicated “Other” OER were used.

PROGRAM REPRESENTATIVES' PERCEPTIONS OF POSITIVE STUDENT IMPACT (RQ9 AND RQ10)

Twenty-nine respondents completed the Perceptions of Positive Student Impact of OER (PSI-OER) scale. Scores on the PSI-OER scale ranged from 1.86 to 4.71. The mean score was 3.09 ($SD = .60$). Detailed findings for each item in the scale are provided in Table 2. The most common responses for each item in the scale was “Neither agree nor disagree,” ranging from 48.3% for the item “increases students’ engagement with lesson content” to 69% for “increases students’ interest in the subject.” The most positively endorsed item in the scale was “allows us to better accommodate diverse students’ needs” to which 41.4% ($n = 12$) agreed or strongly agreed. The least positively endorsed item was “leads to improved student grades,” to which only 6.9% ($n = 2$) agreed.

ITEM (EACH BEGINS WITH “USING OR CREATING OER CONTENT IN THE CLASSROOM...”)	<i>M</i>	<i>SD</i>	STRONGLY AGREE		AGREE		NEUTRAL		DISAGREE		STRONGLY DISAGREE	
			<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
increases students’ interest in the subject	3.1	0.8	1	3.4	5	17.2	20	69.0	1	3.4	2	6.9
increases students’ satisfaction with the learning experience	3.2	0.7	1	3.4	8	27.6	18	62.1	1	3.4	1	3.4
leads to improved student grades	2.8	0.6	0	0.0	2	6.9	19	65.5	7	24.1	1	3.4
allows us to better accommodate diverse students’ needs	3.5	0.9	4	13.8	8	27.6	16	55.2	0	0.0	1	3.4
increases students’ engagement with lesson content	3.2	1.0	2	6.9	9	31.0	14	48.3	2	6.9	2	6.9
increases collaboration and/or peer support among students	3.1	0.8	1	3.4	7	24.1	16	55.2	4	13.8	1	3.4
increases the likelihood that students will complete the PhD program	2.7	0.8	0	0.0	3	10.3	19	65.5	3	10.3	4	13.8

The mean PSI-OER score for program representatives from schools that had adopted OER (3.3, $SD = .77$) was significantly higher (Mann Whitney $U = 61.0, p = .058$) than from schools that had not adopted OER (2.8, $SD = .34$). There was no statistically significant difference (Mann Whitney $U = 14, p = .353$) based on using renewable assignments.

Table 2 Perceptions of Open Educational Resources (OER) among 29 PhD program directors or informants from PhD programs in the top 100 ranked social work schools in the United States.

DISCUSSION

To our knowledge, this is one of the few, if not only, studies focusing on the prevalence of OER and renewable assignments in a U.S. PhD program. PhD programs may be important environments to for increased diffusion of OER and renewable assignments as many graduates will become faculty members. Affording PhD students the opportunity to leverage the use of OER for their research and teaching needs, while also allowing them to complete renewable assignments can have a long-term impact on their careers. A substantial percentage (68%) of the programs in this study used OER in at least one of their courses. This statistic is not directly comparable to other studies which have reported percentages of faculty using OER (rather than a collection of classes such as a program) that range from 13% to 28% (e.g., Bond et al., 2021; Seaman & Seaman, 2018). Nonetheless, this finding seems to indicate a relatively high uptake of OER across social work PhD programs. Despite the connection between OER and renewable assignments, the percentage of programs using renewable assignments was quite low (6%). This is likely reflective of understandings that faculty tend to first become familiar with OER by using them in classes before having students create OER as renewable course assignments (Fahrer et al., 2022). From the perspective of diffusion of innovations theory, these levels of adoption indicate that the use of OER in social work PhD programs has progressed to the stage of late majority adoption, while renewable assignments is still in the early stages, with only innovators and early adopters adopting them (Rogers, 2003). According to the diffusion of innovations theory, one strategy for widespread adoption of renewable assignments would be to highlight how it aligns with the values and beliefs of educators, and to explain the economic, social, and pedagogical incentives for its use (Katz, 2019; Rogers, 2003).

OER textbooks were more often used in quantitative research methods and theory courses, potentially due to the availability of OER textbooks for these courses. Lack of suitable OER textbooks is a barrier to OER usage in higher education (Belikov & Bodily, 2016; Jhangjani et al., 2016) and may have dampened the adoption rates for courses such as Policy or Pedagogy. It is noteworthy that across all types of OER, pedagogy courses were among the least likely to be using OER. The Group for the Advancement of Doctoral Education in Social Work's quality guidelines for PhD programs lists teaching skills and areas of expertise that should be attained by students in social work PhD programs (GADE, 2023). Several of these have been theoretically or empirically linked to OER or renewable assignments, including promotion of equity and inclusion, commitment to anti-oppressive pedagogy, and skills in the latest instructional technology (Clinton-Lisell & Gwozdz, 2023; Kursun et al., 2014; Seiferle-Valencia, 2020; Wiley & Hilton, 2018). Pedagogy courses can be an important source of information about transformative learning and co-creation in learning and teaching theories, their benefits for adult learners, and how OER and renewable assignments can encourage students to draw upon their existing experiences to further their understanding of course content.

The most common reasons for programs not having adopted OER or renewable assignments were related to a lack of knowledge or awareness. Previous studies indicate this is a barrier to adopting OER (Belikov & Bodily, 2016; Bond et al., 2021; Marín et al., 2022; Seaman & Seaman, 2018); however, it is not clear that awareness alone is correlated with adoption rates (Bossu et al., 2014). Nonetheless, increasing awareness and knowledge is possibly one of the more feasible ways to reduce barriers, and many university libraries have taken steps to educate faculty about OER (e.g., Bond et al., 2021; Magro & Tabaei, 2020; Seiferle-Valencia, 2020). Such awareness efforts may create the disorienting dilemma referenced in transformative learning theory that can lead to recognition of new possibilities for instructional methods and, ultimately, the transformation of students' learning (Anand et al., 2020; Mezirow, 2000). For programs that feel there was a dearth of suitable or quality OER materials available for use in their courses, renewable assignments that create OER would serve the dual purpose of bringing an inclusive, innovative, and effective pedagogical approach into the courses (one that aligns with the co-creation in learning and teaching theory) while creating cost-free and relevant materials for future courses.

Program representatives tended to recognize that OER could help accommodate diverse students' needs. Because justice is a core value of social work, this perception could be an important driver of future OER adoption in social work PhD programs. Respondents from programs that had adopted OER had significantly higher perceptions of positive student impact than those from schools that had not. It is likely that directly witnessing the benefits of OER on the students led to the positive impressions of the representatives, but there could be an effect in the other direction as well. Additional research is needed to understand the impacts of using and creating OER in PhD programs.

LIMITATIONS

It is important to note that our data come from self-reported survey data. Although the questionnaire provided definitions for OER and renewable assignments, it is possible that respondents had misconceptions about the meaning of OER (e.g., that it is any resource that is available at no cost).

There was substantial missing data on the questionnaire responses, so that our findings on usage rates may be biased as some missing data may represent "no" or "I don't know" responses. It is possible that the program representatives were not fully aware of the content and materials for each course in the program. We combined items from the OER Hub Researcher Pack to form the PSI-OER scale and did not include validation of the instrument for social work PhD program directors and representatives. Although the items demonstrated good internal consistency in this context, further validation is needed to establish evidence for construct validity for this and other populations. Finally, caution should be taken before attempting to generalize these findings to other PhD programs in the United States. Social work includes a special focus on justice and anti-oppression (GADE, 2023) and may therefore be more likely than other disciplines to adopt OER and renewable assignments.

CONCLUSION

Our findings indicate adoption of OER as course materials in U.S. social work PhD programs. Although renewable assignments are closely intertwined with using OER materials, few programs are using renewable assignments to create OER materials. There is an opportunity for increased adoption of renewable assignments to simultaneously create suitable, high-quality OER materials for use in social PhD programs and train future social work faculty in the logistics of creating and using OER. Increasing OER and renewable assignment use in PhD programs aligns with social work values by fostering equitable approaches to education, improving access and engagement, and easing financial burdens for students. Since OER represent a potential departure from traditional textbook knowledge, they provide opportunities for current and future social work educators to address inequities and gaps in education through frameworks of cultural competence and social justice. This underscores the potential benefits of renewable assignments in PhD programs to transform the educational environment, critical thinking and problem-solving skills, and collaborative experiences for generations of higher education learners to come.

DATA ACCESSIBILITY STATEMENT

The datasets used during the current study are available from the corresponding author on reasonable request.

ETHICS AND CONSENT

Ethical approval was obtained for the work described in this article from The University of Texas at Arlington Institutional Review Board, protocol #2022-0308.

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COMPETING INTERESTS

The authors have no competing interests to declare.

AUTHOR CONTRIBUTIONS (CRediT)

Faheem Ohri: Conceptualization, methodology, project administration, methodology, formal analysis, investigation, data curation, visualization, writing—original draft preparation, writing—review and editing; Megan R. Westmore: Conceptualization, methodology, investigation, writing—original draft preparation, writing—review and editing; LaTisha Thomas: Conceptualization, methodology, investigation, writing—original draft preparation, writing—review and editing; Priyanjali Chakraborty: Conceptualization, methodology, investigation, writing—original draft preparation, writing—review and editing; Rebecca L. Mauldin: Conceptualization, methodology, investigation, supervision, project administration, funding acquisition, formal analysis, writing—original draft preparation, writing—review and editing, data curation. All authors have read and agreed to the published version of the manuscript.

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