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Rethinking the Traditional Textbook: A Case for Open Educational Resources (OER) and No-Cost Learning Materials

ABSTRACT

As college costs have continued to rise, textbooks now average more than $1,200 per student per academic year as of 2020. Traditional textbooks are not only expensive, but also have fixed and frequently outdated content. In this study, we compared pre-service teacher-student outcomes and perceptions of a traditional textbook versus no-cost, online materials such as open educational resources (OER) in an undergraduate Foundations of Education course. Outcomes were measured by comparison of final course grades. Perceptions were determined through quantitative and qualitative survey questions added to existing end-of-course evaluations. Results revealed students found OER and no-cost online materials more useful to their success in the course and more engaging than a traditional textbook. Qualitative analysis further revealed that while students appreciated there was no cost for the online materials, they preferred them to a traditional textbook because of the customized content. Results suggest students find instructor-curated, no-cost online readings more useful and preferable to a traditional textbook without compromising student academic performance.

KEYWORDS

textbook, open educational resources (OER), higher education, student opinions

INTRODUCTION

Rising costs to students attending institutions of higher education have been well documented (Jaggars, Rivera, and Akani 2019; Schick and Marklein 2013; The College Board 2013). Of all the different aspects of the collegiate experience that have increased, the cost change for textbooks has been especially dramatic. One news source calculated a 1,041 percent increase in textbook costs from 1977 to 2015, compared to a 308 percent increase in general inflation (Popkin 2015). Students currently spend an average of $1,240 per year on textbooks alone (The College Board 2019), and education costs can be substantially higher for students in teacher education programs. For example, to receive teacher licensure in the state of Georgia, pre-service teachers must pay for an Education Teacher Performance Assessment (edTPA), online portfolio access, liability insurance, an ethics entrance and exit exam, and a content exam adding an additional $1,000 over the course of their undergraduate certification program.

All of these costs have been particularly troubling to students from lower- and middle-income backgrounds for whom attaining a college education is vital for future occupational and financial success. Additionally, the cost of the textbook may contribute to their decision of whether or not to remain in the course, or should they choose not to purchase it, may ultimately result in a lower course grade and/or possibly retaking the course. Recent data show 30 percent of students choose not to purchase textbooks, while many others may illegally download versions or photocopy portions from classmates (Schick and Marklein 2013). The resulting compromises in not purchasing or delaying purchase of course texts can adversely impact students in terms of both academic performance and college completion.

Faculty wrestle with another textbook challenge: changes in subject content can take place from the time the book is written to when it is published and distributed. Further, publisher-determined content is not only expensive, but also may not speak to course topics as well as instructor-curated content, meaning readings from a traditional textbook can be irrelevant. This can be particularly true in Foundations of Education undergraduate programs where course content often includes issues of race, educational policy, immigration, socioeconomic status, gender and sexual identity, and religion. Students are less likely to engage with materials they find unimportant and immaterial, and even the best scenarios only report completing class readings between 20 and 30 percent of the times they are assigned (Aagaard, Conner, and Skidmore 2014; Pecorari et al. 2012; Phillips and Phillips 2007; Sikorski et al. 2002). However, materials that are more current and personalized for a course can foster an increase in student engagement, ultimately leading to higher course grades and greater student retention (Lee, Pate, and Cozart 2015; Patall, Cooper, and Wynn 2010). OER and instructor-curated content offer an opportunity to address both high textbook costs and potentially irrelevant publisher-determined content.

This study uses the Costs, Outcomes, Usage, and Perceptions (COUP) framework (Bliss et al. 2013), which studies the impact of using OER in education. We investigated differences when using a traditional textbook versus instructor-curated OER and other no-cost, online readings in an undergraduate Foundations of Education course. We report findings on costs and student outcomes, as well as perceived pre-service teacher differences in both use and quality of the teaching materials, offering a possible solution to the issues associated with both costs and content of traditional textbooks.

Literature review

The Open Education Group, an interdisciplinary research group focused on OER, defines OER as "teaching and learning materials that provide users with (1) free and unfettered access and (2) 5R legal permissions to retain, reuse, revise, remix, and redistribute them, that can be used to replace traditional expensive learning resources (such as textbooks)" (Hilton, Mason, and Clinton-Lisell n.d.). OER represent a resource that can be shared at no cost; content is available freely and open for use via public domain or an open license, such as those offered through Creative Commons. Creative Commons covers more than 1.4 billion licensed works with a growth rate of nearly 100 million new licenses each year (Creative Commons 2017), making OER a rapidly growing field.

OER can include a wide variety of instructional materials, from free, traditional textbooks like those published by OpenStax College, historical publications in the public domain, news articles, images, video clips (such as TED Talks or Khan Academy), and open-access academic journal articles. The cost savings of using OER are compelling; by one estimate, if every full-time undergraduate student

in the United States replaced one traditional textbook with OER content, students would save $1.5 billion in textbook costs each year (Senack 2015).

Distinguishing OER from e-textbooks

A common OER misconception is the difference between an OER and an e-textbook. While OER are most often distributed digitally, it is important to note the distinction between an OER and an e-textbook; an OER can be an e-textbook, but an e-textbook is not necessarily an OER. Many publishers offer an e-textbook option for purchase, usually at a lower price than a traditional print textbook. While an e-textbook can decrease costs for students, literature has shown if students must pay for course reading materials, they prefer a print traditional textbook over an e-textbook (Woody, Daniel, and Baker 2010). Learning outcomes, however, have been similar for students who use an e-text or a print copy of a book (Robinson 2011; Rockinson-Szapkiw et al. 2013; Siebenbruner 2011).

OER defined for the present study

The term OER covers a broad spectrum of content, but all OER must provide legal permission for others to retain, reuse, revise, remix, and redistribute them. In this study, the instructor curated a selection of online and other no-cost materials for the OER group; however, some of these materials were acquired through the university library's database subscriptions and therefore cannot be considered OER. The "retain" permission of OER guarantees the right to "make, own, and control copies of the content," (Wiley 2014) which is not possible for material acquired through subscription. While not all the material curated for the OER condition could be classified as OER, the majority were and the rest were made available for students to download and keep at no cost. To ensure clarity, this study will refer to the material curated by the instructor for the OER group as OER *and* no-cost materials.

The COUP framework

While the body of empirical OER research is relatively slim, the Open Education Group is one advocate for advancing OER research. They specifically recommend using the COUP framework to guide new and developing OER projects (Bliss et al. 2013). The COUP framework stands for cost, which measures financial metrics for students and institutions; outcomes, which seeks to measure student outcomes in terms of course performance and persistence; use, which measures and identifies patterns in how faculty and students use existing OER, especially in terms of revising, remixing, and redistributing the resource; and perceptions, which measures how students and faculty think and feel about OER with a particular focus on quality and effectiveness. The COUP framework has been successfully referenced in past studies that have examined these different aspects of OER (Hassler et al. 2014; Hilton et al. 2014; Hilton, Murphy, and Ritter 2014). We will address all four measures of the COUP framework in our study, but we were primarily interested in outcomes and perceptions as cost was easily measured by the removal of the textbook cost and instructor usage was not rigorously tracked.

COUP: Outcomes and perceptions

Cost is one undeniable reason to consider using OER in the classroom, however, one of the most common questions about OER relates to both quality and student outcomes. The underlying

thought being "if it's free, then it must not be effective." Despite those concerns, the existing literature has been optimistic regarding how OER can improve student learning outcomes. Several studies have found students performed the same or better (i.e., increased grades and lesson engagement) in courses using customized, open textbooks (de los Arcos et al. 2014; Everard and St. Pierre 2014; Hilton and Laman 2012; Lindsheild and Adhikari 2013; Robinson et al. 2014). Because all students have access to OER on the first day of class and throughout the course, equitable access is often attributed as one of the largest reasons students perform better when using an OER versus a traditional textbook. Given these findings, we predicted outcomes, as measured by grades and failure/withdrawal rates, would be the same or better in the OER condition.

Regarding perception, some studies have shown students report appreciating that OER offer more up-to-date content and prefer this type of reading material over a traditional textbook (Feldstein et al. 2012). Other studies indicate that students assigned OER expressed increased interest in the subject matter (de los Arcos et al. 2014). Thus, if an instructor takes the time to review the material and customize it for a course, an OER will inherently not be short on quality or content. To test this trend, we predicted that there would be no difference between student perceptions of the quality of OER versus a traditional textbook.

Research questions and method

We evaluated student outcomes and perceptions of OER and no-cost learning materials. Regarding outcomes, we compared student outcomes as final course grades and student failure/withdrawal rates in courses with a textbook versus OER and no-cost learning materials. We hypothesized that student outcomes would be similar for both groups. Regarding perceptions, we focused on two questions. First, was there a difference in student perceptions of the *importance* of the primary learning resource to their course success? Second, was there a difference in student perceptions of the *quality* of the primary learning resource? We hypothesized that there would be no difference in student perceptions of the importance or quality of the primary learning resources between those assigned a traditional textbook versus OER and no-cost materials.

Limitations

One limitation of our study is that the textbook, while required for the fall 2014 courses, was not specifically targeted by any assessments. Due to this condition, our projection of cost savings may be overestimated as fewer students may have purchased the textbook than predicted. Despite this qualification, our findings provide valuable information about cost savings and perceptions related to OER and no-cost resources.

Design

This study involved six sections of the course EDUC 2120, Exploring Socio-cultural Perspectives on Diversity, at University of Georgia. Three sections were taught during fall 2014—comprised of 117 students—and another three sections were taught during spring 2015—comprised of 99 students. The class times of 8:00 a.m., 9:30 a.m., and 11:00 a.m. on Tuesdays and Thursdays were consistent for both semesters. Seventy percent of the final grade in both semesters—made up of journals, quizzes, and exams—was dependent upon content introduced through in-class lectures and

reinforced with assigned readings and videos. The remaining 30 percent was divided between field work and in-class participation. Each of these classes had the same instructor, class notes, course assignments, and final exams.

EDUC 2120 was particularly suited to this study due to its broad subject matter. The course was comprised of seven modules that were grouped along broad themes such as race/ethnicity, gender/sexual identity, and religion. This breadth allowed for flexibility and supported creative experimentation in content curation. For this reason, even when the course textbook was assigned in fall 2014 classes, it was supplemented by additional content from outside sources. All sections utilized a compilation of open and no-cost online readings provided through a custom website and the cloud-based learning management system, Brightspace by D2L (formerly Desire2Learn). This auxiliary content was expanded in spring 2015 classes to account for replacing the readings provided by the textbook. The incorporation of these new materials required an additional 8 to 10 hours of preparation time before the start of the spring semester. Preparation for individual classes did not differ between semesters (approximately two hours of preparation for each hour of class time).

Textbook condition

Fall 2014 students completed the course using a recommended, though not required, traditional textbook, *Multicultural Education in a Pluralistic Society, 9th ed.* (Gollnick and Chinn 2013), at a cost of $165.00 for a new copy or approximately $75.00 for a used copy. *Multicultural Education* introduces pre-service teachers

> *to the different cultural groups to which students and their families belong . . . explores the social and educational issues faced by teachers in diverse classrooms, and guides readers to think critically and reflectively about their decisions as a teacher in a multicultural education classroom. (Pearson Plc n.d.)*

The benefit of this resource was its convenience as it provides a model structure for a course curriculum that can easily be built upon if desired.

OER condition

Spring 2015 students used a compilation of OER and no-cost online readings provided through a custom website and the learning management system. The online readings were distributed to students digitally, though students retained the option to print the materials for class if they so desired. Spring 2015 students were unaware the course would not have a traditional textbook when they enrolled. Thus, students more interested in cost savings or using online readings could not have enrolled at higher rates than students who completed the course in the fall with a traditional textbook.

Data collection

All students were asked to complete additional survey questions included in the end-of-course evaluations. Students who completed the end-of-course evaluation were offered an additional three bonus points to their course participation grade. Of the 117 students enrolled in the fall, 103 completed the survey for a response rate of 88.03 percent. Of the 99 students enrolled in the spring, 97 completed

the survey for a response rate of 97.98 percent. Demographic data was collected as part of the student evaluations. Not all students answered all questions on the survey.

Survey items

Quantitative data was collected via student responses to five-point Likert-type statements, which ranged from 1 (strongly disagree) to 5 (strongly agree). Students in both sections were asked to select (a) how important the course readings were and (b) how engaging/helpful the course readings were. Students in the spring 2015 OER section were asked to respond to one additional Likert statement: "I would have been more successful in this class with a traditional textbook." In addition to the Likert questions, students in the fall 2014 section were asked to respond to the open-ended prompt: "Please provide feedback on your use and evaluation of the course textbook/course reading materials."

Data analysis

To determine quantitative differences between sections, we compared overall response distributions for the corresponding Likert questions, namely the statements about how important the course readings were and how engaging/helpful the course readings were. Chi-square is a goodness of fit statistic that tests how likely a given distribution is to have occurred based on the expected distribution. For this study, the chi-square tested the likelihood of the distribution of responses that were observed in the spring based on the distribution of responses that were observed in the fall (i.e., the expected distribution). Thus, if there were no differences between the different types of primary learning resources, we would expect to see similar distributions (Muijs 2011).

Qualitative analysis was used to code student responses to an open-ended question regarding their use and evaluation of the course materials (i.e., course textbook or online readings). A total of three different readings of the students' responses were completed by a single rater—an initial reading of the data, coding the data, and then grouping the data into major themes (Creswell 2014).

Results

Demographic characteristics of pre-service teachers across semesters were similar; all course sections across the study were predominantly white, female, first- or second-year undergraduate students who spent two to three hours on class work per week and for whom EDUC 2120 was a required course in their teacher preparation program. A complete summary of the demographic data for both semester survey participants is shown in table 1.

Table 1. Demographic information by group

Characteristic	Fall 2014 (n = 103)	Spring 2015 (n = 97)
Gender		
Male	18 (.175)	16 (.165)
Female	85 (.825)	83 (.856)
Ethnicity		
Asian	5 (.049)	2 (.021)
Black/African American	1 (.010)	13 (.134)
Hispanic	1 (.010)	2 (.021)
American Indian	0	1 (.010)
Multi-racial	3 (.029)	0
White	88 (.854)	78 (.804)
Prefer not to answer	5 (.049)	1 (.010)
No response	0	0
Class standing		
First- or second-year undergraduate	69 (.670)	71 (.732)
Third- or fourth-year undergraduate	34 (.330)	26 (.268)
No response	0	0
Required course		
No, not required	5 (.049)	9 (.093)
Yes, required	97 (.942)	88 (.907)
No response	1 (.010)	0
Hours per week outside of class		
0-1 hour	21 (.204)	24 (.247)
2-3 hours	66 (.641)	61 (.629)
4-5 hours	15 (.146)	12 (.124)
6-7 hours	0	0
8 hours or more	1 (.010)	0
No response	0	0

Note: Percentages are in parentheses.

Cost

The traditional textbook historically used for EDUC 2120 at University of Georgia, *Multicultural Education in a Pluralistic Society* (Gollnick and Chin 2013), has a new list price of $165.00, while used copies typically sell for approximately $75.00. The 99 students enrolled in the course during spring 2015 did not have to purchase any course materials, resulting in potential savings of $165.00 per student, or $16,000.00 total. While not all students would have purchased the new version of the traditional textbook, this number still represents remarkable potential savings for students in one course over one semester.

Outcomes: Final course grades and student failure/withdrawal rates

We evaluated the differences in final course grades and failure/withdrawal rates among students depending on the primary learning resource used—a traditional textbook or the compilation of OER and no-cost online readings. Analyses of final course grades showed no significant difference between the fall and spring grade distributions, $t(208) = -1.195$, $p = 0.233$. The distribution of letter grades by percentage are displayed in figure 1. Failure and withdrawal rates of students across semesters were also evaluated for statistically significant differences. The failure and withdrawal rates were calculated at 0 percent and 3.30 percent, respectively, for fall 2014, and 0 percent and 2.94 percent, respectively, for spring 2015. This did not represent a statistically significant difference. Given this is a required course for teacher certification in the state of Georgia and students must receive a grade of C or higher to complete their degree program, this lack of statistical significance is unsurprising. The null finding indicates that student outcomes in the OER condition, as measured by grades and withdrawal rates, were not negatively affected using OER, thus supporting the equal quality of OER to traditional textbooks.

Figure 1. Final course grades

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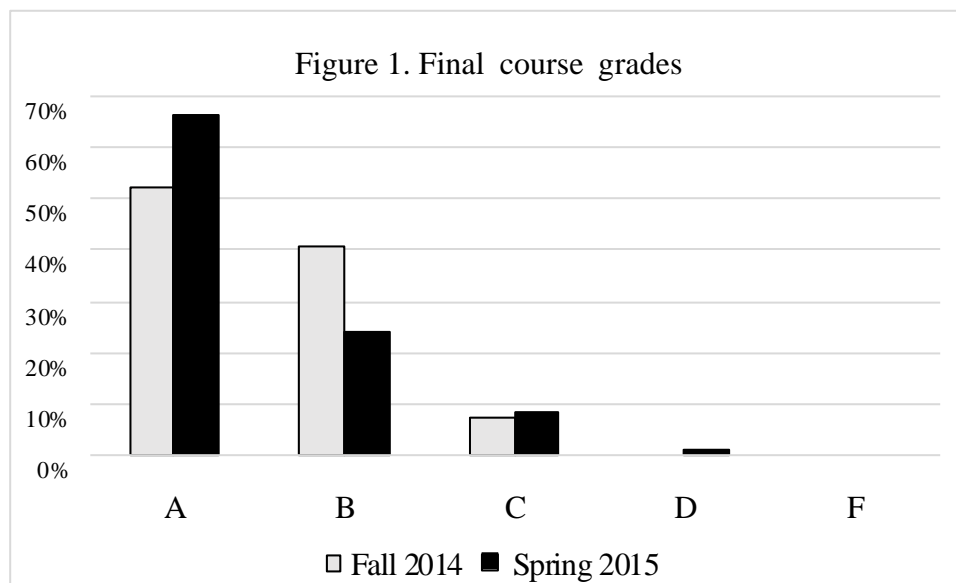
Perceptions: Importance and quality of course materials

To determine if there was a statistically significant difference in the perceptions from students utilizing the traditional text and the online readings, the responses for each semester on the corresponding Likert-type items were compared. Response data for both questions across both semesters are shown in table 2.

Table 2. Descriptive statistics for two, corresponding Likert questions

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
Question 1						
Fall	23 (.225)	20 (.196)	25 (.245)	15 (.147)	19 (.186)	102
Spring	1 (.001)	4 (.042)	12 (.125)	32 (.333)	47 (.490)	96
Question 2						
Fall	19 (.184)	21 (.204)	32 (.311)	11 (.107)	29 (.194)	103
Spring	1 (.010)	3 (.031)	8 (.082)	30 (.309)	55 (.567)	97

Notes: Percentages are in parentheses. Question 1: The textbook/online readings was/were important to my success in this class. Question 2: I found the course textbook/online readings engaging and helpful.

For the first question regarding the importance of the readings to class success, results indicated that the response distributions from the fall to spring were significantly different, χ^2 (4, $n = 96$) = 107.2, $p < .001$. A graph with the distribution of responses to this item is available in figure 2. Responses for fall were flat, i.e., student responses were about the same for all ratings from strongly agree to strongly disagree. Responses for spring demonstrate an indirect relationship where most students chose "strongly agree," with decreasing selections all the way to "strongly disagree." These distributions suggest the online readings in the spring semester were considered more important to success in the class than the textbook in the fall semester.

Figure 2. Responses to the statement: The textbook/online readings was/were important to my success in this class

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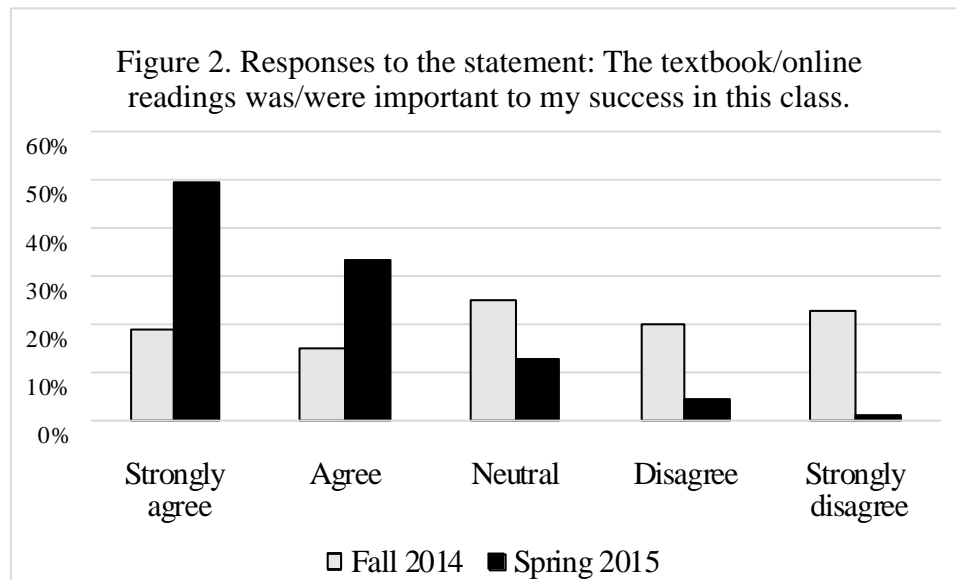
Distributions for the second question regarding the engagement and helpfulness of the readings are shown in figure 3. Results again indicated that the responses from the fall to spring were significantly different, $\chi^2 (4, n = 97) = 153.1$, $p < .001$. While there was no leading response in the fall whether the textbook was engaging and helpful, most students in the spring (87.63 percent) strongly agreed and agreed that the online readings were engaging and helpful. These findings suggest the online readings in the spring semester were considered engaging and helpful compared to the textbook in the fall semester.

Figure 3. Responses to the statement: I found the course textbook/online readings engaging and helpful

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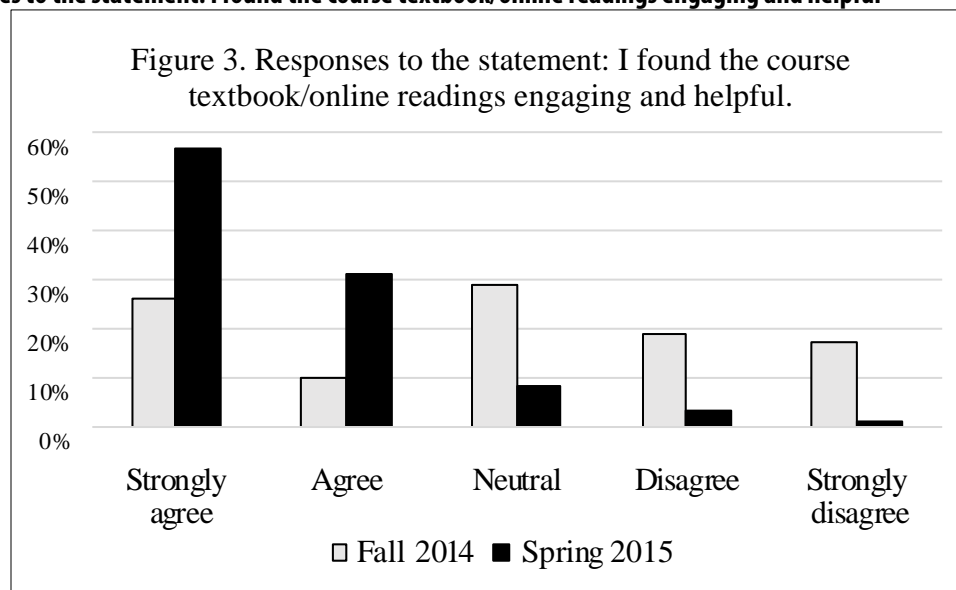
We also analyzed responses to the additional Likert question included on the survey for spring 2015 students that stated: "I would have been more successful in this class with a traditional textbook." This question had a mean response of 2.16 and a median and mode response of 1, meaning the majority of students felt that a traditional textbook would not have helped them to be more successful in the course. However, 18 students (18.56 percent) strongly agreed with this statement that they would have preferred a traditional text.

Open-ended responses regarding perceptions

Fall 2014 students were also asked to provide open-ended feedback regarding their use and evaluation of the course textbook. The student statements to this question were coded according to themes that emerged across the responses (Bogdan and Biklen 2007). The responses in this case fell into two major categories—students' comments on their purchase and use of the textbook and students' evaluations of the helpfulness of the textbook. Results are shown in table 3. Regarding students' purchases of the textbook, almost one-third of students chose not to purchase the textbook, consistent with prior research (Schick and Marklein 2013). Another group of just over half of students purchased the textbook and used it on a limited basis, while almost one-fifth of students used the textbook as a reference to expand on course content. These comments included statements such as

> although our class textbook is absolutely a professional piece of work, I rarely used it. It did help me out at times though . . . I did not purchase the textbook in order to save money, and I believe if I do well on the final exam, I am going to end up with an A in this class without having seen the textbook.

While some students were using the textbook regularly, it was a small group within the class as a whole. Overall, only 20 percent of pre-service teachers reported they found the traditional textbook helpful for the course.

Table 3. Student feedback on a traditional textbook, fall 2014

Theme	Number of responses (n = 90)	Percentage of responses (n = 90)
Use		
Did not purchase textbook	26	28.89%
Purchased textbook, did not use	27	30.00%
Purchased textbook, rarely used	23	25.56%
Purchased textbook, used as reference	17	18.89%
Evaluation		
Purchased textbook, found helpful	18	20.00%

Note: Students could have included more than one theme in their response; thus, numbers and percentages may not sum to 100.

Identical methods were also used to evaluate the responses of pre-service teachers regarding their feedback and evaluation of the online readings in spring 2015. Of the 97 students who completed the survey, 85 included written responses to the open-ended question (87.63 percent). Results are

shown in table 4. While students appreciated the cost savings and immediate access of the online readings, the most common comment was that students appreciated the relevancy of the selected readings to course topics and the variety of authors. More than one third of spring students had written responses that fit with this theme, including statements like "the readings were more current and showed things that really were happening in society and not a hypothetical," and "the issues we talked about are ever-changing, so it was nice to see news items and scholarly articles that deal with issues as they appear currently." Other students commented, "it's all recent stuff so that kept me more involved and it was also coming from multiple places helped prove the point of the material," and "the reading material allowed us the use of perspectives from different people instead of using a more structured reading [textbook]."

Table 4. Student feedback on online readings, spring 2015

Theme	Number of responses (n = 85)	Percentage of responses (n = 85)
Benefits		
Relevancy/diversity of perspectives	30	35.30%
Cost savings	15	17.65%
Accessibility/online anytime	6	7.06%
Evaluation		
Overall helpful and/or beneficial	75	88.24%
Dislike course readings in general	5	5.88%
Dislike online readings	5	5.88%

Note: Students could have included more than one theme in their response; thus, numbers and percentages may not sum to 100.

DISCUSSION

Outcomes

Given the questions and concerns that typically surround OER and open materials, it is certainly significant that students in this study performed as well in the class regardless of the course materials used. Because of the costs associated with a traditional textbook, this is an encouraging finding that student success will not necessarily suffer with the transition to open and free materials. These findings align with our initial hypothesis as well as other studies that have found students perform the same or better in courses utilizing an OER (de los Arcos et al. 2014; Everard and St. Pierre 2014; Hilton and Laman 2012; Lindsheild and Adhikari 2013; Robinson et al. 2014).

Perceptions

It is unsurprising that pre-service teachers would find the cost of OER and instructor-curated materials a compelling benefit; however, it is much more surprising that students reported the customized, relevant content aspect of the online materials they found to be most beneficial. That students assigned OER preferred these learning resources to a traditional textbook conflicts with our initial hypothesis that there would be no difference in student perceptions of the importance or quality

of their assigned primary learning resources across both semesters. This result further confirms findings in past studies where customization was one of the main benefits of using OER and no-cost materials (Everard and St. Pierre 2014; Hilton and Laman 2012; Lindshield and Adhikari 2013). The ensuing benefits of customization (e.g., time spent planning) may also help explain why students show increased subject interest and find customized texts more useful than traditional texts (de los Arcos et al. 2014; Feldstein et al. 2012) as students tend to exhibit higher motivation and learning outcomes when they have a more personally relevant experience (Lee, Pate, and Cozart 2015; Patall, Cooper, and Wynn 2010). A caveat of this interpretation is that instructors who customize content spend more time preparing and reflecting on their subject material, which may also improve their teaching. Because learning materials would be better aligned with course content and class time, students could perceive relevancy based on these changes. It would be interesting for future research to investigate the process faculty use when curating materials to learn more about overall teaching improvements with or without OER.

An additional point of interest in the results of this study is the way pre-service teachers are using textbooks. The responses of students in the spring 2015 group to the additional Likert item "I would have been more successful in this class with a traditional textbook" indicated that the majority of students felt a traditional textbook would not have helped them be more successful in the course. However, 18 of these students (18.56 percent) strongly agreed that they would have preferred a traditional text. In the fall 2014 group, 18.60 percent of students felt the textbook was important to their success in the course, while 18.89 percent of students indicated that they used their textbook as a reference tool to expand on lecture and class content. With this evidence, it seems there is a group of pre-service teachers who utilized and appreciated having a traditional textbook for expansion on course topics and as an additional resource. This confirms the work of Phillips and Phillips (2007), Jones (2011), and Vafeas (2013) who found students do not read textbooks in a traditional sense, but skim them and use them as a reference tool to expand on confusing or complicated topics. As future faculty weigh using instructor-curated OER and online readings, providing a reference option within that framework may be a worthwhile consideration.

Conclusion

Our overall findings are very positive regarding pre-service teachers' thoughts on OER and online materials as a substitute for a traditional textbook. When students were offered a traditional textbook option, most declined to purchase it, and if they did, they did not use it on a regular basis. Further, students' performances in the class did not suffer in the absence of a traditional textbook. Pre-service teachers who used instructor-curated OER and no-cost materials were overwhelmingly positive about the benefits of this instructional approach; the cost savings, easy access, and relevant content were the most cited reasons why they prefer online materials to a traditional textbook. Given textbooks can be both expensive and infrequently updated, these findings make a compelling case for instructors—particularly those working with pre-service teachers who face additional costs to access their desired career path—to utilize instructor-curated OER in courses as applicable rather than a traditional textbook. While electronic versions of textbooks have not proven more effective than print versions (Woody, Daniel, and Baker 2010), the difference is these results demonstrate the value of instructors tailoring course materials more specifically to the actual course content. Additionally, OER and no-cost

materials offer a cost effective and accessible path to accomplish this goal. By giving students an equal opportunity to succeed in the course by having all materials freely available on the first day, as well as selecting particularly relevant reading selections, this can offer a path to greater student engagement and collegiate success.

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NOTES

1. At the time this study was conducted, the average cost of textbooks per year per student was $1,200 (The College Board 2013).

2. The current assessment fee for Educative Teacher Performance Assessment is $300 (EdTPA 2020), while the ethics entrance and exit exam fees are each $30 (GACE 2020a), and the content exam fee is $78 (GACE 2020b).

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APPENDIX

Survey questions

Likert questions which ranged from 1 (strongly disagree) to 5 (strongly agree)

Fall 2014	Spring 2015
1. The textbook, *Multicultural Education in a Pluralistic Society*, was important to my success in this class. 2. I found the course textbook engaging and helpful.	1. Online readings were important to my success in this class. 2. The course reading materials were engaging and helpful. 3. I would have been more successful in this class with a traditional textbook.

Open-ended survey questions

Fall 2014: Please provide feedback on your use and evaluation of the course textbook.

Spring 2015: Please provide feedback on your use and evaluation of the online readings.