

Overcoming Textbook Access Barriers in an Introductory Psychology Course: An OER Study at a Hispanic-Serving Institution

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ABSTRACT

The high cost of college textbooks is an access barrier for students to overcome during their pursuit of a college degree. Perhaps most at risk are community college students, an older, more diverse, and lower-income population in comparison with their university peers. Recently, community colleges have considered replacing traditional, commercially produced textbooks with free open educational resources (OERs). In this work, two aims are addressed. First, a small-scale investigation of the need for a low-cost textbook alternative was conducted in an introductory psychology course. In response to the finding that over a quarter of students could not afford the course textbook, a psychology OER was adapted from existing resources and piloted in three sections of this course. The second aim was to assess the impact of this OER textbook. Findings from this second survey found that the psychology OER was easy to use, was high quality, and supported students in their understanding of course content. Students also reported that the money saved from not having to buy a textbook made taking the course easier. Together, these findings support that OER textbooks are suitable replacements that can reduce the financial burden on low-income students and support them in the achievement of their academic goals.

Keywords: open educational resources (OER), psychology, textbooks, community college, access barriers, low income, Hispanic-serving institution

Superar las barreras de acceso a los libros de texto en un curso de introducción a la psicología: un estudio de REA en una institución que sirve a hispanos

RESUMEN

El alto costo de los libros de texto universitarios es una barrera de acceso que los estudiantes deben superar durante su búsqueda de un título universitario. Quizás los que corren mayor riesgo son los estudiantes de colegios comunitarios, una población mayor, más diversa y de menores ingresos en comparación con sus compañeros universitarios. Recientemente, los colegios comunitarios han considerado reemplazar los libros de texto tradicionales producidos comercialmente con recursos educativos abiertos y gratuitos (REA). En este trabajo se abordaron dos objetivos. En primer lugar, en un curso de introducción a la psicología se llevó a cabo una investigación a pequeña escala sobre la necesidad de una alternativa de libro de texto de bajo costo. En respuesta al hallazgo de que más de una cuarta parte de los estudiantes no podían pagar el libro de texto del curso, se adaptó un REA de psicología de los recursos existentes y se puso a prueba en tres secciones de este curso. El segundo objetivo fue evaluar el impacto de este libro de texto REA. Los resultados de esta segunda encuesta encontraron que los REA de psicología eran fáciles de usar, de alta calidad y apoyaban a los estudiantes en su comprensión del contenido del curso. Los estudiantes también informaron que el dinero ahorrado por no tener que comprar un libro de texto facilitó la realización del curso. Juntos, estos hallazgos respaldan que los libros de texto REA son reemplazos adecuados que pueden reducir la carga financiera de los estudiantes de bajos ingresos y apoyarlos en el logro de sus metas académicas.

Palabras clave: recursos educativos abiertos, REA, psicología, libros de texto, colegio comunitario, barreras de acceso, instituciones de bajos ingresos que sirven a los hispanos

克服心理学入门课程中的课本获取障碍：一所拉美裔服务机构的开放教育资源研究

摘要

大学课本的高昂费用是学生在攻读学位阶段需要克服的阻碍。与其他大学的学生相比，社区大学的学生可能是困难最多的群体，因为后者年龄更大、更多样化、收入更低。近年来，社区大学已考虑用免费的开放教育资源（OERs）代替传统商业化课本。本文研究了两个目标。第一，在一门入门心理学课程中对低成本课本替代方案的需求进行了小范围调查。发现超过四分之一的学生无法负担传统课本，因此从现有资源中改编了心理学OER并试用于这门课的三个部分以作为响应。第二，评估了OER课本的影响。从第二个调查中得出的研究发现表明，心理学OER易于使用、质量高、并支持学生理解课程内容。学生也认为，不购买传统课本所省下的钱让其更轻松的参与这门课。总之，这些研究发现表明，OER课本是传统课本的可行替代物，能减少低收入学生的经济压力，并支持他们完成学业目标。

关键词：开放教育资源，OER，心理学，课本，社区大学，获取障碍，低收入，拉美裔服务机构（Hispanic-serving-institution）



Introduction

The cost of college textbooks has ballooned an estimated 945% from 1978 to 2014; a dramatic increase not observed in non-educational book costs or the overall consumer price index during the same period of time (Perry, 2015). This increase, together with rising tuition costs, pushes the goal of obtaining a college degree further from the reach of many students. Despite these difficulties, a total of 16.8 million students in the United States were enrolled at undergradu-

ate institutions in 2017, although this number represents a 7% decrease from 2010 enrollment figures (Snyder et al., 2019). One possible explanation for such high enrollment in light of rising costs is that students are adjusting their college experience in an attempt to reduce financial hardships. In a study conducted by the Florida Virtual Campus (2018), students reported enrolling in fewer courses, not buying a required textbook, not registering for a specific course, or earning a poor grade in a course as a consequence of not being able to afford a textbook. Students engaging in these behaviors may see an immediate reduction in the cost of pursuing a college degree while simultaneously undermining their success in achieving their academic goals.

Perhaps most at risk of experiencing the negative consequences of rising textbook costs are students enrolled in community colleges. Community colleges serve a unique role in postsecondary education, generally enrolling an older, more diverse student population than their university counterparts (Snyder et al., 2019). A higher percentage of independent students from lower income backgrounds enroll in community colleges, close to half of whom earn less than \$20,000 per year (Radwin et al., 2018). Additionally, over half of the independent students enrolled in community colleges have their own dependents, further stretching their limited financial resources (Radwin et al., 2018). Despite pursuing this lower-cost route, over 60% of students enrolled in community colleges do not complete a degree or certificate

within six years of their enrollment, with financial difficulties regularly cited as a main reason for leaving school (American Association of Community Colleges, 2018; Michalski, 2014). This trend is particularly troubling considering that students who complete an associate degree earn, on average, \$5,400 more annually than high school graduates, a figure that outweighs the \$3,600 estimated annual cost of attending a community college (Belfield & Bailey, 2017).

Considering their limited financial resources, a reduction in the total cost of attending college could improve the educational experiences of many community college students. Given the current cost of textbooks, replacement with open educational resources (OERs) is an attractive solution for reducing the cost of attending college. OERs “are any type of educational materials that are in the public domain or introduced with an open license” (UNESCO, 2002). Currently OERs for dozens of disciplines can be found online through project-specific websites (e.g., Rice University’s OpenStax) or through networks such as OER Commons. Psychology, a popular discipline across many campuses, is fortunate to have a wide array of OERs available for use. A search on OER Commons identified 521 OERs for lower-division psychology courses. However, not all psychology OERs are created equal. While some OERs undergo a review and editing process similar to that of commercially produced textbooks (e.g., OpenStax, Noba), practices are inconsistent. Despite the differences between OERs

and commercially-produced textbooks used in psychology courses, students typically report similar use and perceptions of these two resources (reviewed in [Clinton, 2019](#)), although data about performance in courses using OERs is less clear, in part, due to variations in how performance is assessed (e.g., [Gurung, 2017](#); [Hilton & Laman, 2012](#)). Taken together, these findings suggest that the replacement of a commercially produced psychology textbook with an OER textbook is a money saving solution that is unlikely to negatively impact the educational experience of students.

The aims of this project were twofold. The first aim was to assess the impact of textbook cost on textbook purchasing and subsequent perceptions of how students felt about their course performance in an introductory psychology course. The second aim was to develop and pilot a psychology OER for this course from existing resources and assess student perceptions of its quality and impact on their experience in the course. It is hypothesized that findings related to textbook cost and purchasing will reflect an inability to afford the course textbook for many students, and that this inability will negatively impact how students feel about their performance in the course. Further, it is hypothesized that students will have positive perceptions of the piloted OER and the impact it had on their experience in the course.

Materials & Methods

Participants, Institute, and Service District Demographics

In total, 148 students participated in two separate surveys. The first survey assessed the need for a low-cost textbook alternative in an introductory psychology course ($n = 56$ respondents) and the second assessed attitudes about an OER textbook piloted that same course the following semester ($n = 92$ respondents). To ensure the anonymity of all data, no personally identifying information including gender, race, or age were collected from participants. All data were collected during the 2014–15 and 2015–16 academic years (2015 calendar year) through the main campus of a two-year community college located in the northwest of the United States. This college is designated as a Hispanic-Serving Institution with over 25% of students identifying as Hispanic. During the 2014–2015 academic year, this institution served a population of 31,800 full and part-time students (11,802 full-time equivalent students of which 3,707 were full-time students) with an average age of 25. Of the total student population, 56.4% identified as female and 48.4% as persons of color or interracial. Sixty-five percent of enrolled students were either degree or certificate seeking. In total, 7,887 students were awarded financial aid or other assistance. The college's service district covers four counties and approximately 618,000 residents. During the time data were collected, the main campus had a population that was 21.8% non-white and a nominal

median household income of \$46,069, with 16% living below the poverty level ([United States Census Bureau, 2010](#)).

Introductory psychology series and textbook

The introductory psychology course at the institute where data were collected is split into two, term-long courses. The first course in this series covers the history of psychology, research methods, biological bases of behavior, sensation and perception, development, consciousness, memory, and learning, while the second course in the series covers language, cognition, intelligence, motivation, emotions, stress, personality, social psychology, and the diagnosis and treatment of psychological illnesses. The decision to split the introductory psychology course into two smaller courses was, in part, driven by the institution's four-term academic calendar (i.e., fall, winter, spring, and summer). Given the sheer amount of content in a typical introductory psychology course, all topics could not be realistically covered in a single 10-week term.

Additionally, the split allowed for better alignment with degree-level objectives in a number of different programs to meet the needs of university transfer and career/technical education students. For example, a student pursuing a criminal justice path would only be required to take the second course in the series, while one wanting to transfer to a nursing program would be required to take both.

To cover the learning objectives for both of these courses, a single introductory textbook is used across the two-course series. The textbook, a popular college-level text with a retail price of \$199.99 for a new hardcover edition, covered all content areas for both courses and included additional chapters on popular topics beyond the scope of a typical introductory course. This book was available for purchase in the campus bookstore in only hardcover format, but could also be purchased online as either a new or used book at a number of different price points (often cheaper) and in a number of different formats (i.e., hardcover, softcover, loose-leaf, or digital). It is worth noting that students receiving financial aid for textbooks were limited to only purchasing those books offered at the campus bookstore and, therefore, had to purchase the most expensive option.

Depending on the specific degree plan, it is possible that a student would have spent \$199.99 on a textbook that was only used for a one-term psychology course. If a student happened to purchase this textbook at the end of its publishing cycle for use in one part of the introductory psychology series, it is also possible that they would be expected to purchase the newest edition should they later take the other course. These students would be further impacted by the low likelihood that they would be able to resell their textbook in order to recoup part of their financial investment. These factors, together with the demographic composition of this institution's service

district, motivated interest in exploring low-cost alternatives for the textbook currently being used in the introductory psychology series.

Survey 1: Assessing the need for a low-cost textbook alternative

At the end of the winter 2014–2015 term (March, 2015), an optional survey was administered to a sample of students enrolled in two sections of the first course of the introductory psychology series ($n = 56$). The survey was administered after the submission of final grades and all data were collected without the inclusion of demographic information in order to preserve anonymity. Students completing the survey received a “Thank You” message after submission, with no further academic or monetary compensation.

The survey consisted of five items: four statements that students were asked to rate on a 5-point Likert scale (1: strongly disagree, 3: neutral, 5: strongly agree) and one statement where the students had to respond with either true or false. The survey was administered online and took around three minutes to complete. The survey was designed in such a way that responses needed to be provided for all statements in order for the submit button to function. Because of this, 100% of submitted surveys contained responses for all items. Survey questions were designed to assess attitudes students had toward the cost and usefulness of textbooks, how their own financial situation limited access to these resources, and the impact of textbook

access on their performance in the course. Statements were presented in the following order:

1. Textbooks are too expensive (5-point Likert).
2. The usefulness of a textbook is worth the price (5-point Likert).
3. Regardless of format (hardcover, softcover, loose-leaf), I would buy the cheapest available textbook for a course (5-point Likert).
4. I couldn’t afford the textbook for this course (True/False)
 - a. If the student answered “True,” they were given Statement 5. If the answered “False,” they were given Statement 6.
5. My performance in this course would have improved if I could have afforded to buy the textbook (5-point Likert).
6. My performance in this course would have suffered if I didn’t buy the textbook (5-point Likert).

Building an OER textbook replacement

Based on the expected results of the first study, a decision was made to explore low-cost alternatives for the textbook currently used in the first course of the introductory psychology series. When evaluating options for a textbook alternative, interest immediately turned

to currently available OERs. The aim was to provide a resource that mirrored the currently used textbook in content, format, and readability that was either free or much lower cost than the current book. After evaluation of two psychology OERs ([OpenStax Psychology](#) and Noba), a decision was made to adapt Noba for the introductory psychology series. Noba was selected due to the ease of customization, level of readability, accessibility, quality of instructor resources, availability of an extremely low-cost print option (around \$10), and eagerness of Noba staff in supporting the adaption of their OER. This resource was also selected due to familiarity on part of the author, who previously wrote a module for inclusion in [Introduction to Psychology: The Full Noba Collection](#) (Privitera, 2020).

To mirror the structure and content of the textbook currently used in the first half of the introductory psychology series, modules covering each topic were arranged in the same order. Because Noba is a modular OER, it was often the case that multiple modules had to be included in a single unit in order to cover the full scope of a single textbook chapter. However, given the short length of each module, the total length of one unit was comparable to that of a chapter in the current textbook. The [finalized OER textbook](#) was 356 pages long, containing eight units comprised of 20 separate modules.

Students were able to access the OER textbook using a computer or smartphone as either a website or

downloadable PDF through a link sent out two weeks before the beginning of class. This link was also included on the course syllabus and website for students that lost the original email. In the event that a student wanted a hard copy of the OER textbook, a low-cost print option was provided through a third party ([www.lulu.com](#)). The total cost for a softcover, black and white copy of the textbook was around \$10, including postage. Piloting of the OER textbook took place in two face-to-face ($n = 67$) and one online section ($n = 29$) of the first course in the introductory psychology series taught by the author.

Survey 2: Assessing student attitudes toward an OER textbook

At the end of the fall 2015–2016 term (December, 2015), an optional survey was administered to a sample of students enrolled across the three OER pilot sections ($n = 92$). Survey administration details were identical to those of the first survey. The survey consisted of 13 items: nine statements that students were asked to rate on a 5-point Likert scale (1: strongly disagree, 3: neutral, 5: strongly agree), two statements with multiple choices including one that allowed for a single selection to be made and another that allowed for multiple selections, and two statements where the students had to respond with either true or false. The survey was administered online and took around five minutes to complete. Survey questions were designed to assess attitudes students had toward the OER textbook,

how they accessed the book, the impact of this book on their performance in the course, and the impact of textbook cost. Statements were presented in the following order:

1. I normally pay for textbooks (True/False).
2. I have been unable to afford textbooks for some courses. (True/False)
3. Please select the way you accessed your course materials. (Three choices, multiple selection)
4. How much would you have paid for this textbook? (Seven choices, single selection)
5. I had easy access to the textbook. (5-point Likert)
6. The textbook used for this class was easy to use. (5-point Likert)
7. I actually read this textbook. (5-point Likert)
8. I understood the content much better because of the textbook. (5-point Likert)
9. The textbook used for this class was of a high quality. (5-point Likert)
10. I would recommend the use of this textbook to my classmates. (5-point Likert)
11. All sections of this class should use this textbook. (5-point Likert)
12. If I had a choice in the future to take a course that utilized open materials vs. one that did not, I would select the course that did. (5-point Likert)
13. The money I saved by not buying this textbook has made taking this class easier. (5-point Likert)

Data Analysis

Data were analyzed using SPSS software with response percentages rounded to the nearest integer. Due to the nature of this study, survey data were analyzed using descriptive statistics. Student responses for 5-point Likert scale questions were collapsed into agree, disagree, and neutral categories in the interest of reducing the complexity of interpretation. To estimate the average price for Statement 4 in the Survey 2, categorical price options were converted to continuous dollar values (i.e., the “Around \$10” option was converted to \$10, the “Over \$50” option was converted to \$51, etc.), multiplied by the frequency, summed, and averaged.

Statement 3 from Survey 1 was included to address an internal concern that switching the print format of the currently offered book to a cheaper format (i.e., softcover or loose-leaf) would decrease student purchasing because of format preferences. Because this item was not related to the research questions, this item was not included in further analysis.

Results

Survey 1: Assessing the need for a low-cost textbook alternative

When assessing general attitudes toward textbook cost and usefulness, 98% of students agreed that textbooks were too expensive with only 12% agreeing that the usefulness of a textbook justified the price. Questions assessing students' personal experience in the introductory psychology course revealed that 33% of students could not afford the assigned textbook, with 19% of these students feeling that their performance in the course would have improved if they had been able to buy it. Of those students that were able to buy the book, 56% felt that their performance in the course would have suffered if they had not purchased the book. These results support that students feel that textbooks are unjustifiably overpriced, that the cost of our current introductory psychology textbook limits access, and that this limit has the potential to impact how a student feels they will do in the course.

Survey 2: Assessing student attitudes toward an OER textbook

Results from the second survey are presented in Table 1 below.

The vast majority of student respondents (96%) are responsible for purchasing their own textbooks, with 45% of students reporting that they had been unable to afford textbooks for some courses. When given access to a free OER textbook for the first course of the introductory psychology series,

87% of students felt that the resource was easy to access, with 82% of students choosing to access the book through the course website, and fewer students utilizing the PDF (38%) or low-cost print options (27%). Most students believed that the OER textbook was easy to use (85%) and of high quality (74%), with 76% reporting that they actually read the book and 65% reporting that they understood the class content much better because of the textbook.

While the OER textbook was entirely free, 99% of students indicated that they would have paid for access ($M = 33.62$, $SD = 15.70$), including 25% reporting they would have paid over \$50 for it. Although almost all students reported being willing to pay for access to the OER textbook, 79% indicated that taking the course was easier because of the money they saved by not having to buy a book. Seventy-six percent of students reported that they would recommend the textbook to their classmates and 73% believed that the OER textbook should be used in all sections of the first course of the introductory psychology series. Finally, 83% of students expressed a preference for selecting courses that use open materials compared with those that did not. The results from the second survey echo the finding from the previous survey that students struggle to afford textbooks for courses. However, the use of an OER textbook is seen as an accessible, high-quality option that supports students in their understanding of course content and meeting the demands of a college-level course.

Table 1. Student Responses to Assessing Student Attitudes Toward an OER Textbook Survey

Survey Item	True		False	
	Course Website	Downloaded PDF	Ordered Print Copy	
I normally pay for textbooks	96%	4%	55%	
I have been unable to afford textbooks for some courses	45%	27%		
Please select the way you accessed your course materials (can select multiple options)				
I would not pay for this textbook	82%	38%		
How much would you have paid for this textbook?	1%	16%	14%	25%
I had easy access to the textbook	74%	13%	8%	13%
The textbook used for this class was easy to use	66%	19%	3%	7%
I actually read this textbook	47%	29%	3%	10%
I understood the content much better because of the textbook	40%	25%	4%	14%
The textbook used for this class was of a high quality	45%	29%	3%	6%
I would recommend the use of this textbook to my classmates	53%	23%	3%	8%
All sections of this class should use this textbook	50%	23%	3%	8%
If I had a choice in the future to take a course that utilized open materials vs. one that did not, I would select the course that did	70%	13%	2%	4%
The money I saved by not buying this textbook has made taking this class easier	64%	15%	5%	7%

Note: Percentages may not sum to 100% due to rounding

Discussion

The results of this study replicate the previously reported finding that students forego purchasing required textbooks due to cost. This behavior could be influenced by the belief that course textbooks are not worth the price, or that purchasing the textbook will not improve performance in the course; explanations that are supported by the current findings. Interestingly, while only 19% of students who did not buy the book believed their grade would have improved with it, 56% of those that bought the book believed their grade would have suffered without it. Given the nature of self-report, students could have selected the response that resulted in them appearing to be most consistent regardless of their true feelings: textbook buyers emphasize the negative impact of not buying the book, while non-buyers claim that the book does not impact their performance. Alternatively, only students purchasing the textbook experienced the benefit of this resource firsthand and, therefore, were likely more aware of how it impacted course performance. While these results were not overly surprising, they do underscore the need for colleges to find ways to better understand the possible barriers that prevent access and undermine college success.

The decision to replace an expensive commercially produced textbook with a free OER textbook

was met with positive feedback from students. Access issues as a result of high textbook costs were directly addressed by providing a free resource, easily accessible in both digital and, for a small fee, print formats. Despite previous studies suggesting a preference for printed over digital textbooks (e.g., [Millar & Schrier, 2015](#)), the current results support the opposite, even when the cost of a printed version was extremely low. One possible explanation for this discrepancy is that students have different textbook format preferences for courses in different disciplines, a finding previously reported in business majors ([Ciampa et al., 2013](#)). In light of the current finding, colleges looking to utilize OERs may want to consider offering digital resources without delaying their switch until after hard copies can be produced.

Most importantly, the majority of students using the OER textbook felt that it helped them understand the course content. This is perhaps due to students' belief that the resource was easy to use or the large number of students reporting that they were actually reading the textbook, although previous work suggests that self-reported reading rates may be inaccurate ([Sappington et al., 2002](#)). It is worth noting that, based on the demographic makeup of the college this study was conducted at, a significant number of respondents were likely English language learners. This, in combination with the high ease of use ratings, suggests that the provided OER was a suitable textbook replacement for students not speaking English as a first language.

Most students also believed that the money they saved from not buying the book actually made taking the course easier. It is unclear how students interpreted this particular statement, but one possible explanation for the high level of agreement is that students could afford to work fewer hours because they did not have to buy this book, allowing more time to be dedicated to school. Considering the \$199.99 price of the original textbook, a student would have to work close to 30 hours at a minimum wage job in order to cover the cost. Whether the use of OER textbooks reduces the number of hours students work and how this free time is used were not explored in this study. Further work exploring the impact of OERs outside the classroom can provide additional insight into the benefits of reducing the cost of attending college.

The findings of this work support that free, high-quality alternatives to commercially produced textbooks exist and that their use supports students in the achievement of their academic goals. While these findings mirror those of other studies, they must be interpreted with caution. The present work was conducted in a small number of sections of an introductory psychology course taught by a single instructor and may not generalize to larger samples. While demographic information was not collected in the interest of preserving student anonymity, this decision prevented further exploration of differences between groups based on gender, race, or other significant variables. In some cases, the way in which a survey item was presented could have

prevented a clear answer from being collected. For example, if a student reported that they could afford the textbook for a course, it does not mean they actually purchased it. This study also did not include an assessment of course performance, a common feature of other OER studies, as it was not germane to the research questions. Finally, this work should not be seen as an endorsement of any specific psychology

OER and should, instead, be seen as an example of how schools can begin the process of launching and evaluating the impact of OERs on their campus. The high cost of textbooks places a significant hurdle in front of students on their path to a college degree. OER adoption provides a solution that directly addresses this access barrier, supporting students in their academic journey.

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Note

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