Student Preferences in Using Affordable Learning Materials to Teach Research Methods Online

Phillip D. Grant <pdgrant3@gmail.com>
Elizabeth M. Pope <epope@westga.edu>

University of West Georgia

This basic qualitative study assessed students' perceptions of affordable learning materials in an asynchronous master's level research methods course at a regional university. Students preferred instructor-created mini-lectures (45%) more than required readings (39%), supplementary items concerning a specific topic (7%), sample studies (5%), CITI training modules (3%), and continuing education materials (2%). We found that students tended to prefer material that offered foundational information about research methods. Students also preferred material that "translated" academic language. Students preferred materials that were compatible with their perceived learning style. Finally, students preferred materials that related research methods to their own professional practice.

In the last few decades, universities in the U.S. have updated their approach to distance learning to meet the demands of the 21st century student. Universities and colleges have made major strides for change with asynchronous distance learning in particular. Asynchronous distance learning began with paper materials and mailed in assignments, but now features virtual platforms where students log in, access materials electronically, and engage in an online learning community. Today, entire degree programs are online, including those at both the undergraduate and graduate levels. With the advent of the COVID-19 pandemic, the need for quality distance learning worldwide has dramatically increased and researchers are working to understand how online modalities can best benefit students (Besser et al., 2020; Bojović et al., 2020; Rad et al., 2021).

Parallel to the increased demand for online learning opportunities is the demand for these educational opportunities to be affordable for today's student. There are various ways instructors can work to make their courses more accessible and affordable; one of these is by using affordable learning materials (ALMs; Hilton III, 2016). ALMs are of no cost or a low cost to students. These materials contrast traditional course resources like textbooks that can cost hundreds of dollars.

We used ALMs in teaching research methods to master's level College of Education students at our institution. We used entirely free texts gathered from our university's library, created our own video presentations serving as mini-lectures, and compiled videos from the internet in the learning management system (LMS): D2L. In this study, we examine student perceptions regarding the use of these materials to determine which resources they found to be the most helpful and how they described them as such. We end with the implications of these findings for research and teaching. We pay particular attention to how to use discussion posts to further teaching and research and the benefits of using ALMs in teaching.

REVIEW OF LITERATURE

We situate this study within the context of the Scholarship of Teaching and Leaning (SoTL) commons (Bass, 1999; Boyer, 1990; Gallos, 2008; Gilpin & Liston, 2009; Gordon, 2009; Gurung & Schwartz, 2010; Huber & Hutchings, 2005; Kerber, 2005; Killen & Gallagher, 2013; Tight, 2017; Witman & Richlin, 2007). Though the full history of SoTL is beyond the scope of the current study, we share the belief that SoTL was born along with Boyer's (1990) report for the Carnegie Foundation for the Advancement of Teaching (Gallos, 2008; Grauerholz, 2008; Healey et al., 2019; Schon, 1995). In his report, Boyer (1990) found that the post-secondary institutions around the United States (and perhaps the world) shifted their priorities toward research generation rather than teaching, even at regional institutions and community colleges. Since his call for a shift to prioritize teaching as a form of scholarship in the 1990s, several non-profit organizations, dozens of journals, and hundreds of scholars have invested in SoTL research (Bass, 1999; Kerber, 2005; Gordon, 2010).

The first wave of SoTL saw the publication of more book-length treatments of the subject similar to Boyer's (1990) report (e.g., Cross & Steadman, 1996; Glassick et al., 1997 as cited in Hutchings & Schulman, 1999). In the second wave, scholars began interrogating how SoTL varied from the perspective of various perspectives (Donald, 2000). The work in the second wave is not complete, but a new third wave, which has been ongoing since around 2010, represents a push for acceptance from the academy in the areas of the SoTL commons and within individual disciplines themselves (Gurung & Schwartz, 2010; Woodhouse, 2010). As online education continues to expand in the second decade of the 21st century as a result of the COVID-19 pandemic, SoTL researchers are returning to understanding learning with a new generation, new tools, and new realities along with their question to legitimize their practice as scholarship within disciplines (Annand & Jensen, 2021; Rad et al., 2021). Gilpin and Liston's (2009) analysis of the SoTL literature, which was published around the same time as the beginning of the "third wave," included SoTL's threefold agenda, which included the recognition of teaching as being relevant to research, acknowledging that teaching is a public activity, and noting that peer review is necessary to support SoTL's scholarly status. The current study contributes to this agenda by taking a scholarly approach to understand student preferences, sharing our findings in an open-access journal, and incorporating revisions from peer reviewers into the final manuscript.

Of the various areas of SoTL literature, this study is situated within studies of free and affordable learning materials. Most of the literature concerning free and affordable learning materials concerns Open Education Resources (OERs), which are created by instructors for free distribution via a creative commons license (Hendricks et al., 2017; Hilton III, 2016; Hilton III, 2020). While OERs are effective at saving students money (Hilton III et al., 2014), there are some concerns about their quality (Howard & Whitmore, 2020; Thomas & Bernhardt, 2018), their representation among minoritized populations (Veletsianos, 2020), and their accessibility outside of North America (Karakaya & Karakaya, 2020; Pitt et al., 2020). The current study proposes an alternative to traditional OER courses by assigning electronic library resources rather than creating a new textbook as an OER.

Benefits of Affordable Learning Materials and Open Education Resources

The clearest benefit to ALMs is the cost savings that go directly to students (Hilton III et al., 2014; Hilton III, 2016; Hilton III, 2020). In one study of eight 4-year institutions and community colleges, Hilton and colleagues (2014) found that OER development can save around $90 per textbook in entry level courses. Moreover, ALMs manage to cut prices to students without harming student performance in courses (Croteau, 2017; Colvard et al., 2017). Some studies have found that OERs, in particular, improve student performance (Colvard et al., 2017; Winitzsky-Stephens & Pickavance, 2017; Smith et al., 2020). A study of undergraduate students at the University of Georgia found that students enrolled in courses that used OERs performed better than those taking the same course with a commercial textbook (Colvard et al., 2017). The effect of improvement was more apparent among racial minorities and low-income students. Another study of community college students in Utah found that grade point averages were higher among students who completed a course with OERs (Winitzky-Stephens & Pickavance, 2017). Similarly, Smith and colleagues (2020) found that a zero-cost book policy improved passing rates among students, but there was no effect on course completion. Other studies found that students in courses with OERs tended to do about as well as students in courses without OERs (Fischer, 2015; Engler & Shedlosky-Shoemaker, 2019). It appears that the main benefit of courses with ALMs and OERs is that the cost is decreased, without harming the performance of students. However, students who come from low-income backgrounds or are minoritized may perform better in courses with free resources.

Teacher and Student Perceptions of Affordable Learning Materials

Teachers in studies of OERs tend to express positive experiences with their use and most commonly report using OERs to save their students money (Bliss et al., 2012; Hilton III, 2016; 2020; Ozdemir & Hendricks, 2017; Zou, 2016). Students also reported having a positive experience with ALMs (Delimont et al., 2016; Illowsky et al., 2016). OERs have been used in at least one research methods course, where students reported having at least as good of an experience as they would have with a commercial textbook (Illowsky et al., 2016). Clinton, Legerski, and Rhodes (2019) found that undergraduate students believed that OER text had more relevant information and more recent studies cited within. Finally, Vojitech and Grissett (2017) found that instructors who used ALMs were ranked by their students as kinder, more encouraging to their students, and more creative than those who use traditional textbooks. Generally speaking, teachers and students report having positive experiences with ALMs and OERs.

Potential Drawbacks of Open Educational Resources

Though there are many benefits to OERs, there are some drawbacks (Hodges, 2020). Veletsianos (2020) noted that research in the area of OERs is relatively new and some questions have yet to be explored in an empirical way. For example, it is currently not known what demographic groups tend to author OERs, who is most represented in the text of OERs, or who is most cited in OERs. Commercial textbooks also appear to be more visually appealing and to be written more clearly than OER textbooks (Clinton et al., 2019; Howard & Whitmore, 2020; Thomas & Bernhardt, 2018). Hilton III and colleagues (2013) found that students in remedial courses performed better with commercial textbooks than OERs. Noting these potential drawbacks to OERs, free library materials, including chapters from commercial textbooks, may be a more equitable and efficient way to provide affordable materials than creating or editing OERs. Thomas and Bernhard (2018) implemented a similar system and found that more than 71% of students who used commercial textbooks for free digitally through the library were satisfied or extremely satisfied compared to using a print textbook. This current study uses chapters from commercial textbooks as ALMs to provide the best of OERs and ALMs. In what follows, we chronicle our methods and findings. We end with a discussion of the possible implications for practice and scholarship.

METHODS

The purpose of this study was to understand which of the ALMs used in teaching research to graduate students were the most helpful. The research questions guiding this study were:

1. **Which affordable learning materials do students most often describe as helpful in learning about research methods?**

2. **How do students describe affordable learning materials as being helpful in learning about research methods?**

This study used the methodology of a basic qualitative study (Merriam & Tisdell, 2015). Generally, qualitative researchers follow the assumption that "knowledge is constructed by people in an ongoing fashion as they engage in and make meaning of an activity, experience, or phenomenon" (Merriam & Tisdell, 2015, p. 24). With this assumption as a foundation, basic qualitative research seeks to understand the meaning that participants construct of a particular phenomenon. Basic qualitative research is typically underpinned with the theory of constructivism (Crotty, 1998). Constructivism posits that individuals construct knowledge specifically based on experience and does not assume that there is objective knowledge researchers can collect through research. This basic qualitative study examined the experiences of students through their ongoing engagement with ALMs in an online research methods course.

We obtained a grant from Affordable Learning Georgia to convert all the course materials used in our master's level

research methods course to ALMs. The course is taught entirely online in an asynchronous format. This course is used for a variety of Master of Education degrees in the College of Education at the University of West Georgia (UWG). This offering is an introductory research methods course, and the content includes information about quantitative, qualitative, mixed methods, action research, and program evaluation research specific to the field of education and the human sciences.

Previously, professors of this course have used traditional textbooks. By converting the course to use ALMs, we developed a no-cost course for students working under the assumption that these materials would make the course more accessible to all demographics of students, particularly low-income and minoritized students. ALMs in this course included textbook chapters and journal articles obtained from the UWG library, video mini-lectures created by the authors, and videos gathered from free outlets online such as YouTube and the Khan Academy.

Participants in this study included 56 students who took the research methods course of the first author during the fall semester of 2020. The participants names have been changed in this paper to pseudonyms to protect their identity. Each participant was enrolled in a master of education course in our university's College of Education. These included fields such as early childhood education, elementary through secondary education, instructional technology, kinesiology, media and school library, and special education. For many students, this was their first research methods course in higher education.

The data for this study were asynchronous online discussion posts. In the course, we required students to discuss the use of course materials in these posts. In each discussion post, we provided students with four prompting questions. In this paper, we analyzed discussion posts two and three. We provided these instructions for Discussion Post 2:

> By this point in the semester, we've discussed introductory research material and quantitative research. This discussion post will focus on quantitative research. One of the primary goals of this course is that you're able to apply what you're learning outside the course, ideally to your professional practice. Many of you are researchers in your own right already! In this course, I'm just giving you some tools to help you refine what knowledge you already have and learn more about the process of research in education. For this discussion post, answer the following prompts:
>
> 1. In learning about what research is, what course material has been the most helpful? Provide a quote from the readings, mini-lectures, or videos for your peers to help illustrate your point.
> 2. Based on the quote you've provided above, what do you now know about research and its application to who you are as a professional that you did not know before?
> 3. For quantitative research specifically, how might you use quantitative data to improve your practice as an educator?
> 4. If you were to ever design a quantitative research study to help improve your practice, what might you do and why?

We provided the following instructions for Discussion Post 3:

> By this point in the semester, we've moved into qualitative research. This discussion post will focus that form of research. Remember, one of the primary goals of this course is that you're able to apply what you're learning outside the course, ideally to your professional practice. For this discussion post, answer the following prompts:
>
> 1. In learning about what qualitative research is, what course material has been the most helpful? Provide a quote from the readings, mini-lectures, or videos for your peers to help illustrate your point.
> 2. Based on the quote you've provided above, what do you now know about qualitative research and its application to who you are as a professional that you did not know before?
> 3. How might you use qualitative data to improve your practice as an educator?
> 4. If you were to ever design a qualitative research study to help improve your practice, what might you do and why?

In order for students to earn full credit on discussion posts, they needed to answer each of the four prompting questions and end their post with one or two questions to their peers to help promote further discussion about the course content. These discussions served as an opportunity for students to engage with one another about course materials by sharing which materials enabled them to learn the material most effectively. Using ATLAS.ti v9 (Windows), we conducted a content analysis (Grbich, 2012; Julien, 2008) of 112 discussion posts from 56 students focused on the ALMs used in the course. We provide quantitative results organized into frequency counts and qualitative findings as themes. In what follows, we offer insight from the examination of these discussion posts to understand which materials were most helpful to students in learning about research and how.

FINDINGS

Below, we present the quantitative results and qualitative findings from our content analysis.

Quantitative Results: Frequencies

Table 1 below shows how often students identified specific ALMs in the discussion boards as helpful to their learning about research methods.

Table 1: Frequencies of Preferred Affordable Learning Materials	
Affordable Learning Material	**Frequency**
Required mini-lectures	44.5%
Required readings	39.0%
Materials about a specific topic	7.2%
Example articles of studies following specific methodologies	4.5%
CITI training modules and materials	2.7%
Continuing education materials	1.8%

At 44.5%, students most often cited the required mini-lectures as helpful to their learning. We created audio-recorded slide show presentations as virtual mini-lectures using Microsoft PowerPoint. These mini-lectures were generally less than 10 minutes long, with only a few exceptions for specific content areas. We provided these mini-lectures for each major topic discussed in the course and we used them to introduce course content. Thus, we encouraged students to watch them as their first task for

each module. We often supplied the PowerPoint presentation as a PDF and the script of the presentation for students in the LMS to respect both the diversity of learning styles and accessibility.

Following this material, students indicted required readings (39%) or entire modules about a specific topic (7.2%) were helpful to their learning. Required readings included chapters from various textbooks and assigned journal articles. Fewer students indicated that the articles used as examples of specific research methodologies were helpful to their learning (4.5%). Finally, the CITI Program (Collaborative Institutional Training Initiative Program) modules (2.7%) and non-required "continuing education" materials (1.8%) were the least referenced.

The majority (78.6%) of students identified the same type of material as helpful for both discussion posts. For instance, if they indicated a textbook chapter to be particularly helpful for Discussion Post 2 (quantitative), they indicated another textbook chapter as helpful for Discussion Post 3 (qualitative) rather than a required mini-lectures. Only 12 of the 56 participants (21.4%) in this study switched to a different type of resource for the subsequent discussion post (e.g. from required reading in Discussion Post 2 to video content in Discussion Post 3).

Qualitative Findings: Themes

While prompted to identify particular course materials as being particularly effective in guiding their learning about course content, we did not include a requirement for students to indicate why these materials were helpful. Yet, more often than not, students did so. We analyzed their responses and organized this analysis into the three primary themes below. Students explained that materials providing foundational information, translating the content into simpler language, appealing to their particular learning style, or applying content to practice were the most helpful to their learning throughout the course. In what follows, we briefly explain each theme using data de-identified with pseudonyms for support.

Materials Offering Foundational Information

Regardless of what type of resource the student preferred, they typically preferred those that provided them with "foundational" information. This foundational information introduced them to topics in research methods and was user friendly. Stephanie said, "This lecture helped me to build a foundation, at the beginning of the course, as we continued learning and building new knowledge." Getting a solid foundation of knowledge from the beginning of a course is essential in most topics, research methods being no exception. Students indicated an appreciation for course material that they believed allowed them to do so. At times, students indicated these foundations to be built around specific topics. For instance, Brianne explained, "In learning about what research is, the most helpful material has been the CITI online course. I was able to research more information about inductive and deductive research. These are two types of research I find the most trouble differentiating." Understanding the difference between inductive and deductive research is foundational knowledge necessary to building more thorough and nuanced knowledge of research methods, specifically for data collection and analysis.

For students to gain that foundation, they explained that course content needed to be easy to understand. Toby said:

> I think most of the confusion I've been experiencing reading through all the research articles is related to not understanding most of the material provided in the method and/

or results sections of the article, especially when it's a quantitative study... The biggest help in has been the Tolmie et al. (2011) book that breaks down some of these measurements and terms into more easy-to-understand language or provides a simple example that illustrates the concert, like when the authors describe what standard deviation is and why it is calculated the way it is.

For many students, this was the first research course they had ever taken. Learning about research methods is not just learning new content, it is actually like learning a new language. Just like learning Spanish or Arabic, students of the language of research methods need a clear translation in the beginning before they can begin to interpret it on their own.

Materials Translating Academic Language

Students who identified the mini-lectures as helpful preferred them because they translated the text and course content into understandable language. As Lily indicated, "Some of the readings from the chapters seem like they're in a different language at times. Dr. Pope helps relate research/methods in an easier to understand manner through her mini-lectures." Difficulties in learning about a new topic in any field are only compounded by an inability to understand terminology. By requiring students begin each module by watching the mini-lectures, we introduced students to new concepts and terms in a more comprehensible manner. Fred explained, "[Dr. Pope's] presentations on quantitative research explain a complicated and sometimes intimidating subject in such a manner that even a non-math person can understand it."

Students' discussion posts included a self-awareness of a need for the content to be translated. Several students indicated that they were intimidated by learning about research methods. They found the course content to be very different from the rest of their program of study. However, with mini-lectures to start each module and introduce students to the content in an approachable way, they felt more confident in their learning. Sherri's quote illustrates this point when she said:

> The mini-lectures in this course has been by far my lifelines. The readings that are provided are very hard for me to follow. I typically become really lost and usually give up at trying to understand and read them all. It has been difficult piecing all of the information given [in] the course together. However… viewing and listening to the mini-lectures has made it easier. They do an outstanding job at summarizing and dumbing down each module.

In addition to the self-expressed need for course content and terminology to be translated, students indicated that materials within the realm of their self-identified learning style.

Materials Appealing to Specific Learning Styles

As adult learners, many of the students in the research methods course were aware of what worked and what did not work for their learning. They often cited specific learning styles and preferred learning modalities. Some students struggled with online delivery and missed the interaction that comes with learning in a classroom or lecture hall. For example, Marie noted, "As a learner, I like these types of videos because they are the closest thing to actually being in a lecture hall with the professor teaching me."

Students indicated whether they learned best from reading or from viewing material. In each module, there were required materials that were text and required materials that were video/audio. The same is true for any recommended materials provided

to students. Online courses can become very text heavy, and it is a pedagogical necessity to include course content delivered in a variety of modalities. Fred expressed his appreciation of this by saying, "The screencast videos [Dr. Pope's] audio explanations address the needs of the auditory and visual learner. In contrast, her screencast PDF and the screencast script are perfect for those who want to read the information." Similarly, Lela explained, "I love that they are posted in three different formats to meet the needs of all students… The mini-lectures seem to tie the readings together and put the information in simpler terms."

In creating the mini-lectures, we sought to offer alternative avenues to learning from text based material. This attempt was well-received based on discussion content. While students who enjoyed reading material to grasp concepts, it seemed that the mini-lectures appealed the most to self-identified "visual" learners. Candice said:

> The mini lectures and videos have been most helpful to me. I am a visual learner, so watching the PowerPoints and then having the ability to see everything in the slide written down in text makes it easier for me to study the material. In the last mini lesson led by Dr. Pope, she was discussing the different types of data. Ordinal, ratio, and interval data. The pictures that she used in the lesson helped me learn what each one meant. For example, ordinal data. She showed a picture of a 2nd place ribbon. This was a great visual reminder that ordinal data is a kind of categorical data with a set order or scale to it.

Regardless of learning style, a final theme of this analysis was that students gravitated toward materials that offered a clear connection between research and their own practice.

Materials Applying Research to Practice
Students in the course tended to prefer material that was directly applicable to their own professional practice. April wrote "I can definitely see the uses and benefits for both quantitative and qualitative forms of research within the classroom setting… I use both, unknowingly until now, for different purposes." It seems that students in the research methods course preferred connections to their professional practice because it de-mystifies abstract concepts. April continued "I feel like much of my 'research' of student learning and growth is majorly qualitative." Through she did not realize it at the time, April was already engaging in qualitative research in her classroom. Now she knows that she prefers qualitative research and has the ability to seek out qualitative studies to improve her practice.

Jonanne agreed, "what seemed to me as a very abstract concept was made concrete through this book with the use of real-world examples." This quote shows that the students in our class preferred commercial textbooks that were high quality and directly related to them. A commercial textbook offered through the institution's library allows students to use high-quality texts without the burden of purchasing them. Connecting research to practice is a key portion of our research courses, as it is our goal that students be able to see the benefit of research methods for their own professional lives.

DISCUSSION AND CONCLUSION
Our study uncovered our students' preferences towards ALMs in a graduate-level asynchronous research methods course. Students in our course tended to enjoy mini-lectures over any other type of media. It is possible that they cited this preference because mini-lectures emulate the traditional classroom. Often, our students noted a preference for explanations of complex ideas, which can be more easily conveyed through the spoken word rather than through text. Our students also preferred our required reading over any supplemental materials, such as videos we located from YouTube, sample research studies, and required research ethics training through CITI. It is possible that the participants in this study preferred the required reading because they come from commercial textbooks that are available to them for free and are therefore carefully edited and produced for mass consumption. Qualitatively, we found that students enjoyed materials that provided a foundation for their study in research methods and material that "translated" material in simpler to use language. Because this class is the first research methods course most of our students are taking, they are unfamiliar with basic concepts of research, like data collection and analysis. Therefore, they preferred to not dig too deeply in any specific area of research methods. We also found that our students perceived that they each had a unique learning style and that they preferred materials that complemented their style.

Our study contributes to the literature concerning ALMs in several ways. First, the vast majority of the literature concerning ALMs concerns itself with OERs (e.g. Hilton III, 2016). OERs are customizable texts that are often written by instructors of a course. Though OERs have shown to be effective at providing students an equivalent education when it comes to course performance, there are several concerns with their use. For example, Veletsianos (2020) noted that there have been no major studies that assess the demographics of OERs, the content of OERs, or representation in OERs. Providing commercial textbooks for a free or reduced cost represents the best of both worlds when it comes to ALMs. As there are questions of the quality of OER materials (Veletsianos, 2020), ALMs provide the quality of commercial text without the cost, which Howard and Whirtmore (2020) found to be the most important factor of preference for OER versus commercial text. This study was particularly necessary, because much of the affordable learning literature concerns lower-division undergraduate coursework (Hilton III, 2016). Similar to Illowsky and colleagues (2016), this study represents one of few studies of research methods courses.

More research is needed in this area, as so few studies seek to understand the experiences of students who use OERs compared to those who use ALMs. One potential study could use a quasi-experimental design to compare the performance of students who are assigned a commercial textbook digitally through their library's catalog and students who are given access to a complete OER. Regardless of the cost-benefit analysis of ALMs and OERs, more instructors should adopt affordable or free materials for their students. Public confidence in higher education is low, and lowering the expense of coursework might go far in restoring that confidence (Bowen et al., 2012; Hilton III et al., 2014). As academic libraries choose more digital text over physical print, mini-grants that support the use of digital commercial text in classroom can help students save hundreds of dollars per-year (Thomas & Bernhardt, 2018). We recommend seeking out these programs and working with your librarian to provide free resources to your student at the undergraduate or graduate level.

DISCLOSURE STATEMENT

There are no conflicts of interests related to this research. A short version of this paper was presented at the World Conference for Qualitative Research.

REFERENCES

Annand, D., & Jensen, T. (2021). Incentivizing the production and use of open educational resources in higher education institutions. *International Review of Research in Open and Distributed Learning, 18*(4), 1-15. https://doi.org/10.19173/irrodl.v18i4.3009

Bass, R. (1999). The scholarship of teaching: What's the problem? *Inventio: Creative Thinking about Teaching and Learning, 1*(1), 1-9.

Besser, A., Flett, G. L., & Zeigler-Hill, V. (2020). Adaptability to a sudden transition to online learning during the COVID-19 pandemic: Understanding the challenges for students. *Scholarship of Teaching and Learning in Psychology.* Advance online publication. http://dx.doi.org/10.1037/stl0000198

Bojović, Ž., Bojović, P. D., Vujošević, D., & Šuh, J. (2020). Education in times of crisis: Rapid transition to distance learning. *Computer Applications in Engineering Education, 23*(6), 1467-1489. https://doi.org/10.1002/cae.22318

Bowen, M. G., Chingos, M. M., Lack, K. A., & Nygren, T. I. (2012). *Interactive learning online at public universities: Evidence from Randomized trails.* Ithaka S+R. https://doi.org/10.18665/sr.22464

Boyer, E.L. (1990). *Scholarship reconsidered: Priorities of the professoriate.* Jossey-Bass.

Bliss, T. J., Hilton III, J. L., Wiley, D., & Thanos, K. (2012). The cost and quality of open textbooks: Perceptions of community college faculty and students. *First Monday, 18*(1), 1-12. https://doi.org/10.5210/fm.v18i1.3972

Clinton, V. Legerski, E., & Rhodes, B. (2019). Comparing student learning from and perceptions of open and commercial textbook exerpts: A randomized experiment. *Frontiers in Education, 4*(110), 1-12. https://doi.org/10.3389/feduc.2019.0011

Colvard, N. B., Watson, C. E., & Park, H. (2018). The impact of open educational resources on various student success metrics. *International Journal of Teaching and Learning in Higher Education, 30*(2), 262-276. http://www.isetl.org/ijtlhe/

Cross, K. P., & Steadman, M. H. (1996). *Classroom research: Implementing the scholarship of teaching.* Jossey-Bass.

Croteau, E. (2017). Measures of student success with textbook transformations: The Affordable Learning Georgia Initiative. *Open Praxis, 9*(1), 93-108. https://doi.org/10.5944/openpraxis.9.1.505

Crotty, M. J. (1998). *The foundations of social research: Meaning and perspective in the research process.* Thousand Oaks, CA: SAGE.

Delimont, N., Turtle, E. C., Benett, A., Adhikari, K., & Lindshield, B. L. (2016). University student and faculty have positive perceptions of open/alternative resources and their utilization in a textbook replacement initiative. *Research in Learning Technology, 24*, 1-13. https://doi.org/10.3402/rlt.v24.29920

Donald, J. G. (2002). *Learning to think: Disciplinary perspectives.* Jossey-Bass.

Engler, J. N., & Shedlosky-Shoemaker, R. (2019). Facilitating student success: The role of open educational resources in introductory psychology courses. *Psychology Learning & Teaching, 18*(1), 36-47. https://doi.org/10.1177/1475725718810241

Fischer, L., Hilton III, J. L., Robinson, T. J., & Wiley, D. A. (2015). A multi-institutional study of the impact of open textbook adoption on the learning outcomes of post-secondary students. *Journal of Computing in Higher Education, 27,* 159-172. https://doi.org/10.1007/s12528-015-9101-x

Gallos, J. V. (2008). Charting a new course for the scholarship of management teaching and learning: Future directions, powerful opportunities, a hopeful future. *Journal of Management Education, 32*(5), 535-539. https://doi.org/10.1177/1052562908324357

Gilpin, L. S., & Liston, D. (2009). Transformative education in the Scholarship of Teaching and. Learning: An analysis of SoTL literature. *International Journal for the Scholarship of Teaching and Learning, 3*(2), 1-8. https://doi.org/10.20429/ijsotl.2009.030211

Glassick, C. E., Huber, M.T., & Maeroff, G. I. (1997). *Scholarship assessed: Evaluation of the professoriate.* Jossey-Bass.

Gordon, G. (2010). SoTL and the quality agenda. *International Journal for the Scholarship of Teaching and Learning, 4*(2), 1-6. https://doi.org/10.20429/ijsotl.2010.040203

Grauerholz, L., & Zipp, J. F. (2008). How to do the Scholarship of Teaching and Learning. *Teaching Sociology, 36*, 87-94.

Grbich, C. (2012). *Qualitative data analysis: An introduction* (2nd ed.). Thousand Oaks, CA: SAGE.

Gurung, R. A. R., & Schwartz B. M. (2010). Riding the third wave of SoTL. *International Journal for the Scholarship of Teaching and Learning, 4*(2), 1-6. https://doi.org/10.20429/ijsotl.2010.040205

Healey, M., Matthews, K. E., & Cook-Sather, A. (2019). Writing Scholarship of Teaching and Learning articles for peer-reviewed journals. *Teaching & Learning Inquiry, 7*(2), 28-50. https://doi.org/10.20343/teachlearninqu.7.2.3

Hendricks, C., Reinsberg, S. A., & Rieger, G. W. (2017). The adoption of an open textbook in a large physics course: An analysis of cost, outcomes, use, and perceptions. *International Review of Research in Open and Distributed Learning, 18*(4), 78-99. https://doi.org/10.19173/irrodl.v18i4.3006

Hilton III, J. L., Gaudet, D., Clark, P., Robinson, J., & Wiley, D. (2013). The adoption of open educational resources by one community college math department. *The International Review of Research in Open and Distributed Learning, 14*(4), 1-14. https://doi.org/10.19173/irrodl.v14i4.1523

Hilton III, J. L., Robinson, T. J., Wiley, D., & Ackerman, J. D. (2014). Cost-savings achieved in two semesters through the adoption of open educational resources. *International Review Of Research in Open and Distributed Learning, 15*(2), 67-84. https://doi.org/10.19173/irrodl.v15i2.1700

Hilton III, J. L. (2016). Open educational resources and college textbook choices: A review of research one efficacy and perceptions. *Educational Technology Research and Development, 64*, 573-590. https://doi.org/10.1007/s11423-016-9434-9

Hilton III, J. L. (2020). Open educational resources, student efficacy, and user perceptions: A synthesis of research published between 2015 and 2018. *Educational Technology Research and Development, 68*, 853-876. https://doi.org/10.1007/s11423-019-09700-4

Hodges, C. B. (2020). Shift to digital perspectives on Hilton (2016) from the perspective of practice. *Educational Technology Research and Development,* 2020, 1-4. https://doi.org/10.1007/s11423-020-09838-6

Howard, V. J., & Whitmore, C. B. (2020). Evaluating student perceptions of open and commercial psychology textbooks. *Frontiers in Education, 5*(139), 1-14. https://doi.org/10.3389/feduc.2020.00139

Huber, M. T., & Hutchings, P. (2005). *The advancement of learning: Building the commons.* Jossey-Bass.

Hutchings, P., & Schulman, L. S. (1999). The scholarship of teaching and learning: New elaborations, new developments. *Change: The Magazine of Higher Learning, 31*(5), 10-15. https://doi.org/10.1080/00091389909604218

Illowsky, B. S., Hilton III, J. L., Whiting, J., & Ackerman, J. D. (2016). Examining student perception of an open statistics book. *Open Praxis, 8*(3), 265-276. 265-276. https://doi.org/10.5944/openpraxis.8.3.304

Julien, H. (2008). Content analysis. In the L. M. Given (Ed.) *SAGE Encyclopedia of Qualitative Research*, pp. 121-122. Thousand Oaks: SAGE.

Karakaya, R., & Karakaya, O. (2020). Framing the role of English in OER from a social justice perspective: A critical lens on the (dis)empowerment of non-English speaking communities. *Asian Journal of Distance Education, 15*(2), 175-190. https://doi.org/10.5281/zenodo.4319616

Killen, P. O., & Gallagher, E. V. (2013). Sketching the contours of the Scholarship of Teaching and Learning in theology and religion. *Teaching Theology and Religion, 16*(2), 107-124.

Kreber, C. (2005). Charting a critical couse on the scholarship of university teaching movement. *Studies in Higher Education, 30*(4), 389-405. https://doi.org/10.1080/03075070500160095

Merriam, S. B., and Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation.* San Francisco: Jossey-Bass.

Ozdemir, O., & Hendricks, C. (2017). Instructor and student experiences with open textbooks, from the California open online library for education (Cool4Ed). *Journal of Computing in Higher Education, 29*, 98-113. https://doi.org/10.1007/s12528-017-9138-0

Pitt, R., Jordan, K., de los Arcos, B., Farrow, R., & Weller, M. (2020). Supporting open educational practices through open textbooks. *Distance Education, 41*(2), 303-318. https://doi.org/10.1080/01587919.2020.1757411

Rad, F. A., Otaki, F., Baqain, Z., Zary, N., & Al-Halabi, M. (2021). Rapid transition to distance learning due to COVID-19: Perceptions of postgraduate dental learners and instructors. *PLoS ONE, 16*(2), 1-22. https://doi.org/10.1371/journal.pone.0246584

Schon, D. A. (1995). The new scholarship requires a new epistemology. *Change: The Magazine of Higher Learning, 27*(6), 26-35.

Smith, N. D., Grimaldi, P. J., & Mallick, D. B. (2020). Impact of zero cost books adoptions on student success at a large, urban community college. *Frontiers in Education, 5,* 1-11. https://doi.org/10.3389/feduc.2020.579580

Thomas, W. J., & Bernhardt, B. R. (2018). Helping keep the costs of textbooks for students down: Two approaches. *Technical Services Quarterly, 35*(3), 257-268. https://doi.org/10.1080/07317131.2018.1456844

Tight, M. (2017). Tracking the Scholarship of Teaching and Learning. *Policy Review in Higher Education, 2*(1), 1-18. https://doi.org/10.1080/23322969.2017.1390690

Veletsianos, G. (2020). Open educational resources: Expanding equity or reflecting and furthering inequalities. *Educational Technology Research and Development, 2020,* 1-4. https://doi.org/10.1007/s11423-020-09840-y

Vojtech, G., & Grissett, J. (2017). Student perceptions of college faculty who use OER. *International Review of Research in Open and Distributed Learning, 18*(4), 155-171. https://doi.org/10.19173/irrodl.v18i4.3032

Wiley, D., Williams, L., DeMarte, D., & Hilton III, J. L. (2016). The Tidewater Z-degree and the INTRO model for sustaining OER adoption. *Educational Policy Analysis Archives, 24*(41), 1-15. https://doi.org/10.14507/epaa.v23.1828

Witman, P. D., & Richlin, L. (2007). The status of the scholarship of teaching and learning in the disciplines. *International Journal for the Scholarship of Teaching and Learning, 1*(14), 1-17. https://doi.org/ijsotl.2007.010114

Winitzky-Stephens, J., & Pickavance, J. (2017). Open educational resources and student course outcomes: A multilevel analysis. *International Review of Research in Open and Distributed Learning, 18*(4), 35-49. https://doi.org/10.19173/irrodl.v18i4.3118

Woodhouse, R. A. (2010). Hype or hope: Can the Scholarship of Teaching and Learning fulfill its promise. *International Journal for the Scholarship of Teaching and Learning, 4*(13), 1-8. https://doi.org/10.20420/ijsotl.2010.040113

Zou, M. (2016). Developing an Open Education Resources (OER) course: Benefits and barriers. *Journal of Higher Education Theory and Practice, 16*(5), 36-41. https://articlegateway.com/index.php/JHETP/article/view/1998