# Just One Textbook?

*Student Perceptions of and Preferences for Open and Affordable Educational Resources*

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## *Abstract*

In this study, we set out to assess undergraduate students' perceptions of, and preferences for, open and affordable educational resources (OAER) in courses where a faculty member had recently adopted them as part of a campus library-led grant. A survey was sent to students at the completion of their course in which OAER were used, yielding 223 responses over three years of surveying. Our survey results showed that students greatly appreciated the lack of cost associated with open and affordable materials. Students also overwhelmingly perceived OAER as the same or better quality as commercial course materials they had used in other courses. However, student responses around their perceptions of, and preferences for, access and format yielded results that indicate that, when it comes to OAER, students are nearly as concerned about how they access their course materials and what format they are in as they are about how expensive their materials will be to purchase. In this article, we will discuss our analysis of these responses regarding students' ranking of factors instructors should consider when assigning materials and their preferences and perceptions of how they access their course materials.

## Introduction

Open educational resources (OER) are "teaching, learning, and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions" (UNESCO, n.d.). Assigning OER in place of commercial textbooks can positively impact a variety of important higher education issues: from pedagogical concerns, like student engagement and learning, to institutional concerns, like affordability and retention. While the open education movement grows and diversifies its goals, a core driver of OER use remains that higher education in the United States is inaccessible or inequitably accessible to many because of financial barriers – including those erected by

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expensive required course materials. As early as 2005, U.S. Congressional reports stated that the cost of course materials had already "...risen at twice the rate of annual inflation over the last two decades" (GAO, 2005). Since then, this trend has intensified. An analysis from 2020 indicates that prices are now increasing at three times the rate of inflation (Nagle & Vitez, 2020). In online news sources, parents and students are often cautioned to budget up to $1,200 per year to cover the cost of their assigned course materials alone (Del Valle, 2019).

At Penn State, we often discuss both OER and OAER, or open and affordable educational resources. "Affordable" is a term that varies in definition from institution to institution but, at Penn State, we define affordable educational resources as "any required course material that students purchase for less than $50. This may include low-cost or no-cost options and library materials that do not have an open license" (Penn State, 2022). By including this term, our affordable "umbrella" covers both materials that cost less than $50 total per student and materials paid for by the University Libraries or a similar institutional entity, rather than by the students directly.

Whether or not individual students consider $50 affordable is debatable, but the general impact of trying to improve the affordability of higher education by addressing the expense of required course materials is supported by students around the country. A notable proponent of affordability in higher education is the Student Public Interest Research Group (Student PIRG) (affiliated with the US Public Interest Research Groups (US PIRG)), which distributes national surveys to US college students on how the cost of higher education has affected them, then publishes these results in their Fixing the Broken Textbook Market reports (Nagle & Vitez, 2020). Both their pre-COVID (2019) and mid-COVID (2020) reports provide startling revelations on student's inability to afford their required course materials (Nagle & Vitez, 2020). Most notably, every edition of the Fixing the Broken Textbook Market report since 2014 has reported that approximately 65% of this national pool of surveyed students has skipped buying textbooks due to their cost (Senack, 2014). In the 2020 survey report, 25% of students surveyed in 2019 said they had to take on extra hours at work to be able to afford their course materials; 19% of students chose not to enroll in certain courses because of the cost of assigned materials; and, most concerning, 11% stated that they had skipped meals specifically in order to make up for the costs of their course materials (Nagle & Vitez, 2020). In the 2021 survey report, special attention was paid to food insecurity, due to the impact of the COVID-19 pandemic. Out of the more than 5,000 students surveyed in 2020, 10% reported missing meals due to COVID-19 and, of those 10%, 82% reported not buying assigned course materials due to the cost compared to the 65% of food-secure students who reported not buying assigned course materials due to the cost. The report goes on to state, "Students who experienced hunger in the pandemic skipped buying access codes [to assigned course materials] at nearly twice the rate as their peers. This set of students cannot choose to prioritize either health or academic success; they have been priced out of both" (Nagle & Vitez, 2021).

In Pennsylvania, which is the sixth most expensive state in which to attend a public university (Hanson, 2022), Penn State University has long sought to address student access to course materials via a variety of affordability initiatives (Riehman-Murphy et al., 2020). At Penn State Abington, one of Penn State's 23 campuses, librarians have attempted to address these barriers around the cost of access to course materials by creating the Affordable Course Content Faculty Fellowship (ACCFF). The campus, located

just north of Philadelphia, is a majority-minority campus with a significant percentage of students from diverse backgrounds, first-generation students, and students with high financial need. Since its inception in 2019, this endowment-funded faculty-focused program has supported three annual "rounds" of faculty participants as they explore, evaluate, adopt, and teach with OAER in their courses. As of the writing of this article, ACCFF has supported 19 faculty in adopting OAER for 22 courses. Since initiating this adoption program three years ago, 2,703 students have been impacted by these courses and have collectively saved more than $100,000.

To assess both qualitative and quantitative impacts, we survey both faculty and students who participate in ACCFF classes at the end of the first semester in which the OAER was implemented. After exploring the Open Education Group's OER Research Toolkit (Open Education Group, n.d.), we determined that student perceptions of and their preferences for their course's OAER materials were of particular interest to us in order to help us understand how to better design our program and support our faculty. In this article, we'll be focusing on how students perceive the nature of open and affordable course materials, and especially how those perceptions affect their preferences for how they access and use those open materials.

# Literature Review

Impact on financial barriers and impact on student learning are key metrics of assessment for OER. OER research has investigated whether OER are valuable as learning materials in comparison to commercially published textbooks and other commercial course materials. In a landmark survey of higher ed institutions in Florida in 2012, more than 20,000 students from 11 institutions around the state were surveyed. The results of the survey showed that 63% of students rated their newly assigned OER as similar or higher quality than their previous non-open materials (Florida Virtual Campus, 2012). This area of research has remained vital and growing in recent years. In a synthesis of research published between 2015 and 2018 examining the perception and/or efficacy of OER as learning materials, Hilton (2020) found that, out of 29 studies published, "a strong majority of the participants report that OER were as good or better [than commercial texts]".

Cost savings for students are often used to quantify impact of OER largely due to the reduction of high textbook costs and the tangible return on investment in areas of student success and retention, which speak to a variety of institutional stakeholders. The Open Education Group developed the COUP framework to study the impact of OER around four frames: "cost," "outcomes," "use," and "perceptions" (Open Education Group, n.d.). This framework has been used to assess a number of OER programs and demonstrate largely positive gains in all four areas as a result of the OER. For instance, Bliss, Robinson, Hilton, and Wiley (2013) used the COUP framework to assess the effectiveness of an OER adoption pilot across eight community colleges and reported positive impacts in areas within the framework such as reduction of financial costs to students, increase in students' ability to immediately access their course materials, and student preparation in the classroom. Tillinghast, Failkowski, and Draper (2020) added an E to COUP to explore how OER-enabled pedagogy (OP) impacts engagement

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as well.  These frameworks help researchers design studies using clear metrics in order to measure the success of OER initiatives.

A closer look at some student perception-focused studies shows that there are additional factors concerning access and format that impact perception, making them important for OER adoption programs to consider. Students consistently rate ease of access as important as cost savings (Jhangiani 2017, Brandle et al. 2019,  Cooney 2016, Wynants & Dennis 2022, Hong 2019). In some cases, students ranked ease of access more important than cost savings. (Jhangiani 2017, Magro & Tabaei 2019). Wynants & Dennis (2022) found that students considered the attributes of OER that most contributed to their learning were self-check quizzing, organization, design, formatting, online accessibility and technical features, videos, and visuals. The aspect students mentioned least, however, was cost.

# Methods

Our survey results replicated these earlier studies with the vast majority of students rating their new open or affordable course materials as being the same or better quality as other course materials they have used in the past and with students overwhelmingly grateful that the course materials were free or low cost. However, as we considered how students access their course materials and how that might affect their perception and use of these materials, we wondered; in a higher-ed landscape where fully online course materials are increasingly common, how much do students really think about where those materials come from? And, if their course materials are all packaged into their course's learning management system (LMS), do they see those materials as being at all separate from the rest of the course content (i.e., lectures, assignments, etc.) that came directly from the instructor?

In our discussions of these questions, we kept coming back to the idea that if students do see differences in how they access and use different kinds of assigned course materials as opposed to materials like lectures and assignments that come directly from the instructor, then that might be a hidden factor impacting their perceptions of OAER vs paid course materials – one that we had not previously considered. In response, we revised our ACCFF course survey to explore this question further.

The survey was hosted and distributed online via Qualtrics and consisted of 25 questions. We provided a mix of qualitative and quantitative questions that asked students how they made purchasing decisions in regards to assigned course materials in general, how they accessed their materials in their ACCFF courses, what kinds of technology they use to access course materials, what considerations they want their instructors to keep in mind when assigning course materials, and their perceptions of the format, quality, usefulness, and ease of use of the assigned materials in their ACCFF courses.

The courses taught by instructors in each cohort of ACCFF may be taught in the summer, fall, or spring of the academic calendar after their acceptance into the cohort. We distribute an optional survey for students to each section of each ACCFF course near the end of the course's semester and work with the instructor's schedule to choose specific times that will be convenient for all. Students are asked to take the survey to assist in our project but are assured that survey participation is not required and that their survey participation and answers are anonymous.

Survey results have been collected at the end of each semester for all courses within that semester throughout the three years of the ACCFF program. Rather than analyze each course's responses separately, we have chosen to analyze them all together as part of the shared program. However, the introduction of COVID-19 and remote learning did have a significant impact on our survey response rate. We greatly prefer to distribute the survey during in-person class meeting times if possible as this does seem to have a positive impact on participation rates. During COVID-19's period of remote learning, however, all surveys were necessarily distributed asynchronously online and received much lower responses; accordingly, most of our survey results come from the pre-COVID ACCFF courses.

In total, twenty-two courses at Penn State Abington have participated in ACCFF since the program began in 2019: seven courses were first taught with their new materials in the 2019-2020 academic year; eight courses in semesters during the 2020-2021 academic year; and seven courses in semesters during the 2021-2022 academic year. Approximately 898 students were enrolled in these courses during the first semesters in which the new open and affordable materials were integrated into the courses. Although these courses have continued to be taught since then, and many have continued to use these new materials after their first semester of integration, only those students enrolled during the first semesters during which these materials were integrated were targeted for participation in our survey.

Of those 898 students, the survey was distributed to approximately 757 students – some in-person (prior to COVID-19) and most via links in their Canvas courses (during COVID-19 remote learning). From those 757 students, we received 223 student responses, giving us a response rate of 29.5%. We received 135 responses from students in courses taught in the semesters during the 2019-2020 academic year; 73 from students in courses taught in semesters during the 2020-2021 academic year; and 15 from students in courses taught in semesters during the 2021-2022 academic year. This decline in our response rate, which we attribute largely to COVID-19's disruption of in-person learning and student engagement, is apparent in Figure 1.

**Figure 1**

*Number of Student Responses per Academic Year*
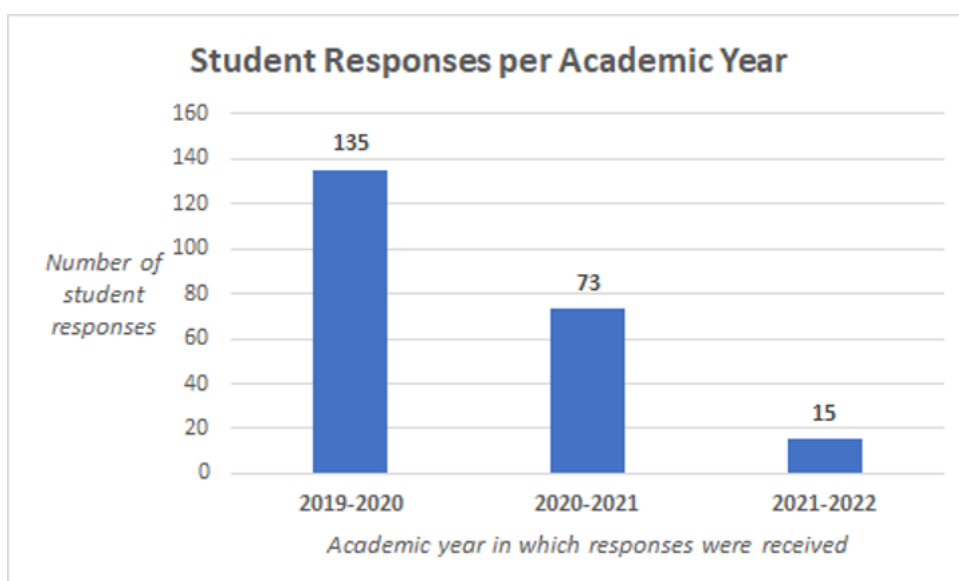
# Results

In this article, we hope to add to our shared understanding of how students access and perceive their OER course materials. In order to do so, we will focus primarily on students' responses to our surveys' questions 17, 9, 10, 11, 15, and 16. (Please see Appendix A for a link to the full list of survey questions, as well as for responses, codes, and other information related to our in-depth discussion of these specific questions.)

Before beginning our results analysis, we feel it is important to acknowledge that, as stated previously, COVID-19 and the accompanying worldwide evolution of remote and virtual learning happened during the years of our programs' survey collection. It is likely that these events and their impact on students also had an impact on student responses and perceptions. For instance, we know that many faculty switched to digital materials during this time, possibly reluctantly and without prior experience with these materials, which may have had an accompanying impact on students' experiences with learning from digital materials in general (Blumenstyk, 2022). However, we are as yet unaware of what other impacts this time of extreme change may have had on our students and what influence it may have had on their responses over time.

## *Question 17: Ranking Factors*

Question 17 asked students to rank the top three things they feel are most important for instructors to consider when choosing course materials.

The majority of respondents chose factors #1, #2, and #3, listed below. However, the ordering of the factors differed between responses.

- Factor #1: the format the materials are available in – i.e., print, digital, accessible by phone, etc.
- Factor #2: how much the materials cost – i.e., to purchase, rent, subscribe to, etc.
- Factor #3: how easy it is to access the materials – i.e., in print, online, via Canvas, via publisher's website, etc.

When choosing the most important factor instructors should consider when choosing textbooks, 82 students picked factor #2, 49 students picked factor #3, and 15 students picked factor #1. When choosing the second most important factor, 55 students picked factor #3, 45 students picked #2, and 33 students picked #1. When choosing the third most important factor, 47 students picked #3, 37 students picked #1, and 30 students picked #2. See Figure 2.

**Figure 2**

*Student Ranking of the Factors Instructors Should Consider when Assigning Course Materials*
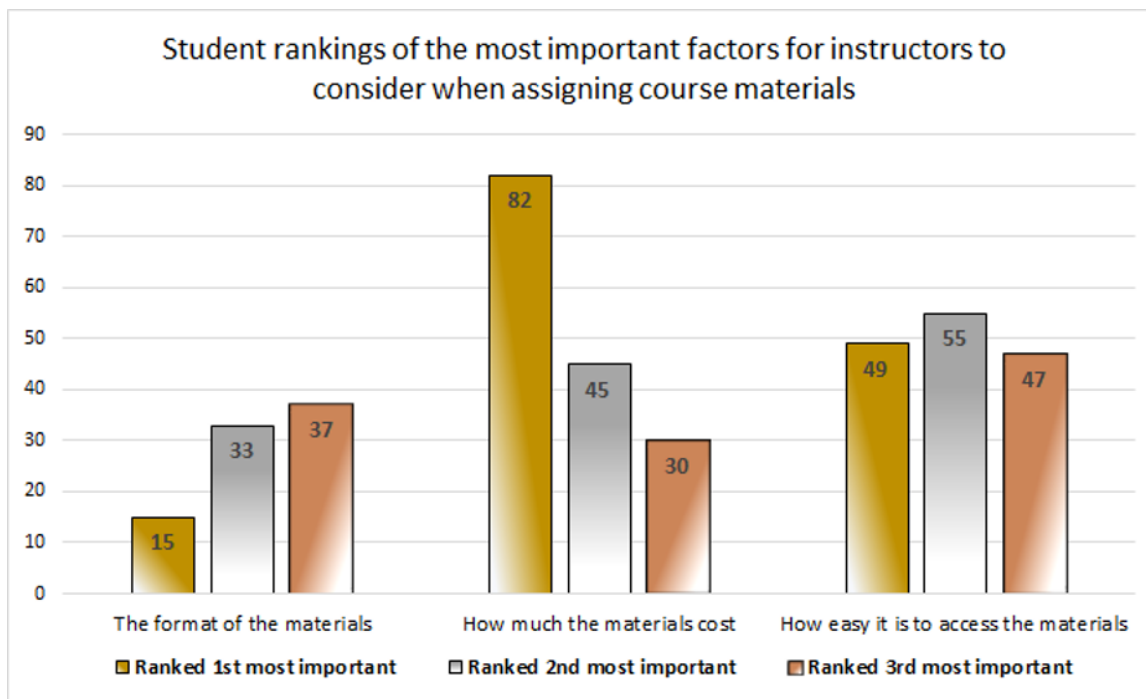


While the financial cost of the materials was the primary concern among the majority of students, it was interesting to see how closely they also ranked the ease of accessing those materials. It's clear that students' ability to easily use their materials is nearly as important to them as being able to access them for free. However, if faced with the decision, would students rather have an expensive but easy to navigate textbook, or would they prefer a free textbook that might be more difficult to use?

## Questions 9 and 10: Accessing Materials

Question 9 asked: "Compared to most other courses you've taken, how would you rate access to the materials for this course?" where the answer choices were:

- Easier to access
- About the same to access
- More difficult to access

From our 223 respondents, we received 202 responses to Question 9. 166 respondents (82%) indicated the course materials were easier to access than materials in other courses they had taken, 35 respondents (17%) indicated that the course materials were about the same to access, and only 1 respondent (0.4%) indicated that the course materials were more difficult to access than materials in other courses they'd taken.

Question 10 asked respondents to explain their answer to question 9 in their own words and received 170 open-text responses. These open-text responses were analyzed for emerging themes through

independent open coding by both research team members. Individual codes were then merged into a shared spreadsheet. The team then reviewed each code together. For codes that aligned, a description of the code was added to the spreadsheet and the responses were reviewed for alignment with that description.

For each discrepancy in coding, the team worked through them to come to an agreement, added a description of the finalized code to the spreadsheet, and re-reviewed for accuracy and alignment. All codes were then collaboratively analyzed for themes, which emerged through the open coding process. We identified eight separate themes among these reasons given for why students chose their response. In Table 1, we have included the 8 themes, along with a tally of how many responses fell within that category. Please note that many responses are counted multiple times as one response may have mentioned elements of several different themes. Accordingly, the responses do not add up to the number of participants.

**Table 1**

*Question 10 Themes*

| Theme | # of responses |
|---|---|
| Comparison to other courses' materials or other assigned materials | 15 |
| Ability to access materials in a timely fashion | 1 |
| Ease of accessing and/or finding the materials | 75 |
| Cost of the materials | 47 |
| Convenience of accessing digital materials | 25 |
| Specific challenges related to their materials or courses | 8 |
| The "mode" of access they used | 116 |
| Perception of the nature of the materials | 20 |
| How they used the materials as learning objects | 12 |

**Ease of Accessing and/or Finding the Materials**

Among the 75 responses that fit into the "Ease of accessing and/or finding the materials" theme, 56 responses mentioned that the materials were just generally easy to access without further clarification. For example, one student response in this category reads, "It was easy to access since all we had to do was click the provided link on the syllabus to access the material". 14 of the 75 responses mentioned that the materials were easy to navigate or use, such as this student's response: "Everything I needed was on the class's Canvas page. The chapters needed were the only materials shared so I didn't have to scroll

through the whole book". 15 of the 75 responses mentioned that the materials were easy to find specifically, rather than to navigate or access, such as this student's response: "Since everything could be found on modules or online it was definitely easier".

This presents an interesting area for further research – how much does ease of use impact students' willingness or ability to use their materials at all? In Question 17 we saw that students rank the cost of a material as more important than how easy it is to use – but we cannot take that to mean that students will use any material so long as it is free, regardless of how easy or difficult it is to use.
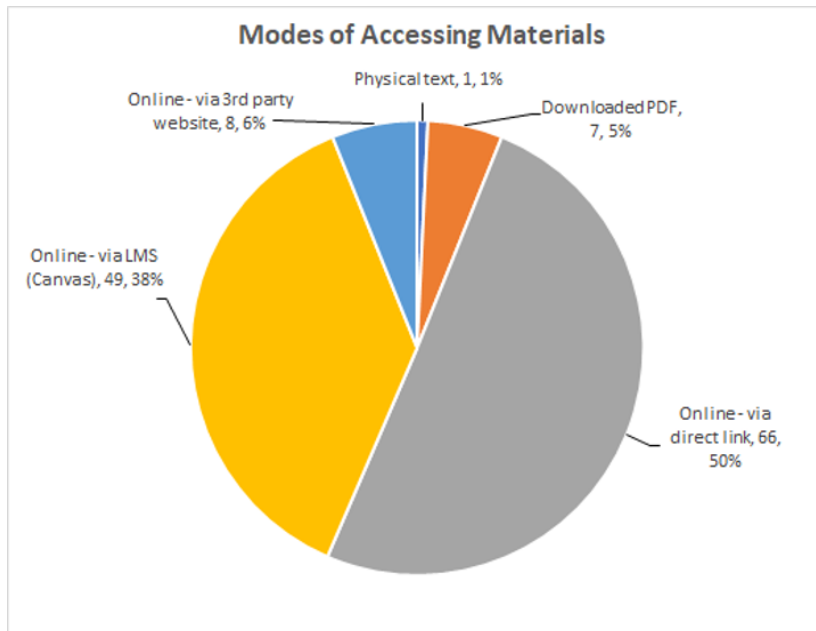
**Mode of Access**

The largest theme we saw responses under was the "mode of access" theme. Responses that fit this theme included indications of the following responses, outlined in Table 2.

**Table 2**

*Mode of Access Theme Responses*

| Sub-theme of responses | # of responses |
|---|---|
| Having or using a physical version of the text | 1 of 116 |
| Downloading or using a PDF of the materials | 7 of 116 |
| Accessing the materials "online" or via a link or URL, with no context as to where that material is hosted, via what website or interface it's being accessed, etc. | 66 of 116 |
| Specifically accessing the materials online via the course LMS page (Canvas) | 49 of 116 |
| Specifically accessing the materials online via a non-LMS website, like the University Libraries' website, a third-party non-University website, etc. | 8 of 116 |

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**Figure 3**

*Modes of Accessing Materials*



At Penn State, our LMS is Canvas – all (or nearly all) courses have a Canvas course, but how instructors use those Canvas courses varies widely. After the COVID-19 pandemic and the resulting emergency move to remote instruction, we have heard internally that significantly more instructors are building and using their Canvas courses more robustly. However, prior to 2020, instructors might have been using their Canvas course as anything from a fully populated set of modules and assignments, to just a shell to host and distribute copies of their syllabi.

To ensure that lack of previous comfort with Canvas course design was not a barrier, our ACCFF faculty participants received help and consultations in integrating their new OAER into their Canvas courses as well as into their course content, assignments, and syllabi. We have sought to encourage faculty to think of how students will need to access those materials and try to provide course materials in ways that will make sense to both students and to the instructor. For example, providing a link to or embedding the required readings for each module directly within each module, rather than just listing readings by module or date in the syllabus.

What intrigued us was that approximately 57% of our responses said that the course materials were easier or as easy to access as any course materials they have used before simply because the mode of access was "online" or via a link. One student said, "[the] teacher was able to provide a link that make [*sic*] it easy to access [the assigned course materials]." Other students shared similar reasons for why their material was easy to access, including examples such as "I liked that the link was on my computer

and it was more motivating to access" and "It was easy and online already, I didn't have to dig out a book and do anything it was all in front of me."

Additionally, a further 42% of our responses explained that the course materials were easier or as easy to access as previous non-open course materials because they accessed those course materials via the course's organizational structures in Canvas specifically – as one student explained, "It's in modules in Canvas, easily accessed." Given the above focus on helping our participating faculty think about how their students would use Canvas, we were not surprised to see that many students felt that accessing materials directly in Canvas would provide an easy "one-stop shop" for all their coursework needs.

## *Question 11: Method of Access*

Question 11 asked students, "How do you prefer to access course materials, in general?" 201 students answered this question, and of those, 16 (8%) indicated that they prefer print materials, 82 (41%) prefer online materials, 62 (31%) prefer the option of using either a print or online version of the same materials, and 39 (19%) had no preference.

It was interesting to see that, despite previous research showing that students seem to prefer learning from print over digital materials (Lindshield & Adhikari, 2013), our respondents here not only preferred online options, but also cited online format of materials as something that made it easier for them to use those materials. Further research could explore how students rate how easy course material is to access or use, versus how well they feel they can engage with and learn from it – and which of those factors is more important to them in how they evaluate the usefulness, quality, or efficacy of that course material.

## *Questions 15 & 16: Format of Materials*

Question 15 asked students, "Which best describes the format of your materials for this course?" 201 students answered this question and 103 (51%) said they had "just one textbook (print or online)," 42 (21%) said they had "a primary textbook with a few additional readings/resources/links (print and/or online)," and 45 (22%) said they were assigned "lots of different readings/resources/links from multiple sources (print and/or online)." 11 students (5%) answered "Other" and then described the format of their materials in various ways.

In Question 16, we followed up by asking students, "In what format do you prefer your course materials to be, in general?" Again, 201 students responded. 122 students (61%) said they preferred to have "just one textbook (print or online)," 44 (22%) said they preferred to have "a primary textbook with a few additional readings/resources/links (print and/or online)," and 27 (13%) said they preferred to have "lots of different readings/resources/links from multiple sources (print and/or online)." Eight students (4%) answered "Other" and then described the format of their materials in various ways (See Table 3 and Figure 4).

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**Table 3**

*Responses to Actual and Preferred Format of Course Materials*

| Question 15: Which best describes the format of your materials for this course? | # of responses |
|---|---|
| Just one textbook (print or online) | 103 of 201 (51%) |
| A primary textbook with a few additional readings/resources/links (print and/or online) | 42 of 201 (21%) |
| lots of different readings/resources/links from multiple sources (print and/or online) | 45 of 201 (22%) |
| Question 16: In what format do you prefer your course materials to be, in general? | # of responses |
| Just one textbook (print or online) | 122 of 201 (61%) |
| A primary textbook with a few additional readings/resources/links (print and/or online) | 44 of 201 (22%) |
| lots of different readings/resources/links from multiple sources (print and/or online) | 27 of 201 (13%) |

**Figure 4**

*Actual and Preferred Format of Course Materials*

## What format do you prefer?

A primary textbook with a few additional readings/resources/links (print and/or online), 44, 23%

Just one textbook (print or online), 122, 63%

lots of different readings/resources/links from multiple sources (print and/or online), 27, 14%
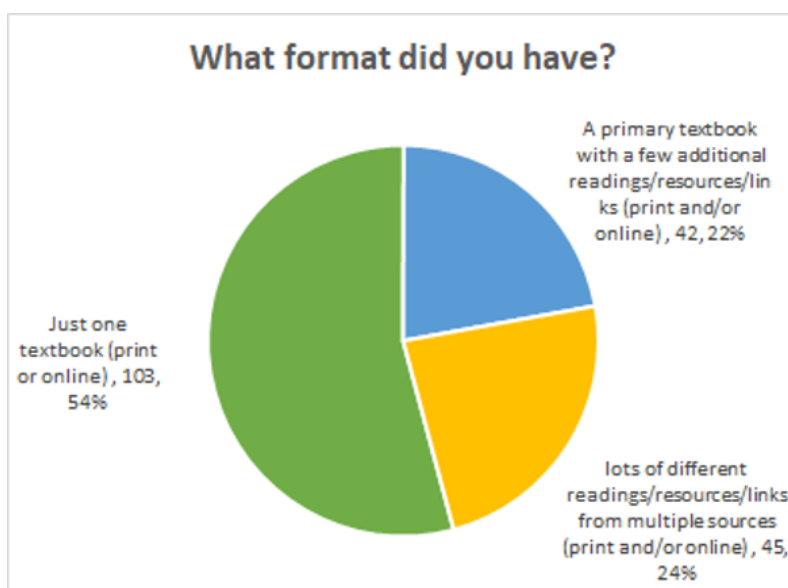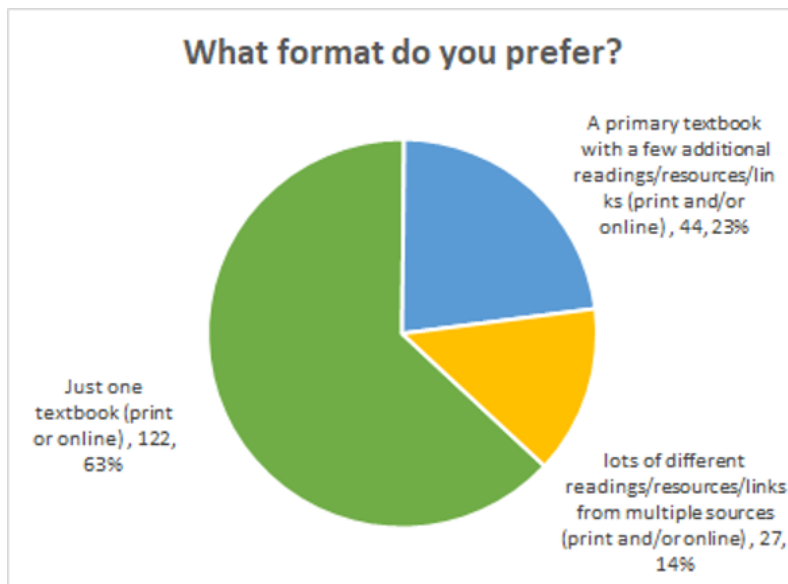
Because 51% of our students felt that they had been assigned just one textbook to learn from and 61% of the students identified that they prefer to be assigned just one textbook in general, we can see that most of them felt they had been assigned exactly the kind of course materials they prefer. Additionally, in revisiting our coding of the 170 open-text responses to Question 10, we found that 21 responses mentioned, in their own words, that they felt their course materials were easier or as easy to access as any previous course materials. Specifically, because in their ACCFF course they had been assigned "just one textbook."

These results together are particularly interesting because very few of our ACCFF instructors actually assigned just one course material or just one textbook. In fact, many of them used a "patchwork" approach to adopt sections of various OER, library-licensed materials, and even Fair-Use-acceptable portions of non-open texts as their course materials.

The use of multiple types of materials had been on our minds throughout the project because it was a significant pain point for many of our faculty, especially those from disciplines in which assigning readings from more than one textbook is uncommon. Our English Language/Literature faculty, on the other hand, found this a natural approach and related it to their disciplines' common use of "course packets," in which short readings from many different authors and books are combined to make up a collection of literature that the class will spend the semester discussing. We had discussions and provided support to our other faculty in strategizing how this course packet approach could be used in their disciplines as well. So, it was especially surprising to see students showing that, from their perspective, they thought of those patchworks of materials as "just one textbook."

Additionally, since these students also claimed that only having one material was the reason their materials were easy to use, this leads us to think about how materials from many sources can be presented together smoothly in order to increase students' ease of access. Unless it is explicitly stated what each reading is, where it comes from, and how it differs from the other assigned readings, students seem likely to interpret them all equally as "things my professor told me to read." If all of the readings

are presented within the structure of the course Canvas page and neatly embedded or linked to in exactly the modules where students need to use them, then this interpretation of a "package" of both course and course materials becomes even more natural.

However, if students understand all the course materials assigned within their modules as "just one textbook," or at least as a collection of materials that exist for them solely to support their course, they may not be thinking further into where those materials come from, who wrote them, how they came to be part of the course. This also leads us to consider how instructors could more explicitly call out the different origins of their course materials in order to help students think critically about where and from whom their course materials are coming, why they were chosen, how they relate to the course content, and who is or is not being represented in the conversation expressed in the materials.

When instructors are taking the time to deliberately choose the source of each piece of their course materials, rather than teaching from a pre-packaged publisher's text, they can also take the time to choose the authors of those materials. This is a fantastic opportunity for instructors to deliberately choose to teach with course materials authored by those from diverse cultural and experiential backgrounds. It also allows instructors to make their course material selection process more transparent and to engage students in discussions about why they chose certain materials, how they determined their value to the course, and how students can apply those same skills when they need to find credible information from authors within their field in future.

# Conclusion

Our assessment of our ACCFF project focused on how students interact with OAER materials and how they understand them as course materials. As a result of our survey, we've found that, although OER and commercially published textbooks can be quite different from the perspective of a professor, a librarian, or an instructional designer, they may not be so dissimilar from a student perspective. In fact, to students, it appears that what matters most is how they access the material and how easy it is for them to access the material, not the nature of the materials or the publishing process the materials went through.

Our results indicate that many of our students perceived any materials assigned together in their LMS as a single unit of "course materials" – almost as though their LMS has become both course and textbook in their eyes. This kind of container collapse is discussed in librarianship already in how we teach patrons to identify, evaluate, and use distinct kinds of information sources (Cyr et al., 2021; Greer & McCann, 2018; Brannon et al, 2021). Because the markers that differentiate sources of various publishing formats are not always as clear in digital spaces as they would be in print, we often need to help students discern between sources like magazine articles, newspaper articles, blogs, eBooks, and scholarly research articles. Therefore, it is not surprising that, in a digital space like a Canvas course or other LMS, students whose course materials are assembled from a variety of OER, library-licensed materials, and readings from books attained under Fair Use would skip over the different origins of these materials and collapse them into the category of "the assigned readings", or even "this course's textbook."

This leads us to both challenges and opportunities in how students will interpret the authority of their course materials when they are not presented via polished, publisher-produced textbook interfaces. It seems to us that students may be placing the ultimate determination of authority in the hands of their instructors, not the textbook publishers – that is, a course material has authority because the instructor assigned it, and not the other way around. That may give instructors using OER a tremendous opportunity to exercise that authority and deliberately assign readings from authors of color, authors of diverse cultural, geographic, linguistic, or other backgrounds, etc. This is an opportunity to provide better representation, so students can see people like themselves working and writing in the fields they are studying, and so that students who have not had experience with viewpoints from people of backgrounds other than their own can be encouraged to diversify their understanding and explore opinions, perspectives, and experiences outside of what is familiar to them.

Finally, our results also give OER supporters and advocates another approach when helping faculty adopt OER for their courses. When adopters strive to find a single OER that perfectly replicates their previously assigned material, they may be doing so try to reduce student confusion over having more than one assigned course material, as well as to (quite reasonably) reduce the amount of work the faculty member will need to do to knit dissimilar materials together within their course. Now, we can point to how students are interpreting course materials assigned through an LMS to show that neither of these struggles need to be so pressing. Students do not seem to experience confusion about having readings assigned from multiple materials – provided, of course, that the readings are all easy for them to access both in terms of logistically finding and navigating within the materials and of whether they had to purchase access. And instructors may not need to knit together materials from various sources and smooth over the connections – in fact, not doing so may provide more opportunities for discussion about where these materials come from, who wrote them, how and why their perspectives, approaches, language, etc. are different, and what that says about the information they present.

This final point has led us to an important recommendation – that, whenever possible, OER adoption projects must work closely with instructional designers as they support their adopting faculty. Having instructional designers involved could help ensure that faculty have a knowledgeable partner to turn to when it comes to integrating their chosen OER into their courses. We have identified a number of researchers exploring this area already (Ren, 2019; Smith & Lee, 2017; Morgan, 2019; Katz & Van Allen 2020; and Piña & Moran, 2018) and we strongly encourage our peers in this field to add these experts as partners in their work with OER.

## *Next Steps*

The most interesting takeaway from these results, for us, is the idea of "just one textbook." We find this fascinating and hope to explore further to understand what implications this has, especially in terms of best practices for organizing assigned course materials in an LMS in ways that will encourage maximum student engagement. We are also interested in looking at what this can tell us about how OER should be designed to be most easily integrated into an LMS, and what strategies should be used when they cannot be directly embedded and must be linked to instead.

In future, we also hope to directly compare what format of materials students were assigned and what format they perceived those materials to be in. Being able to clearly compare what students were

actually assigned, from an instructor's or librarian's perspective, with how the students perceived those materials would give us greater insight into the differences between how these two groups think about course materials and, by extension, OER.

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## Conflict of Interest Statement

We have no conflicts of interest to declare in relation to this research project.

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## *Appendix*

**Appendix A:** Students' Responses and Coded Responses to Survey Questions 17, 9, 10, 11, 15, and 16

**Table A1**

*Question 17 – Factors ranked by importance*

| # | Factor to be ranked |
|---|---|
| **1** | The format the materials are available in. (Please consider if you can access a print or digital copy as needed, if you can access it on your phone/mobile device, etc.) |
| **2** | How much the materials cost. (Please consider that the possible cost may include many various purchasing, rental, or subscription options.) |
| **3** | How easy it is to access the materials. (Please consider this in terms of your normal, daily access to the materials in print or online, via services like Canvas or the publisher's website.) |
| **4** | What you can legally do with the materials once you have them. (Please consider options such as selling the materials back, sharing them with friends, keeping them permanently, etc.) |
| **5** | What extra or additional features the material includes to help with your learning. (Please consider features such as banks of homework problems or test questions, practice tests, or self-grading homework or quizzes.) |
| **6** | How your privacy is protected when you access/use the materials. (Please consider whether or not the materials require you to submit homework, assignments, or quizzes through a third-party service (such as Canvas, Cengage, MindTap, WebAssign, etc.) instead of directly to your professor.) |
| **7** | How accessible the materials are for general or specific disability needs. (Please consider if the materials can be used with a screen-reader, can be understood without access to visuals/sound, can be accessed in print or digital formats, or any other specific concerns you may be aware of.) |

**Table A2**

*Question 10 - Chart of code descriptions as applied to open-text responses*

| Theme | Explanation of coding to theme |
|---|---|
|  |  |

| **Comparison to other courses' materials or other assigned materials** | Responses coded to this theme evaluated the ease of accessing the course materials in comparison to ways they have or have not liked accessing course materials in other courses. |
|---|---|
| **Ability to access materials in a timely fashion** | Responses coded to this theme mentioned the importance of "day one" or immediate access to course materials – often specifically mentioning concerns such as books selling out too quickly at the bookstore, global shipping delays, etc. |
| **Ease of accessing and/or finding the materials** | Responses coded to this theme mentioned whether or not the materials themselves were easy to access, easy to find, and/or easy to navigate. |
| **Cost of the materials** | Responses coded to this theme specifically mentioned the cost (or lack of cost) of purchasing a course material as a factor in how easy it is to access. |
| **Convenience of accessing digital materials** | Responses coded to this theme specifically discuss how having digital course materials impacts their ease of access for those materials, either positively or negatively. |
| **Specific challenges related to their materials or courses** | Responses coded to this theme mentioned negative aspects of materials of this kind in general – for example, that the student finds digital texts harder or more time-consuming to use in any course, or that switching to virtual/remote learning made all their courses harder for them. (These responses were generally not about the assigned course materials, or at least not explicitly so.) |
| **The "mode" of access they used** | Responses coded to this theme specifically mentioned some mode or method of access and how it made the materials either easier or more difficult to access. These modes and methods include having a physical version of the text; downloading or using a PDF of the materials; accessing the materials "online" or via a link or URL, with no context as to where that material is hosted; specifically accessing the materials online via the course LMS page (Canvas); specifically accessing the materials online via a non-LMS website, like the University Libraries' website, a third-party non-University website, etc. |
| **Perception of the nature of the materials** | Responses coded to this theme mentioned at least one of two different ways students seemed to be perceiving their course materials; namely, that they had "just one textbook" or "no course materials", regardless of how many separate course materials they were actually assigned. |

| How they used the materials as learning objects | Responses coded to this theme justified the students' thoughts on whether or not their materials were easy to access by discussing how useful the materials were as learning objects; specifically, if students used the materials, if the materials corresponded well to the course content, if students felt they could easily understand the information in the materials, and/or if students felt the materials were useful or helpful for their personal learning. |
|---|---|

## Table A3

*Question 11 – Student preferences on modes of access*

| *How do you prefer to access course materials, in general?* | *# of responses* |
|---|---|
| I prefer print | 16 of 188 |
| I prefer online | 77 of 188 |
| I prefer to have them available both in print and online | 56 of 188 |
| It doesn't matter | 37 of 188 |

## Table A4

*Question 15 – Format of course materials, "other" open-text responses*

| *Which best describes the format of your materials for this course? -- "Other" open-text responses (as written)* | one link |
|---|---|
| Lots of different online links | PRESENTATION SLIDES |
| online | Slides and readings on Canvas he takes them from the book for this course |
| PDF | Canvas |
| online | no material required |
| A website to do our homework on | none |

## Table A5

*Question 16 – Preferred format of course materials, "other" open-text responses*

| *In what format do you prefer your course materials to be, in general? --- "Other" open-text responses (as written)* | PRESENTATION SLIDES |
|---|---|
| online | slides, the way he does it now is perfect |
| I don't care | Canvas |
| online | I don't mind them all |

## Full list of survey questions

The full survey is available for download from our GoogleDrive folder at
https://drive.google.com/drive/folders/1nLlwfdAsBupzdsll24kLk6468YuWG79B?usp=sharing.