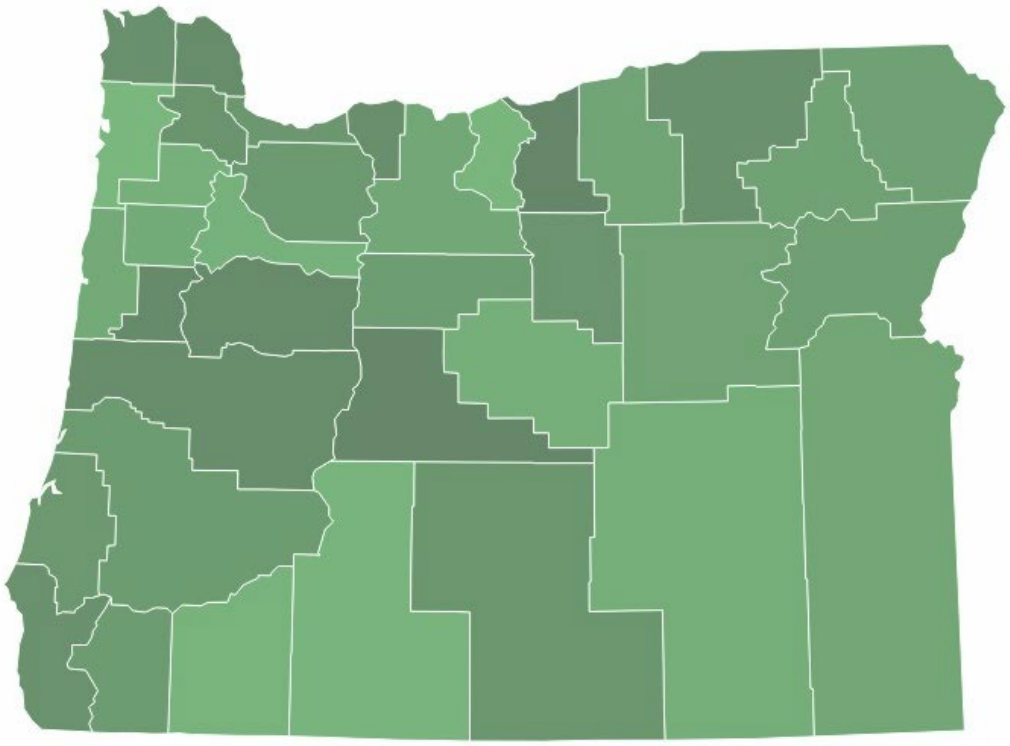
Evaluating Oregon's Open Educational Resources Designation Requirement

A REPORT FOR THE HIGHER EDUCATION COORDINATING COMMISSION

JUNE 2018



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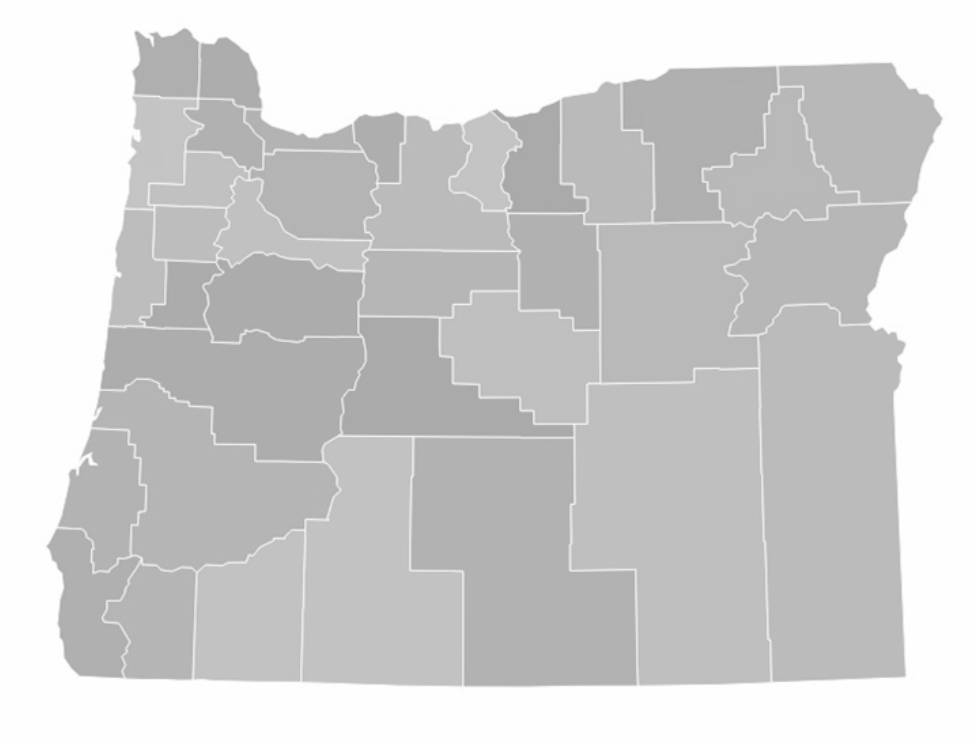

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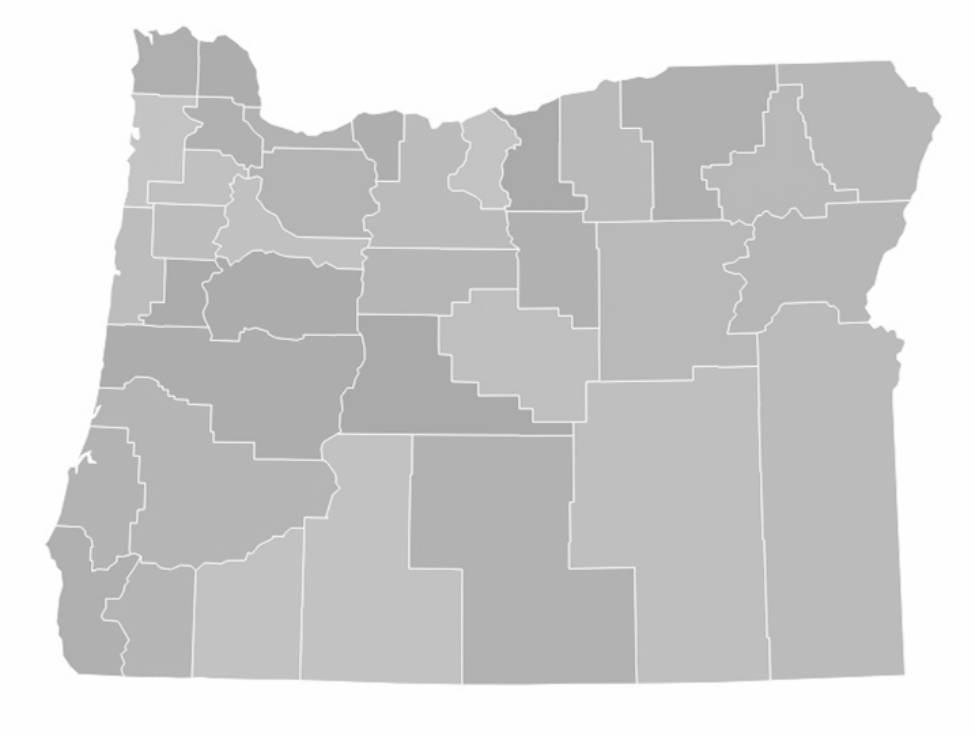
Executive Summary



Section 1

IN THIS SECTION:

- Summary of Key Findings
- Recommendations

Evaluating Oregon's Open Educational Resources (OER) & No-cost/Low-cost Designation Requirement

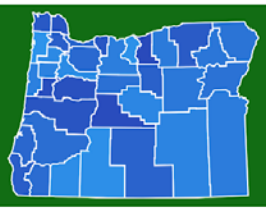
Executive Summary

This research was conducted to assess the effectiveness of the methods that Oregon community colleges and public universities use to designate courses that use no-cost and low-cost textbooks or course materials in response to the requirements set forth in House Bill 2871 (2015).

Summary of Key Findings

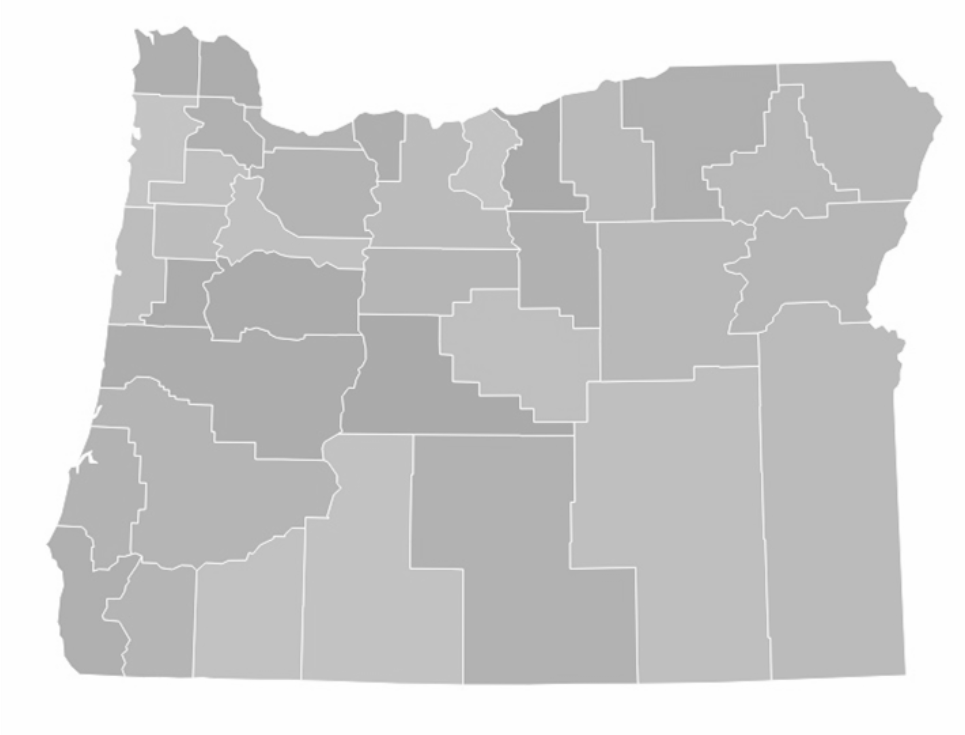
- Varying designation methods within and across institutions make finding OER/no-cost/low-cost courses difficult for students
- Many college students surveyed have been affected academically or have made a decision about a course due to the cost of required textbooks
- The majority of students surveyed are unaware of what the abbreviation "OER" means
- Community colleges have implemented more designations than public universities, and their students are generally more aware of no-cost or low-cost resources at their institutions
- Students primarily learn about no-cost/low-cost course materials from their instructors, but not early enough to influence their course selection at the time of registration
- Overall, most students don't know where to find no-cost and low-cost courses
- Students would like to see designations everywhere that they look for courses and course materials, including in person at the campus bookstore

Recommendations



- Use a simple icon or phrase that is easily understood (NOT OER!)
- Consistently designate no-cost/low-cost courses everywhere students search for classes and course materials, including at the bookstore
- Post required materials lists earlier, in time for registration
- Consider adopting a uniform designation or icon across all 24 institutions

Report



Section 2

IN THIS SECTION:

- Background
- Review of Literature
- Methodology
- Key Findings
- Study Limitations
- Recommendations and Future Research

Background

The Higher Education Coordinating Commission (HECC) is the Oregon state entity "responsible for ensuring pathways to higher educational success for Oregonians statewide" (HECC, 2018a). HECC convenes the 24 public higher education institutions in Oregon and works closely with the governor, state legislature, Oregon Department of Education, and other state agencies concerned with higher education and workforce development (HECC, 2018a).

Oregon House Bill 2871 (2015) and House Bill 2729 (2017), which passed with bipartisan support, were intended to provide students and faculty with access to Open Educational Resources (OER) in order to lower the cost of textbooks for students. As defined in HB 2871, Open Educational Resources (OER) refers to "teaching, learning and research [that] reside[s] in the public domain or that have been released under an intellectual property license that permits their free use and repurposing by others."

Textbook affordability is a significant issue nationally, particularly as it pertains to overall affordability and access to higher education. HB 2871 provided $700,000 in funding with a focus on developing OERs. According to the 2015 bill analysis, students were expected to save approximately $2 million (HECC, 2018b). The Oregon legislature requires HECC to evaluate the state and institutional investments related to HB 2871 (2015) and to "assist and advise faculty at public universities and community colleges on the adoption, implementation and storage" of OER materials (HB 2729, 2017).

The 2015 bill requires all of the 17 Oregon community colleges and 7 public universities to "prominently designate courses whose course materials exclusively consist of open or free textbooks or other low-cost or no-cost course materials...in the published course descriptions that are on the Internet or are otherwise provided to students at the time of course registration, including on the campus bookstore course materials list that is provided for the course." The method of designation is at the discretion of each institution.

HB 2871 (2015)

Requires community colleges and public universities to "prominently designate courses whose course materials exclusively consist of… low-cost or no-cost course materials"

This research is intended to assist HECC in evaluating the effectiveness of the implemented forms of course designation at Oregon community colleges and public universities and to aid HECC in making recommendations to Oregon higher education institutions regarding best practices for OER or low-cost/no-cost designation.

Review of Literature

The vision of Open Educational Resources (OER) began in 2002 during the United Nations Educational Scientific and Cultural Organisation (UNESCO) Forum on the Impact of Open Courseware for Higher Education in Developing Countries (Hilton, 2016). It was at this forum that OER were defined as "the open provision of educational resources, enabled by information and communication technologies, for consultation, use and adoption by a community of users for non-commercial purposes" (UNESCO, 2002, p.24). The use of OER has increased since 2002, with many states exploring how OER can be further implemented in American college systems.

OERs are often thought of as online or digital resources but they are not exclusively digital. According to Seaman and Seaman, "Faculty continue to report that their students prefer printed materials", so organizations like OpenStax (a nonprofit OER publisher) provide printed nicely formatted copies of OER materials in campus bookstores in addition to the free digital version (2017). Locally, Chemeketa Community College and Oregon State University have initiatives to provide printed copies of open source textbooks at low costs, as well as interactive learning modules and free online courses available to the public. See appendix B for more information about the Chemeketa Press and Open Oregon State initiatives.

Despite 16 years of progress, several studies have shown a lack of knowledge about OER. In 2012, Morris-Babb and Henderson surveyed 2,707 faculty members and administrators of colleges and universities in Florida and found that "only 7% of that group were 'very familiar" with open access textbooks, while 52% were 'not at all familiar' with open access textbooks" (p. 151). Allen and Seaman conducted a nationally representative survey of 2,144 faculty members in the United States and found that only 34% of respondents were aware of OER (Hilton, 2016; Allen & Seaman, 2014). Other research has focused on the efficiency of OER based on learning outcomes (Lovett et al., 2008; Bowen et al., 2012; Hilton & Laman, 2012) and the need for such resources (Chadwick & Fisher, 2016; Wiley et al., 2012).

Efforts are being put forth to bring OER into use on college campuses, and yet people still do not show an awareness of them. This begs the question: what is not working toward this effort? The authors of this study wanted to answer that question by looking at how OER and other no-cost/low-cost courses are designated or marketed on college campuses.

With the lack of research in this area, the authors focused their literature review on related subtopics: technology in education and the buying behavior of students.

Technology and Education

Assessing student opinions of technology is paramount to the OER conversation. Free or low-cost digital textbooks may be more difficult to implement in the educational landscape if students are not open to accessing their reading materials online. Several studies point to the increased openness of students to accessing their reading materials using various modes of technology. A study at the University of Notre Dame found that when given an iPad, the majority of students did 100 percent of their reading on the device (Angst & Malinowski, 2010 cited in Selby et al., 2014). Only a few students preferred to use their laptop or paper forms (Angst & Malinowski, 2010 cited in Selby et al., 2014). Marmarelli and Ringle at Reed College found that the utility and ease in which students could carry multiple texts added to the appeal of using the iPad (2010).

Martinez-Estrada et al., pointed out the price differentiation between traditional textbooks and Kindle versions of the same text on Amazon (2012). They note that a business text was being offered as a Kindle book for $23 while the new printed versions were being offered for $122 (2012). Three fourths of students in this study preferred the eBook version of their textbook to the printed version (Martinez-Estrada et al., 2012).

These results are higher than what the Pearson Foundation found just a year earlier (2011). They surveyed 1,214 university students and found that the majority (55%) preferred print textbooks to eBooks (2011). However, past surveys found that print textbooks were preferred by over 70%, showing that the preference for eBooks is gradually increasing (Reynolds, 2011; Allen 2009 cited in Selby et al., 2014). This is further reinforced by an additional finding from the Pearson Foundation, which notes, "The majority of university students studied believed that tablet computers will transform education in the near future and 48% believe that tablets will replace textbooks in the five years" (Pearson Foundation 2011; Selby et al., 2014 p. 143).

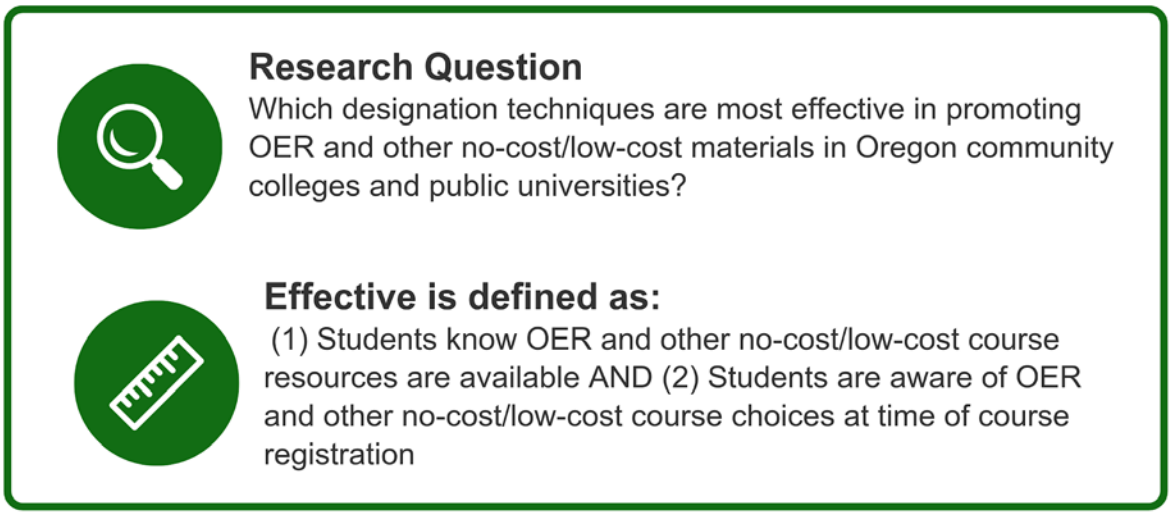
The Buying Behavior of Students

Selby et al., assessed the textbook buying behaviors of freshman and juniors at Michigan State University (2014). Their findings indicated that "students are willing to rapidly change" (Selby et al., 2014, p. 154). The juniors were more likely to search out alternatives to the bookstores used as freshman two years earlier, indicating the textbook market is prone to rapid change as students search out new ways of buying their material (2014). Selby et al. found that students across majors had an equal preference for eReaders and the introduction of more eTextbooks would cause similar rates of changes to the textbook market (2014). This finding could indicate students' desire to consistently try out new options in hopes of saving money on class materials.

Foucault et al., added another dimension to a student's search for alternatives to campus bookstores (2002). Looking at data from 156 students, variables such as professor support and knowledge of online retailers were all predictors of online textbook purchasing (Foucault et al., 2002). These studies could indicate that students are already open to using alternative methods of shopping and accessing reading material and that professors knowledgeable of OER resources and where to access them would be vital in supporting students willingness to try OER.

Methodology

This research study was conducted to determine the effectiveness of different methods that designate OER and other no-cost and low-cost courses in online schedules and other locations where students access this information. For the purpose of this research, effective is defined as: (1) Students know OER and other no-cost/low-cost resources are available AND (2) Students are aware of OER and other no-cost/low-cost course choices at time of course registration. This unique research enabled the authors to determine how designations are currently being implemented; how the methods affect student awareness regarding availability of OER and no-cost/low-cost courses; and which methods are most effective in designating OER and other no cost/low cost courses for students.



The components of this research included: an inventory of designations on all Oregon community college and public universities websites; an online survey of all community college and public university students; and group interviews conducted at Portland Community College (PCC) and Oregon State University (OSU).

Inventory

An inventory of all 17 community colleges and 7 public university websites was conducted to assess availability of OER and other no-cost or low-cost course designations on online course schedules and on bookstores websites during winter term. The inventory was conducted by the authors, 4 graduate student researchers, who were acting as a proxy for current students. The authors did not have access to student registration portals (as current students would), so administrators at each institution were requested to provide designation examples available to students with login access The administrators were also asked to verify the findings of the authors' inventory. See Appendix D for inventory table.

Survey

On behalf of the research group, HECC requested that the administrations at all 17 community colleges and 7 public universities in Oregon distribute an online survey to all

students at their institutions. The estimated time to complete the survey was 12 minutes. To boost response rates, student participants over the age of 18 were offered the opportunity to enter a drawing to win one of four $25 dollar Amazon gift cards. All 7 universities, and 15 of the 17 community colleges administered the survey to their students and sent one reminder email to encourage survey participation. The authors requested that the survey invitation be sent on the first day of spring term. The majority of institutions distributed the survey on the first Monday of spring term, with some sending the invitation during the previous week, spring break. Survey delivery method varied by school. See Appendix E for responses by institution.

Group Interviews

Two group interviews were conducted, one at Oregon State University (OSU) and one at the Portland Community College (PCC) Sylvania campus, during spring term, to gather more detailed responses from students regarding course designations and understanding of OER and other no-cost/low-cost courses at their institution. Survey participants were invited to participate in group interviews through the survey tool and additional participants were sought using email invitation. Food and drink were provided to group interview participants as advertised in the recruitment email. Five students from PCC and two students from OSU participated in the interviews.

Key Findings

Inventory Findings

Oregon legislation requires community colleges and public universities to "prominently designate courses whose course materials exclusively consist of open or free textbooks or other low-cost or no-cost course materials...in the published course descriptions that are on the Internet or are otherwise provided to students at the time of course registration, including on the campus bookstore course materials list that is provided for the course" (HB 2871).

Through the inventory, the authors found varying methods of designation implementation within and across institutions (See Appendix D). Designations were often inconsistent when moving from a web page on an institutional website to another page within the same institution. For example, a designation might exist on the course search results page, but not on the course description page (i.e. once one clicks on the designated course), making the low-cost or no-cost opportunity easy to miss or confusing. Similarly, some institutions had a designation only on the course description page, but not on the search results page, which would require a student to open each course description to check for low-cost or no-cost status, rather than quickly see which courses matching their search criteria were courses with no-cost/low-cost materials. Because students ultimately register for a particular section of a course (if more than one exists), a designation on the specific section that offers no-cost/low-cost course materials is also important. In some cases, the designation was not consistently defined in all locations where it appeared, which would require a student to seek the legend on another web page.

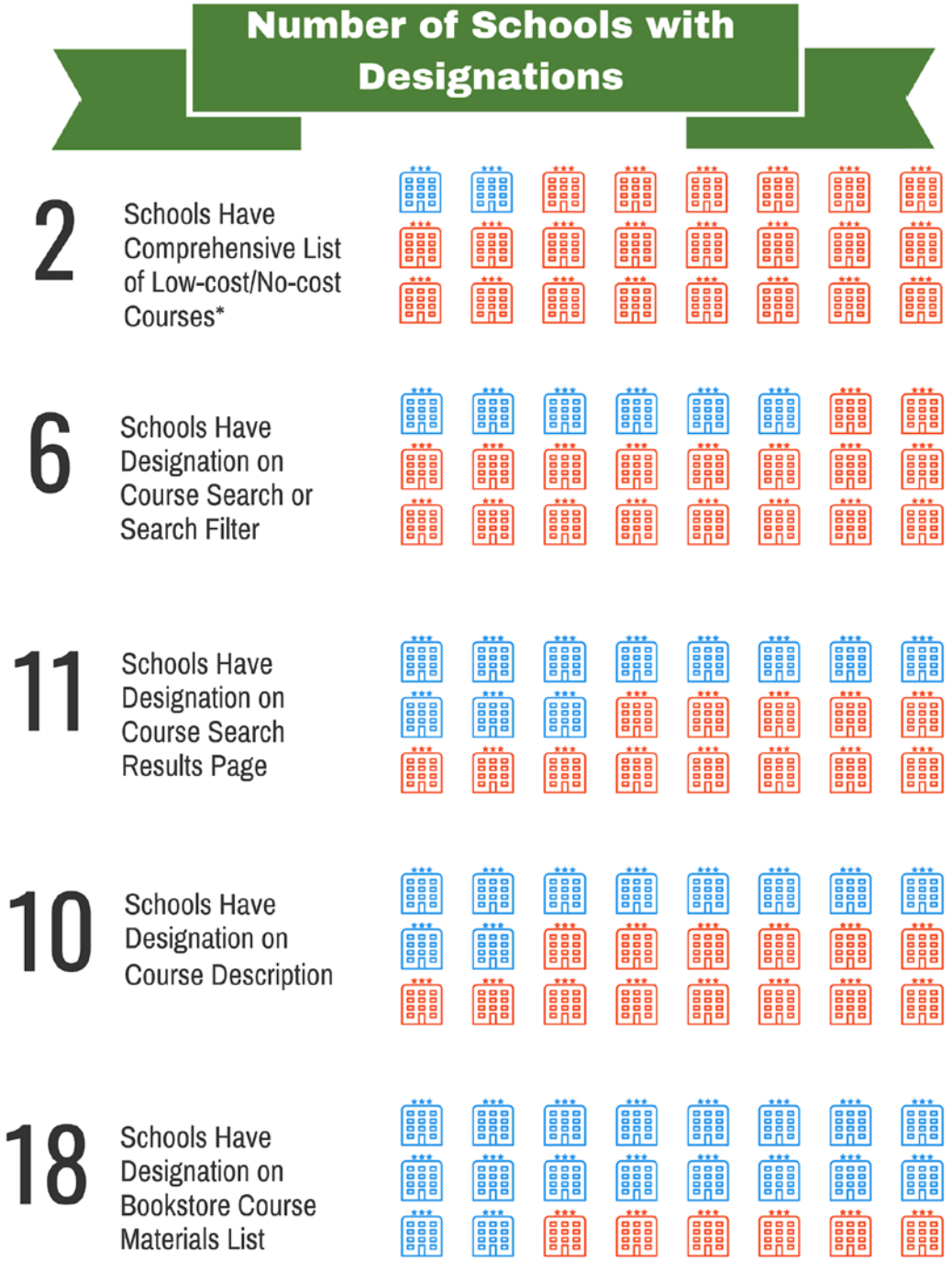
The authors asked the institutional contacts at each of the 24 institutions to confirm the findings of their inventory (See Appendix D). This revealed some discrepancies between the designations that the authors were able to locate and the designations that institutions had implemented. This discrepancy suggests that even when a student is actively looking for low-cost or no-cost designations (as demonstrated by the authors, acting as student proxies), they can be difficult to find.

Overall, community colleges have implemented more designation methods than universities. The responses from institutions following the author inventory suggest that designations are being implemented at institutions in an ongoing manner, with some new designations added in spring term, and other designations anticipated for fall 2018 and beyond.

In order to assess whether any of the designation methods are more effective than others (e.g. comprehensive list vs. search filter), the authors ran a logistic regression using the inventory results (as of winter term) combined with survey results from Question 7 ("How aware are you of Open Educational Resources (OER) or no-cost/low-cost textbooks or materials available at your institution?). The results of this analysis indicate that having a comprehensive list of no-cost/low-cost courses increases the odds of student awareness by a factor of 1.5. Students that attend a community college are also more likely to know about no-cost/low-cost courses. Students that qualify for work study or grants were also more

likely to know about no-cost/low-cost resources at their institutions. See Appendix G for the logistic regression.

Figure 1. Institutions with No-Cost/Low-Cost Designations



Notes: Each building represents one higher education institution. Blue indicates the numbers of institutions that had adopted the designation as described in the text as of Winter Term 2018.
* A comprehensive list increases the odds of student awareness by a factor of 1.5.

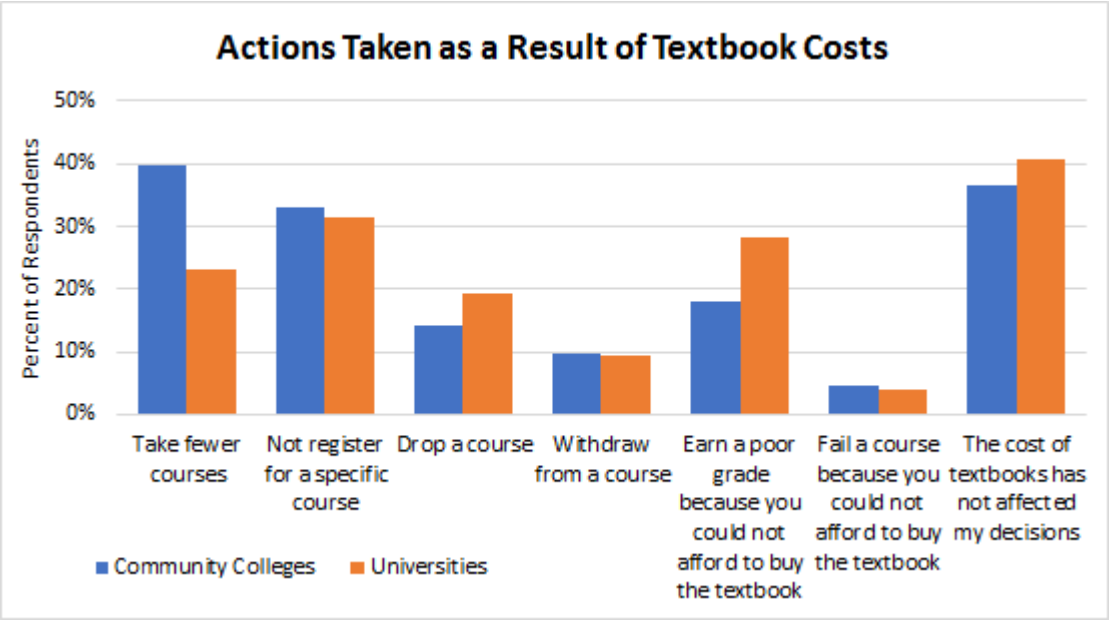
Impact Regarding the Cost of Textbooks

A 2016 survey of Florida students found that 20 to 60 percent of students were affected in some way by the cost of textbooks (Florida Virtual Campus, 2016). In acknowledgment of the importance of how the cost of textbooks are affecting student behaviors and how this change in behavior may increase the time to completion for a degree, this question was included in the Oregon survey. See Table 3 and 4 and Figure 1 Appendix E for comparison of Florida vs. Oregon student responses.

In the Oregon student survey, more than 59 percent of college students have been affected academically or have made a decision about a course due to the cost of required textbooks.

University students were more likely (28%) than community college students (18%) to report earning a poor grade because they could not afford to buy the textbook. Community college students were more likely (40%) than university students (23%) to take fewer courses. The cost of textbooks had no effect on academic decisions for less than 41 percent of students.

Figure 2. Student Impact Regarding the Cost of Textbooks
In your academic career, has the cost of required textbooks caused you to:* (Q4)



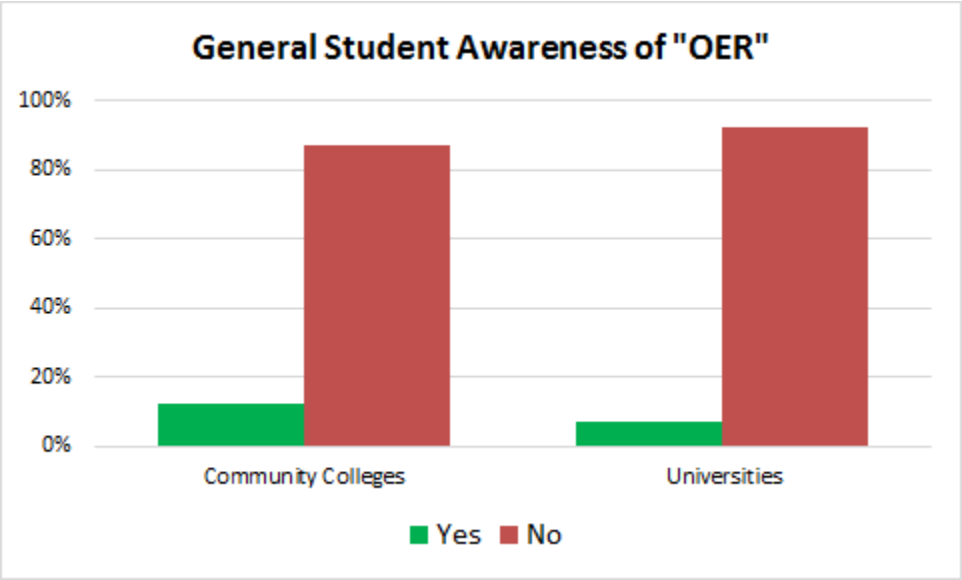
Notes: Total Respondents: Community Colleges (5851), Universities (2658). Respondents had the opportunity to select more than one option.
*Some variables showed statistically significant differences between community college and university respondents. See Appendix E for chi-square analysis.

Student Awareness of Meaning of "OER"

An overwhelming majority of survey respondents at community colleges and universities were not aware of the meaning of "OER" prior to taking this survey. See figure below and Table 6 in Appendix E.

This information is particularly important, as some institutions currently use the abbreviation "OER" when designating courses with low-cost or no-cost materials, without providing a definition of the term.

Figure 3. General Student Awareness of "OER"
Prior to taking this survey, were you aware of what the acronym OER meant?* (Q6)



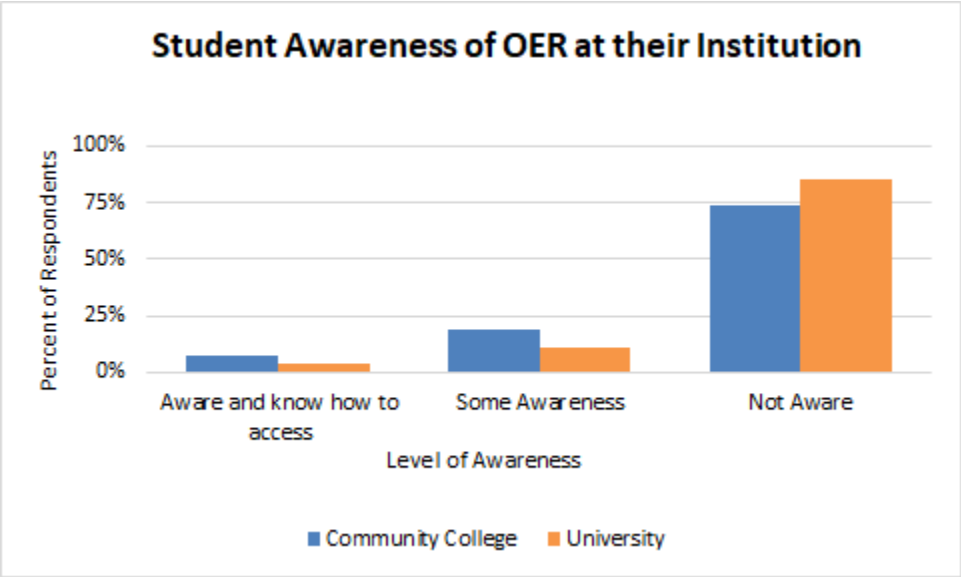
*There were statistically significant differences between Community College and University responses to this question. See Appendix E for chi-square analysis.

Student Awareness of Availability of Open Educational Resources (OER)
In addition to a lack of awareness regarding the abbreviation "OER", the majority of survey respondents were also not aware of OER or other low-cost/no cost materials available at their institution. See Figure 4.

Oregon community colleges and universities that had implemented designations at the time of the survey are reflected through the institutional designation inventory in Appendix D. While this inventory revealed that many institutions have implemented more than one designation method, these survey responses suggest that students remain largely unaware of the resources at their institutions. See Appendix E.

Community college students were slightly more aware of these no-cost/low-cost resources, but of those respondents, only seven percent knew how to access them.

Figure 4. Student Awareness of Available OER or No-Cost/Low-Cost Resources
How aware are you of Open Educational Resources (OER) or no-cost/low-cost textbooks or materials available at your institution?* (Q7)



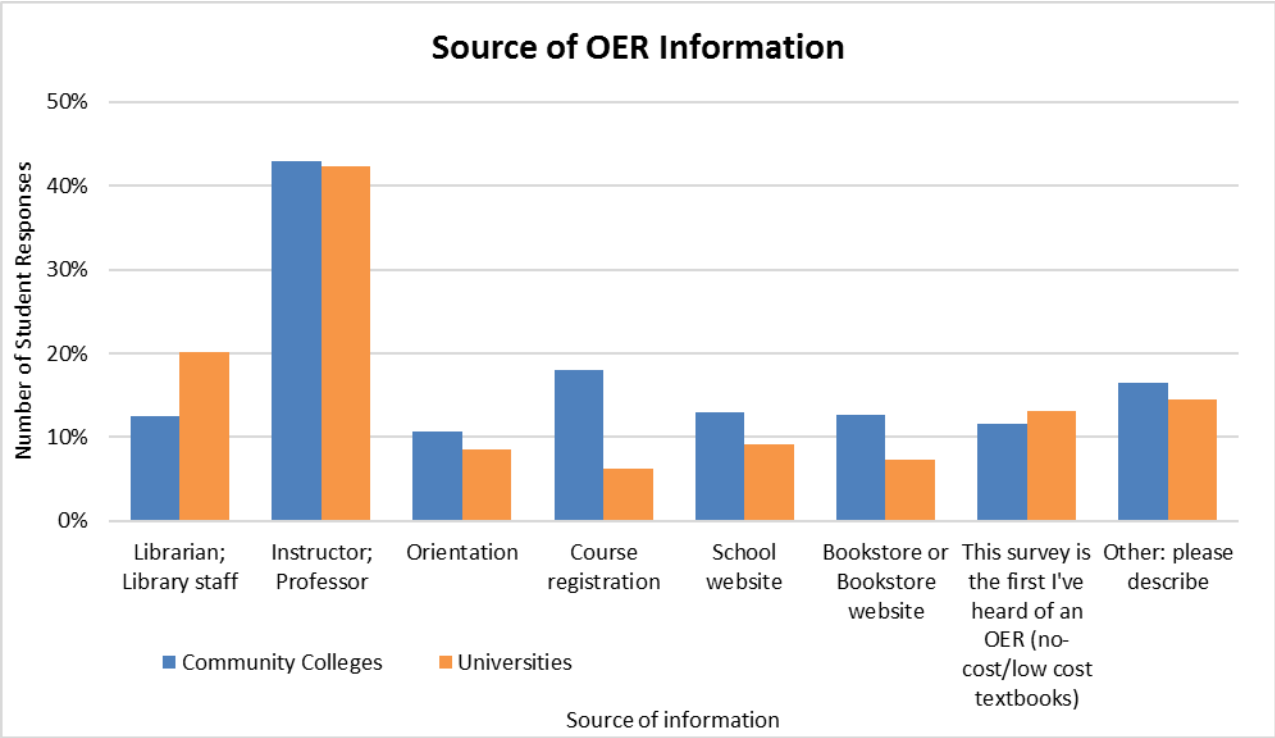
Notes: "Some awareness" combines the responses of two options, "I have heard of OER at my institution, but don't know much about them" and "I am aware of OER at my institution, but I am not sure how they can be accessed"
*There were statistically significant differences between community college and university responses to this question. See Appendix E for chi-square analysis.

Source of Student Knowledge of Open Educational Resources (OER)
Of the respondents that indicated some awareness of no-cost/low-cost resources, most learned about them through instructors or professors. Course registration was also a key source for community college students, and librarians/library staff were a key source for university students.

Students that participated in the group interviews shared that instructors frequently do not post their course materials list prior to the registration deadline, making it difficult for students to know how much the course materials are expected to cost, or to determine whether they can acquire a used or free copy of the required course materials prior to the start of the course.

Write-in responses to the option "Other" included students, friends, and other peers; advertisements and emails; various institutional staff; and advising/student services.

Figure 5. Source of OER Information
How did you learn about OER (no-cost/low-cost) materials available at your institution?* (Q8)



Notes: Only respondents that indicated some level of awareness of OERs (in Q7) were asked this question. Total Number of Respondents to Q8: Community College (n=1497), University (n=372)
*Some variables showed statistically significant differences between community college and university respondents. See Appendix E for chi-square analysis.

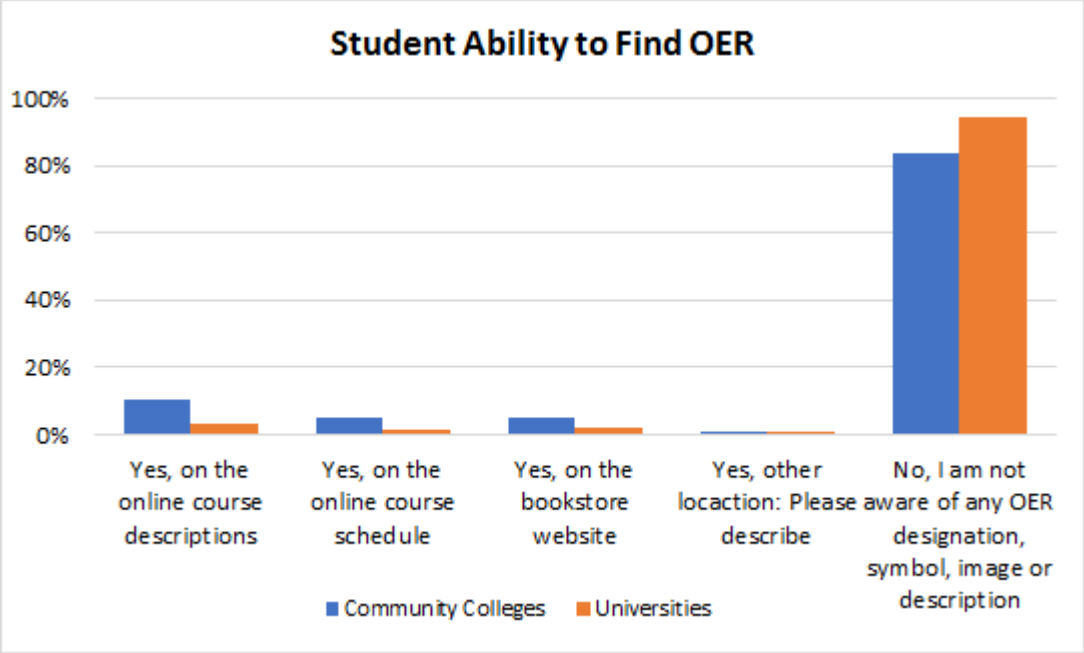
Students Ability to Find OER at their Institution

Overall the highest number of students answered, "No, I am not aware of any OER designation, symbol, image or description." The percentage of students who knew how to find courses that use no-cost/low-cost materials at their campus was very low. Just over 84 percent of community college students, and 94 percent of university students, reported no knowledge of how to find them. However, the percentage of students who knew how to find no-cost/low-cost courses at a community college was higher than those from universities.

Approximately ten percent of community college students find the no-cost/low-cost courses on the online course descriptions as opposed to approximately three percent of university students. This was the most common location for students to find OER or no-cost/low-cost courses. The next most common place was the online course schedule, with around five percent of community college respondents aware that these courses could be found there compared to about one percent of university students.

Figure 6. Ability to Find OER

Do you know how to find the courses at your institution that use OER (no-cost/low-cost) textbooks?* (Q11)



Notes: Total Number of Respondents= Community Colleges (5774), Universities (2625). Respondents had the opportunity to select more than one option.

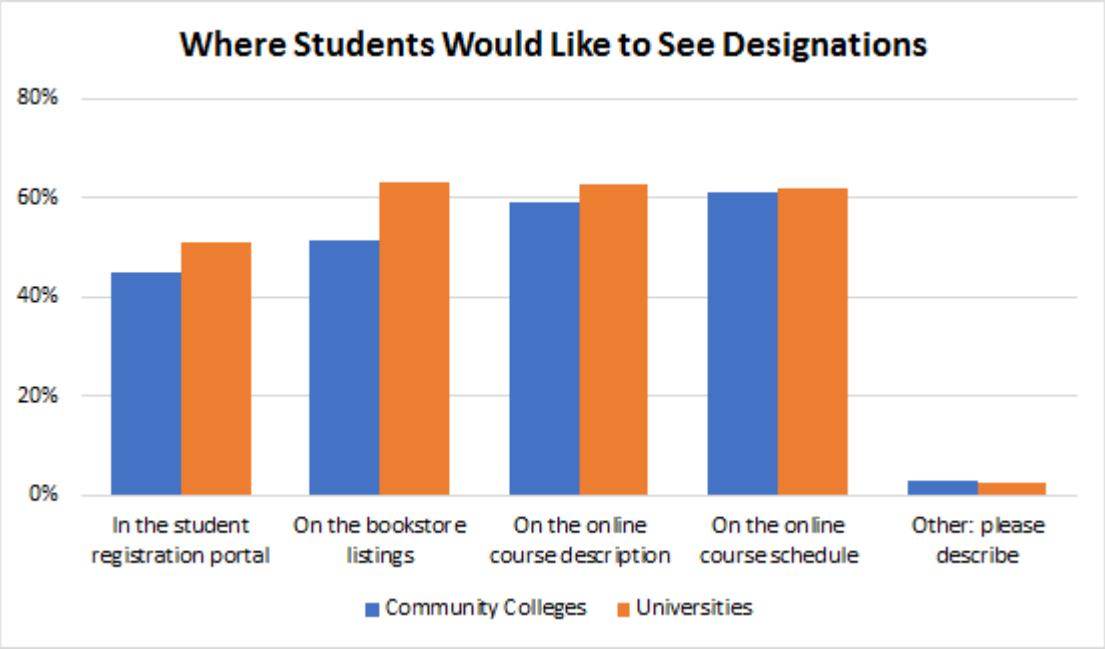
*There were statistically significant differences between community college and university responses to this question. See Appendix E for chi-square analysis.

Where Students Would Like to See Designations

Almost 62 percent of university and 61 percent of community college students would like to see the designation, symbol, or icon on the online course schedule. Slightly more university students (63%) than community college students (51%) would like to see the designation on the bookstore listing. The fairly even distribution of responses to each answer aligns with the primary theme observed in the "Other: please describe" responses; that students would like to see the OER or no-cost/low-cost designation "everywhere".

Of the 356 respondents that chose "Other: Please Describe," 32 percent want to see the designations everywhere, nine percent indicated they would like to find the information on the course syllabus, eight percent in the physical bookstore, six percent suggest general advertising such as fliers in classrooms/libraries, and in school newspapers. Another six percent would like to receive an email telling them about OERs.

Figure 7. Where Students Would Like to See Designations
Where would you LIKE TO SEE the designation, symbol, or icon of available OER (no-cost/low-cost materials) at your institution?* (Q12)



Notes: Total Respondents= Community Colleges (5758), Universities (2619). Respondents had the opportunity to select more than one option.
*Some variables showed statistically significant differences between community college and university respondents. See Appendix E for chi-square analysis.

Study Limitations

Survey

With a sample of approximately 10,000 students (nearly 8,600 when broken out by institution type), there is a likelihood that the results of this survey and analysis are generalizable to the student populations of public higher education institutions in Oregon. With a total Oregon higher education population of more than 380,000 students, the authors suspect that the survey response rate is somewhere between three to four percent, though the exact number cannot be determined due to unknown survey distribution population (HECC, 2017a, HECC, 2017b, HECC, 2017c, HECC, 2017d). See Appendix H for reported survey distribution numbers.

The survey was open to all recipients who received the anonymous link, which could have allowed students to respond to the survey more than once. Because of differing methods in survey distribution and time distributed, several institutions had very low or no responses. As seen in Appendix E, nine institutions had 54 responses or less.

As a non-random online survey, the authors acknowledge that results may have been affected by a non-response bias and self-selection bias. Parallel to what is found in the literature, more women than men responded to this survey, as seen in Figure 8 (Smith, 2008). See Appendix C for HECC and survey gender tables.

Figure 8. Survey Respondent Gender

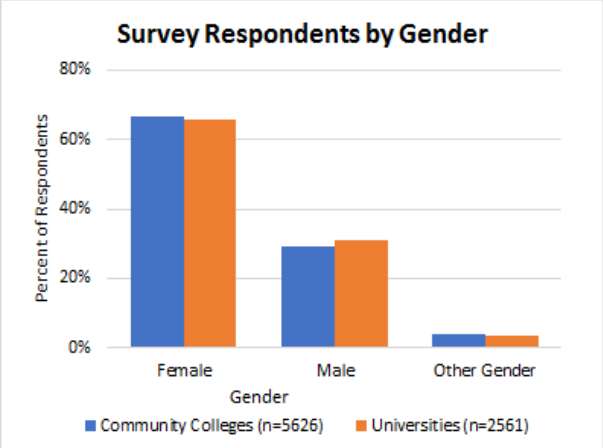
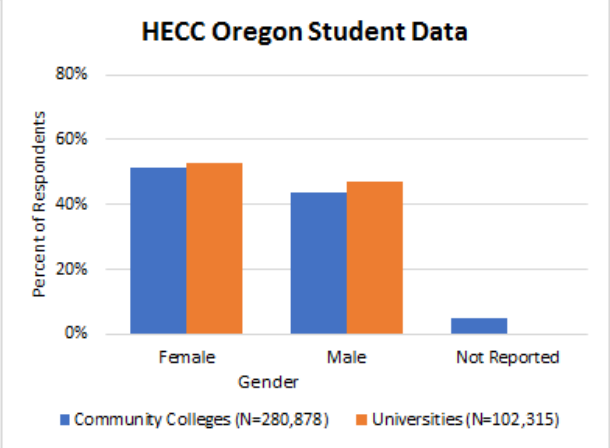


Figure 9. Oregon Student Data on Gender



In Oregon, the majority of community college students are below age 34 (60%) and most university students (66%) are between the age of 18-24 (HECC, 2017a; HECC, 2017c). In comparison, 68 percent of community college respondents to this survey were below age 30, and 75 percent of university student respondents fell within the 18-24 age range, so the younger student population is somewhat over represented. This survey did not include questions about race, so the representativeness of persons by race cannot be determined.

Figure 10. Oregon CC Student Age Data

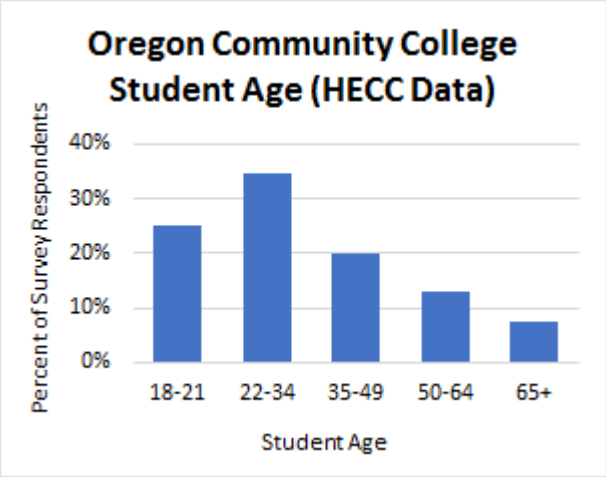


Figure 11. Oregon University Student Age Data

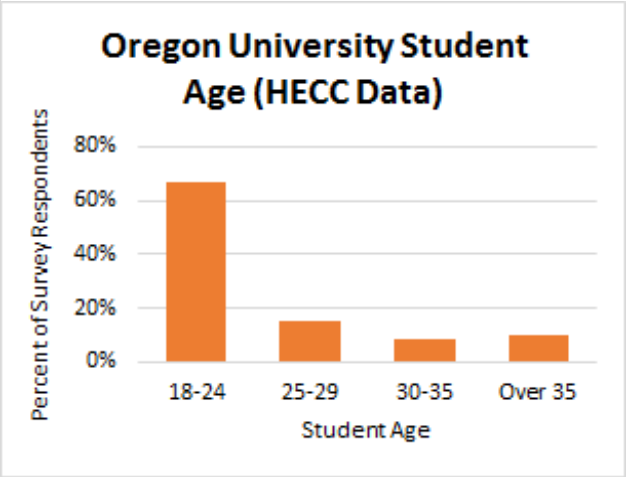
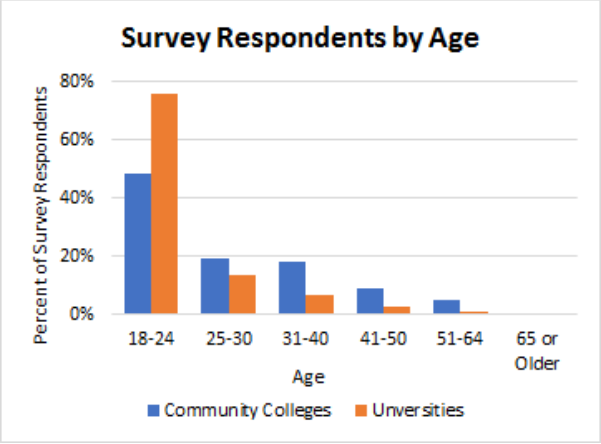


Figure 12. Survey Respondents by Age



Group Interviews

Group interview sample sizes were small due to time limitations and low student response to call for volunteers. The authors acknowledge that group interview results may have been affected by volunteer bias. Five out of seven group interview participants were male, five participants were between the ages of 18-24, and only two respondents qualified for financial aid such as work study or grants. Participants reported a variety of methods for paying for tuition or books not covered by financial aid, including personal savings, scholarship, student loans, SSI benefits, parents or family support and from money earned through employment. See Appendix E.

Inventory

The authors were unable to compare the effectiveness of individual institutional techniques (e.g. one institution's specific symbol, icon, or text) due to the limited number of survey responses from many of the institutions. The authors did not have access to student registration portals (as current students would) so administrators at each institution were

requested to provide designation examples available to students with login access. Not all institutions responded to this request. See Appendix D.

Recommendations and Future Research

Recommendations

Use a simple icon or phrase that is easily understood (NOT OER!)

Oregon OER legislation allows institutions to use "OER" as designation for OER and other no-cost/low-cost course materials. Inventory of designations implementation across institution found that some institutions use "OER" as a designation for OER and no-cost/low-cost courses without providing a definition of the term. With a low level of student awareness of the meaning of the term OER, using a simple icon or phrase to designate no-cost/low-cost materials would improve student ability to find and choose these courses.

Consistently designate no-cost/low-cost courses everywhere students search for classes and course materials, including at the bookstore

Students that participated in the survey and in group interviews shared a desire for OER/no-cost low-cost designations, that include both an easily identifiable icon and a short description, to be displayed in more than one location when searching for and registering for courses. Consistent designation across search platforms would likely improve student ability to identify and choose no-cost/low-cost courses.

Post required materials lists earlier, in time for registration

Most survey respondents who reported an awareness of no-cost/low-cost resources learned about them through their instructors. Some institutions do not require instructors to report OER courses prior to the registration deadline. This makes it difficult for students to choose courses based on no-cost/low-cost status prior to the first day of class or without emailing instructors. Student survey respondents and group interview participants reported that the timing of the availability of the course materials list is an important factor in selection of courses based on textbook costs, making posting of required materials prior to registration critical. Late course material reporting also limits bookstores' ability to post designations in a timely manner for students purchasing books.

Consider adopting a uniform designation or icon across all 24 institutions

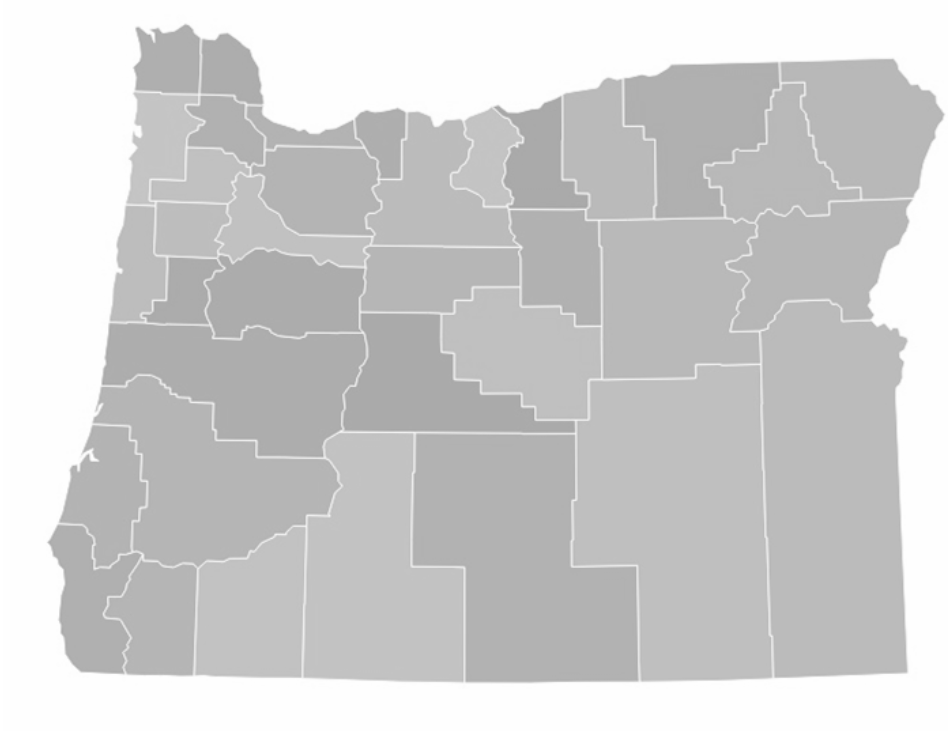
Currently, varying methods of designation and icons are used within and across each institution, which may contribute to the lack awareness by 74 percent of community college and 85 percent and university students of OER available at their institution. Uniform designations could contribute to an increased student awareness of OER and would make it easier for students moving between institutions (e.g. from a community college to a university) to find no-cost/low-cost courses.

Future Research

Conduct large, representative group interviews to determine best designation icon.
HECC could offer support to institutions by taking the lead on market research for best designation methods that all schools could adopt.

Conduct research to determine the best methods to encourage instructors to implement no-cost and low-cost materials in their courses.
Faculty knowledge of OER remains low, despite more than a decade of OER availability (Allen & Seaman, 2014; Hilton, 2016; Morris-Babb & Henderson, 2012). Previous national research found several barriers to adoption of OER by faculty, including: faculty found it difficult to find the needed OER resources; lack of resources for specific subjects; concern about updates of OER; and a concern about quality level of OER resources (Seaman & Seaman, 2017). Though many faculty have reservations about OER, nearly 90 percent of faculty also reported the cost of textbooks for the student as important in their selection decisions of required course materials (Seaman & Seaman, 2017). With most faculty expressing concern for student textbook costs, finding methods of encouragement, such as workshops, trainings, or stipends, would likely increase adoption of OER materials by faculty across institutions.

Appendices



IN THIS SECTION:

- Appendix A: Case Study (California)
- Appendix B: Current Efforts in Oregon
- Appendix C: General Survey and Group Interview Demographics
- Appendix D: Inventory of Designations
- Appendix E: Survey Results by Institution Type
- Appendix F: Group Interview Findings
- Appendix G: Logistic Regressions
- Appendix H: Survey Distribution Numbers by Institution

Appendix A: Case Study (California)

A brief review of California's OER implementation found that OER was mandated by the State of California through the passing of CA Senate Bill 1052 (2012) and the formation of the California Open Education Resources Council (CA-OERC) (CA SB 1052, 2012). The Senate Bill allocated 5 million dollars for the project, with the William and Flora Hewlett Foundation and the Gates Foundation matching another 5 million dollars (Intersegmental Committee of the Academic Senates, n.d.).

The council was tasked with several major responsibilities:

- Develop a list 50 courses to make into OERs
- Create a peer review for those OERs
- Promote strategies for production, access, and use
- Solicit advice from student associations
- Create a competitive proposal process for OER creators
- Produce a report for legislature about OER (2016)(CA SB 1052, 2012)

The courses that are highest priority are strategically-selected lower division courses. Little systematic guidance was found for implementing promotion strategies for production, access, and use. The 2016 progress report white paper found that "OER in general suffers from a lack of recognition, a lack that the CA-OERC spent a considerable amount of time attempting to overcome" and "rather than OER textbooks and materials needing further infrastructure, education about existing OER resources and materials needs to be widely distributed across colleges and universities" (California Open Educational Resources Council, 2016). No documentation regarding their attempts to overcome this issue was found. Much of California's efforts have been focused on an open access repository website.

A review of 4 California institutions, conducted by the authors, concluded that there is not a systematic and consistent designation technique for OERs across the state. Humboldt State University, University of California Los Angeles, College of the Redwoods, and Los Angeles City College were explored as a sample of California institutions. This review looked on the institutions' webpages for a comprehensive list of all available OER courses as well as for designation in four locations: course search page/filter, course search results, course description, and bookstore course materials list. No designations were found at UCLA or College of the Redwoods. HSU used a text note that said FREE, while LA City College employed a symbol of a book with a slash through a dollar sign and a note "This class uses free, online materials, also known as Open Educational Resources (OER). Contact the instructor for more information" to indicate OER books. HSU had a function to view only OER courses, and LA City College provided a search filter. The full results of this search can be seen below in Table 1.

Table 1. Case Study: California Icon Designations

	Comprehensive list of all available OER (No Cost/Low Cost) courses	Designation on course search pages (i.e. Search Filter)	Designation on the list of results from course search page	Designation on course description via Internet (when you click on the specific course)	Designation on campus bookstore course materials list (or bookstore website)
California Institutions					
College of the Redwoods	No	No	No	unknown	book info not available at this time
Los Angeles City College	Yes*	Yes	Yes	Yes	book info not available at this time
Humboldt State University	Yes*	Yes	yes	no**	book info not available at this time
UCLA	No	No	No	No	No ***

*By term
**No course description available
***Unable to access some of the bookstore website without a UCLA student log-in

Appendix B: Current Efforts in Oregon

Chemeketa Community College, Salem, Oregon

One notable low cost textbook model that the authors encountered while conducting the inventory of institutional designation implementation was based at Chemeketa Community College. Launched in 2015, Chemeketa Press produces various types of low cost textbooks and course materials for students attending Chemeketa Community College, including OER reprints, OER revisions, public domain material, press-funded originals (such as the The Chemeketa Handbook, a guide for college-level writing), and contracted original work authored by Chemeketa faculty (Lenox, 2018).

The press, whose mission is to create affordable textbooks for students, consists of 4 professional staff, as well as students who assist in editing, designing, and revising textbooks, either as part of their coursework, or as interns. The funds from textbook sales help to pay for press operational costs and new textbook development (Chemeketa Press, 2018). The press published 13 titles by 2016, and released 20 new titles in 2017 (Harris, G. 2017).

During the 2016-2017 academic year, students purchased approximately 7,000 books from the press, representing student savings of approximately $450,000, and $60,000 in revenue (Chemeketa Press, 2018). The press projected 2017-2018 sales to reach 11,000 books, representing student savings of more than $600,000, and profit of $100,000 (Chemeketa Press, 2018). The press has a goal of becoming fully self-funded by 2021.

Oregon State University, Corvallis, Oregon

Another Oregon institution that has been working to lower textbook costs for its students is Oregon State University (OSU). Formed in 2013, their OER initiative, Open Oregon State, aims to "to create online educational resources that can be accessed freely by students and teachers in digital media collections around the world" (Murphy, A. 2016). They partner with OSU Press and OSU Libraries and have over 28 published or forthcoming digital OER titles authored by OSU faculty (Open Oregon State, 2018a; Open Oregon State, 2018c). In addition to these free digital textbooks, Open Oregon State has also created numerous interactive learning modules and short courses that are online and open to the public (Open Oregon, 2018b).

Appendix C: General Survey and Group Interview Demographics

The total number of responses to the survey was more than 10,000. Survey respondents that did not select an institution were not included in the analysis when broken out by institution type. This reduced the analyzed responses to just over 8,000.

Survey Respondents as Compared to Oregon Student Data

In Oregon, the majority of community college students are below age 34 (60%) and most university students (66%) are between the age of 18-24 (HECC, 2017a; HECC, 2017c). In comparison, 68 percent of community college respondents to this survey were below age 30, and 75 percent of university student respondents fell within the 18-24 age range, so the younger student population is somewhat over represented. This is consistent with the literature, which suggests that younger people are more likely to respond to electronic surveys (Smith, 2008).

Table A. HECC Oregon Student Age Data and Capstone Survey Response by Age

HECC Data	Community Colleges (n=280,878)	HECC Data	Public Universities (n=102,315)	Capstone Survey Respondents	Community Colleges (n=5626)	Public Universities (n=2559)
18-21	24.95%	**18-24**	66.42%	**18-24**	48.35%	75.69%
22-34	34.66%	**25-29**	15.10%	**25-30**	19.32%	13.60%
35-49	19.83%	**30-35**	8.43%	**31-40**	18.01%	6.80%
50-64	13.06%	**Over 35**	10.05%	**41-50**	8.94%	2.62%
65+	7.50%	**Total**	100.00%	**51-64**	4.83%	1.13%
Total	100.00%			**65 or older**	0.55%	0.16%
				Total	100.00%	100.00%

Parallel to what is found in the literature, more women than men responded to this survey, as seen below in Table B (Smith, 2008).

Table B. HECC Oregon Student Gender Data and Capstone Survey Response by Gender

HECC Data	Community Colleges (N=280,878)	Public Universities (N=102,315)
Female	51.43%	53.00%
Male	43.74%	47.00%
Not Reported	4.82%	0.00%
Total	100.00%	100.00%

Capstone Survey Respondents (Q21)	Community Colleges (n=5626)	Public Universities (n=2561)
Female	66.64%	65.68%
Male	29.31%	31.00%
Other Gender	4.05%	3.32%
Total	100.00%	100.00%

Note: HECC unknown, not reported, and under 18 data removed. Students of unknown gender are evenly distributed between men and women in HECC data; also includes non-admitted enrollment.
Respondents could complete the survey without indicating their institution, which accounts for the difference between total respondents versus the overall total on some questions. The total number of respondents that consented to participate in the study (Q1, required) is 10,090.

Group Interview Demographics

There were a total of seven participants from Portland Community College and Oregon State University.

Table C. Group Interview Attendees

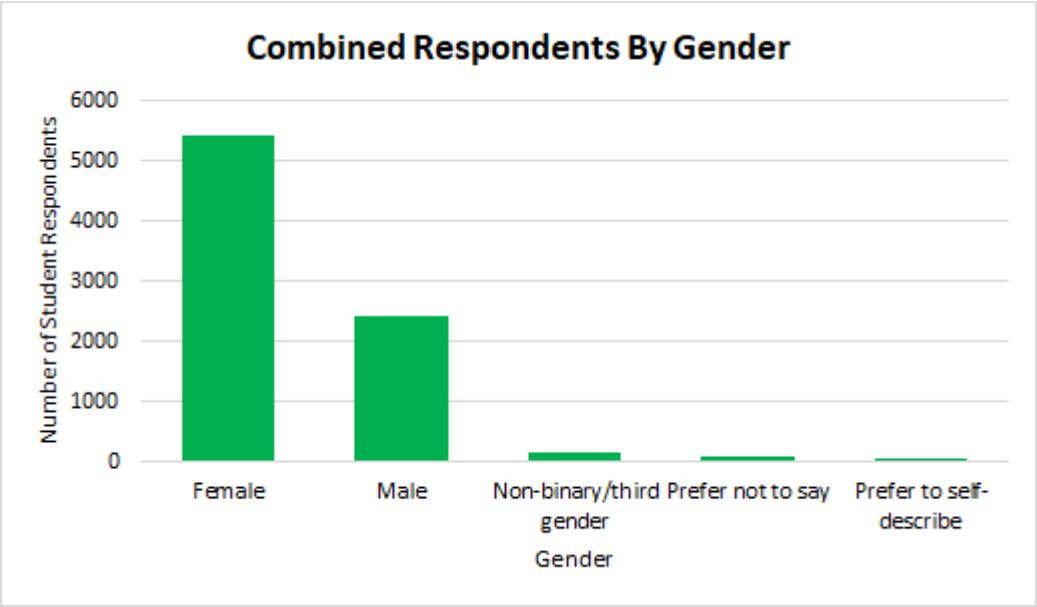
Gender	Age	Financial Aid	How participants pay for tuition/books not covered by aid
5 males	5 were 18-24	5 did not qualify for financial aid	2 receive parent/family support
2 females	1 was 25-30	1 qualified for work study	1 uses personal savings
	1 was 31-44	1 qualified for grants	1 uses student loans
			1 uses a scholarship
			1 uses other resources

General Characteristics of Survey Respondents

Respondents by Gender

Out of the approximately 8,000 survey respondents, nearly 5,500 were women. This aligns with the literature that states women respond at higher rates than men (Smith, 2008). Less than 2,500 men responded. Those who identified as non-binary and those who preferred not to say were less than 200 in each category.

Figure 1. Total Respondents by Gender
What gender do you most identify with? (Q21)

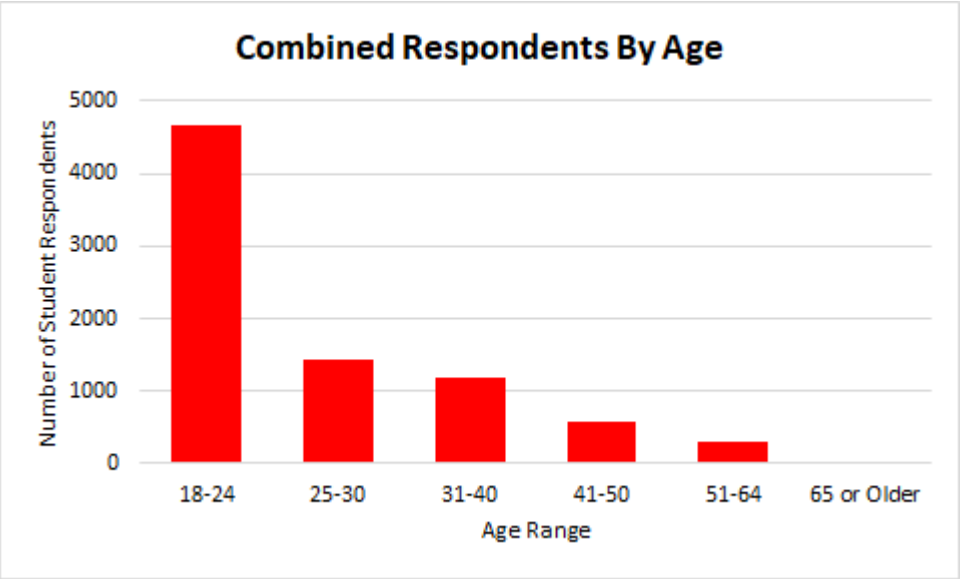


Note: Total Respondents Q21: community colleges & universities (8187).

Respondents by Age

The majority of respondents to the survey were between ages 18 and 24, totaling approximately 4,500. The next largest category were those between the ages of 25 and 30, totaling approximately 1,500. The smallest category was students aged 65 or older, only 35 survey respondents fell into this age range.

Figure 2. Total Respondents by Age
Which range below includes your age? (Q22)

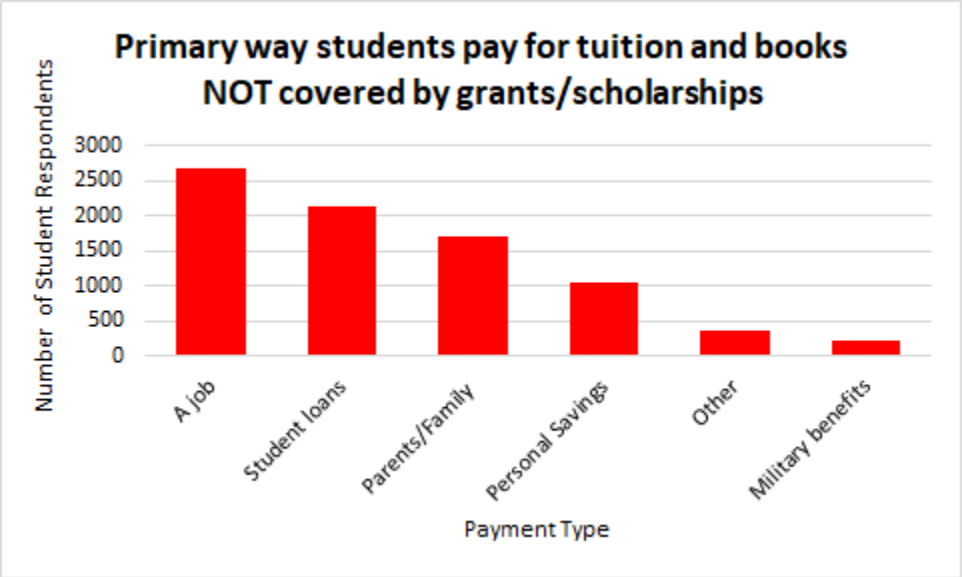


Note: Total Respondents Q22: community colleges & universities (8185).

Respondents by Payment Type

The majority of survey respondents (2,680) paid for tuition and books not covered by financial aid from job earnings. The next highest category of respondents, totaling 2,135, use student loans to pay tuition balances and book costs. Parent/Family member support is the third highest category (1,703). The top three categories illustrate the burden that both students and their families endure paying for tuition and books.

Figure 3. How Respondents Pay for Tuition and Books Not Covered by Aid
What is the primary way you pay for tuition and books NOT covered by grants/scholarships? (Q26)

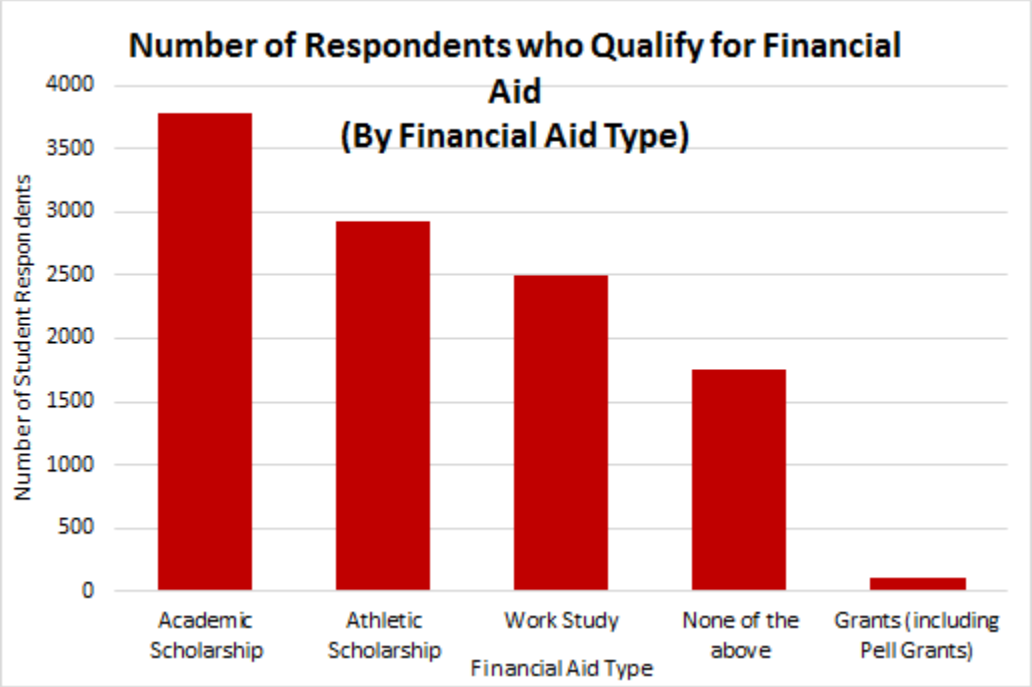


Note: Total Respondents Q26: community colleges & universities (8159).

Respondents by Financial Aid

The majority of survey respondents qualified for grants. For the purpose of this study, qualifying for work study and grants was used as a proxy indicator for socioeconomic status. Over 2,500 respondents qualified for some sort of income-based financial aid. Approximately 2,000 respondents did not qualify for any sort of aid, and those qualifying for academic scholarships totaled over 3,700.

Figure 4. Total Respondents by Financial Aid
Do you qualify for any of the following? (Q25)



Note: Total Respondents Q25: community colleges & universities (8066).

Appendix D: Inventory of Designations

Inventory Findings – *Key Finding*
Oregon legislation requires community colleges and public universities to "prominently designate courses whose course materials exclusively consist of open or free textbooks or other low-cost or no-cost course materials...in the published course descriptions that are on the Internet or are otherwise provided to students at the time of course registration, including on the campus bookstore course materials list that is provided for the course" (HB 2871).

Through the inventory, the authors found varying methods of designation implementation within and across institutions. See Table 1. Designations were often inconsistent when moving from a web page on an institutional website to another page within the same institution. For example, a designation might exist on the course search results page, but not on the course description page (i.e. once one clicks on the designated course), making the low-cost or no-cost opportunity easy to miss or confusing. Similarly, some institutions had a designation only on the course description page, but not on the search results page, which would require a student to open each course description to check for low-cost or no-cost status, rather than quickly see which courses matching their search criteria were courses with no-cost/low-cost materials. Because students ultimately register for a particular section of a course (if more than one exists), a designation on the specific section that offers no-cost/low-cost course materials is also important. In some cases, the designation was not consistently defined in all locations where it appeared, which would require a student to seek the legend on another web page.

The authors asked the institutional contacts at each of the 24 institutions to confirm the findings of their inventory. This revealed some discrepancies between the designations that the authors were able to locate and the designations that institutions had implemented. This discrepancy suggests that even when a student is actively looking for low-cost or no-cost designations (as demonstrated by the authors, acting as student proxies), they can be difficult to find.

Overall, community colleges have implemented more designation methods than universities. The responses from institutions following the author inventory suggest that designations are being implemented at institutions in an ongoing manner, with some new designations added in spring term, and other designations anticipated for fall 2018 and beyond.

In order to assess whether any of the designation methods are more effective than others (e.g. comprehensive list vs. search filter), the authors ran a logistic regression using the inventory results (as of winter term) combined with survey results from Question 7 ("How aware are you of Open Educational Resources (OER) or no-cost/low-cost textbooks or materials available at your institution?). The results of this analysis indicate that having a comprehensive list of no-cost/low-cost courses increases the odds of student awareness by a factor of 1.5. Students that attend a community college are also more likely to know about

no-cost/low-cost courses. Students that qualify for work study or grants were also more likely to know about no-cost/low-cost resources at their institutions. See Appendix G for the logistic regression.

Table 1: Inventory of Designations as Located by Authors[1]

	Comprehensive list of all available OER/No-Cost/Low-Cost courses	Designation on course search pages (e.g. Search Filter)	Designation on the list of results from course search page	Designation on course description via Internet (when you click on a specific course)	Designation on campus bookstore course materials list (or bookstore website)	Designation behind student portal (log in required)[6]	Responses from Institutions following their review of author-conducted inventory
Oregon Community Colleges (size[2], location[3])							
Blue Mountain Community College (S, R)	--	--	--	--	Yes		No response from institution
Central Oregon Community College (M, C)	--	--	Yes	--	Yes		No response from institution
Chemeketa Community College (L, Su)	Yes	--	**	Yes	Yes		**Institution stated that they also have a designation on the list of results from the course search page. *The authors were unable to locate these during their inventory.*
Clackamas Community College (M, Su)	--	--	--	--	Yes		No response from institution
Clatsop Community College (S, R)	--	--	--	Yes	--		No response from institution
Columbia Gorge Community College (S, T)	--	--	Yes	Yes	Yes		No response from institution
Klamath Community College (S, T)	--	--	--	--	Yes	**	**Institution stated that there is a designation for no-cost and low-cost courses within their online portal (MyKCC), behind a student log in.
Lane Community College (L, R)	Yes	--	Yes	--	Yes		No response from institution
Linn-Benton Community College (M, C)	--	--	--	--	Yes	**	**Institution stated that they offer designations on results page and course search but behind a student log in. These went live spring term (after author inventory).
Mt. Hood Community College (L, S)	--	Yes	Yes	Yes	Yes		Institution confirmed author findings.
Oregon Coast Community College ([2,3])	--	--	--	**	**		**Institution stated that they do have a designation on the course description, manually entered into the notes section, and a designation on the campus bookstore course list, both live in winter term. *The authors were unable to locate these during their inventory.*
Portland Community College (VL, C)	--	Yes	Yes	Yes	Yes		No response from institution
Rogue Community College (M, R)	--	--	Yes	Yes	--		Institution confirmed author findings, and stated that in the next two years, they will be moving to a new campus management system, and hope to add more ease and transparency to finding and displaying OERs on the class schedule and bookstore listings.
Southwestern Oregon Community College (S, T)	--	--	--	--	Yes		No response from institution
Tillamook Bay Community College (VS, T)	--	Yes	Yes	Yes	Yes		No response from institution
Treasure Valley Community College (S, T)	--	Yes	Yes	Yes	--		No response from institution

Umpqua Community College (M, R)	--	Yes	Yes	--	Yes		No response from institution
Oregon Public Universities (enrollment[4], location[5])							
Eastern Oregon University (3,176, R)	--	--	--	--	--		No response from institution
Oregon Institute of Technology (5,232, R)	--	--	--	--	Yes		No response from institution
Oregon State University (30,354, Su)	--	--	--	--	**		**Institution stated that students can see that a course uses no-cost course materials on the bookstore site (live during winter term), but it is not searchable. *The authors were unable to locate these during their inventory.* Institution also stated that they are transitioning to a new scheduling system that will be operational by Fall term 2018. The new schedule of classes will have a code for no-cost and courses that have no-cost course materials will be designated and searchable.
Portland State University (27,229, U)	--	Yes	Yes	Yes	Yes		No response from institution
Southern Oregon University (5,916, C)	--	--	--	--	Yes		Institution confirmed author findings.
University of Oregon (23,546, C)	--	--	--	--	--		Institution stated that they are on track to be compliant for Fall term 2018
Western Oregon University (5,382, R)	--	--	--**	--**	--		**Institution stated that these were implemented for Spring 2018 (which was after author inventory).

[1] Notes: Oregon HB 2871, Section 4, states "Each public university listed in ORS 352.002 and community college shall prominently designate courses whose course materials exclusively consist of open or free textbooks or other low-cost or no-cost course materials. The course designation required by this section must appear in the published course descriptions that are on the Internet or are otherwise provided to students at the time of course registration, including on the campus bookstore course materials list that is provided for the course." This inventory was conducted by the authors in winter term, January 2018.
[2] Size: (VL) Very Large, (L) Large, (M) Medium, (S) Small, (VS) Very Small, according US News and World Report https://www.usnews.com/education/community-colleges/oregon. This data was not available for Oregon Coast Community College, but would likely be categorized as Very Small
[3] Location: (R) Rural, (C) City, (U) Urban, (Su) Suburb, (T) Town, according US News and World Report https://www.usnews.com/education/community-colleges/oregon This data was not available for Oregon Coast Community College, but would likely be categorized as Town
[4] Enrollment according US News and World Report college profile 2018 quick stats (2018)
[5] Location: (R) Rural, (C) City, (U) Urban, (Su) Suburb, (T) Town, according US News and World Report college profiles (2018)
[6] Self-reported by institutions. This data was not reported by all institutions and was not included in the logistic regression model

Appendix E: Survey Results by Institution Type

Chi-square analysis and explanation included with questions that contribute to key findings.

Survey Respondents by Institution

Approximately 69 percent of survey respondents indicated that they attend a community college, and 31 percent indicated that they attend a public university. See Table 1.

Portland Community College and Chemeketa Community College provided the highest number of responses of the community colleges surveyed, and University of Oregon students made up the majority of responses from public universities surveyed.

Given that 7 community colleges and 4 universities provided less than 100 student responses each, survey responses may not adequately represent the views and experiences of students at individual institutions. Responses from these institutions still provide insight regarding the experiences of students attending Oregon community colleges and public universities generally.

Responses from survey respondents that did not select an institution were not included in the analysis when broken out by institution type.

Table 1. Survey Respondents by Institution
Please choose the institution you are currently attending (Q2)

Institution	%	Count
Oregon Community Colleges	**68.73%**	**5904**
Portland Community College	31.29%	2688
Chemeketa Community College	10.70%	919
Linn-Benton Community College	4.34%	373
Central Oregon Community College	3.80%	326
Blue Mountain Community College	3.49%	300
Umpqua Community College	3.33%	286
Rogue Community College	3.17%	272
Clackamas Community College	3.10%	266
Southwestern Oregon Community College	1.78%	153
Mt. Hood Community College	1.50%	129
Lane Community College	0.63%	54

Treasure Valley Community College	0.58%	50
Columbia Gorge Community College	0.37%	32
Oregon Coast Community College	0.34%	29
Tillamook Bay Community College	0.29%	25
Clatsop Community College	0.01%	1
Klamath Community College	0.01%	1
Oregon Public Universities	**31.28%**	**2686**
University of Oregon	21.55%	1851
Oregon State University	4.82%	414
Oregon Institute of Technology	3.54%	304
Portland State University	0.75%	64
Western Oregon University	0.41%	35
Eastern Oregon University	0.13%	11
Southern Oregon University	0.08%	7
Total Respondents by Institution		**8590**

Notes: Respondents could complete the survey without indicating their institution, which accounts for the difference between total respondents when broken out by institution versus the overall total on some questions. The total number of respondents that consented to participate in the study (Q1, required) is 10,090. Total respondents by institution exceed 100% due to rounding. See Appendix H for survey distribution.

Student Behavior Regarding Course Registration

The authors were interested in knowing if students check the cost of course materials prior to registering for courses in order to understand whether OER (including low-cost/no-cost) designation and/or textbook costs could influence a student's decision to sign up for a course.

When examining course registration, there is some difference in behavior across institution type with over 67 percent of community college students indicating that they check the cost of course materials prior to registering for a course, as compared to approximately 48% of university students. See Table 2.

Students that participated in the group interviews shared that instructors frequently do not post their course materials list prior to the registration deadline, making it difficult for students to know how much the course materials are expected to cost, or to determine whether they can acquire a used or free copy of the required course materials prior to the start of the course. Given this feedback, it is difficult to determine whether respondents who answered "rarely" or "never" to Question 3 do not check the cost of course materials before registering because material costs are not important to them, or because this information is not reliably available.

Table 2. Student Behavior Regarding Course Registration
Do you check the cost of course materials before you register for a course? (Q3)

Answer	**Community Colleges**	**Public Universities**
Always	35.90%	20.45%
Sometimes	31.39%	27.31%
Rarely	15.32%	20.34%
Never	17.39%	31.89%
Total	100%	100%

Note: Total Respondents Q3: community colleges (5894), universities (2684).

Impact Regarding the Cost of Textbooks – *Key Finding*
A 2016 survey of Florida students found that 20 to 60 percent of students were affected in some way by the cost of textbooks (Florida Virtual Campus, 2016). In acknowledgment of the importance of how the cost of textbooks are affecting student behaviors and how this change in behavior may increase the time to completion for a degree, this question was included in the Oregon survey. See Table 3 and 4 and Figure 1 in this Appendix for comparison of Florida vs. Oregon student responses.

In the Oregon student survey, more than 59 percent of college students have been affected academically or have made a decision about a course due to the cost of required textbooks.

University students were more likely (28%) than community college students (18%) to report earning a poor grade because they could not afford to buy the textbook. Community college students were more likely (40%) than university students (23%) to take fewer courses. The cost of textbooks had no effect on academic decisions for less than 41 percent of students.

Table 3. Impact Regarding the Cost of Textbooks
In your academic career, has the cost of required textbooks caused you to (Q4)

	Community Colleges		Public Universities	
Answer	**Yes**	**No**	**Yes**	**No**
Take fewer courses	39.91%	60.09%	23.02%	76.98%
Not register for a specific course	32.99%	67.01%	31.57%	68.43%
Drop a course	14.22%	85.78%	19.155%	80.85%
Withdraw from a course	9.78%	90.22%	9.33%	90.67%
Earn a poor grade because you could not afford to buy the textbook	18.00%	82.00%	28.14%	71.86%
Fail a course because you could not afford to buy the textbook	4.55%	95.45%	3.91%	96.09%
The cost of textbooks has not affected my decisions	36.49%	63.51%	40.86%	59.14%

Note: Total Respondents Q4: community colleges (5851), universities (2658).
Respondents had the opportunity to select more than one option.

Table 3a: Impact Regarding the Cost of Textbooks Chi-square Analysis
In your academic career, has the cost of required textbooks caused you to (Q4)

The "Fewer_courses" variable measures those who chose to take fewer courses due to textbook costs. A higher number of community college students choose to take fewer courses than university students. The difference between these groups is statistically significant.

Key
frequency *row percentage* *column percentage*

fewer_courses	community_college 0	1	Total
0	2,045 36.77 77.00	3,516 63.23 60.09	5,561 100.00 65.37
1	611 20.74 23.00	2,335 79.26 39.91	2,946 100.00 34.63
Total	2,656 31.22 100.00	5,851 68.78 100.00	8,507 100.00 100.00

Pearson chi2(1) = 230.5612 Pr = 0.000

This question allowed for more than one answer to be chosen. As such, each variable required being analyzed separately by community college and university respondents.

Table 3b. Impact Regarding the Cost of Textbooks Chi-square Analysis
In your academic career, has the cost of required textbooks caused you to (Q4)

Those who chose not to register for a course due to textbook costs are measured here. Those that did not register are classified in the "1" column while those who still chose to register are in the "0" column. There is a statistically significant difference between community college and university students who chose to either register, or not register for a course.

Key
frequency *row percentage* *column percentage*

not_register	community_college 0	1	Total
0	1,819 31.69 68.49	3,921 68.31 67.01	5,740 100.00 67.47
1	837 30.25 31.51	1,930 69.75 32.99	2,767 100.00 32.53
Total	2,656 31.22 100.00	5,851 68.78 100.00	8,507 100.00 100.00

Pearson chi2(1) = 1.8042 Pr = 0.179

Table 3c. Impact Regarding the Cost of Textbooks Chi-square analysis
In your academic career, has the cost of required textbooks caused you to (Q4)

The "drop" variable refers to those who dropped a class due to textbook costs. Those who did drop a class are classified in the "1" column while those who did not are classified in the "0" column. The differences between those from community colleges and those from universities who did drop a class and those who didn't is statistically significant.

Key
frequency *row percentage* *column percentage*

drop	community_college 0	community_college 1	Total
0	2,148 29.97 80.87	5,019 70.03 85.78	7,167 100.00 84.25
1	508 37.91 19.13	832 62.09 14.22	1,340 100.00 15.75
Total	2,656 31.22 100.00	5,851 68.78 100.00	8,507 100.00 100.00

Pearson chi2(1) = 33.1416 Pr = 0.000

Table 3d. Impact Regarding the Cost of Textbooks Chi-square Analysis
In your academic career, has the cost of required textbooks caused you to (Q4)

The "withdraw" variables measures if students withdrew from a class due to the cost of materials. The majority of community college students and university students did not withdraw due to the cost of materials. The differences between groups is not statistically significant.

Key
frequency *row percentage* *column percentage*

	community_college		
withdraw	0	1	Total
0	2,408 31.33 90.66	5,279 68.67 90.22	7,687 100.00 90.36
1	248 30.24 9.34	572 69.76 9.78	820 100.00 9.64
Total	2,656 31.22 100.00	5,851 68.78 100.00	8,507 100.00 100.00

Pearson chi2(1) = 0.4037 Pr = 0.525

Table 3e. Impact Regarding the Cost of Textbooks Chi-square Analysis
In your academic career, has the cost of required textbooks caused you to (Q4)

The "poor_grade" variable encompasses those who received a poor grade due to not purchasing the textbook. Approximately 20% answered that they have received a poor grade while approximately 79% answered they have not. About 31% of respondents were from universities while 69% were from community colleges. The differences between these groups is statistically significant.

Key
frequency *row percentage* *column percentage*

poor_grade	community_college 0	community_college 1	Total
0	1,908 28.45 71.84	4,798 71.55 82.00	6,706 100.00 78.83
1	748 41.53 28.16	1,053 58.47 18.00	1,801 100.00 21.17
Total	2,656 31.22 100.00	5,851 68.78 100.00	8,507 100.00 100.00

Pearson chi2(1) = 113.1187 Pr = 0.000

Table 3e. Impact Regarding the Cost of Textbooks Chi-square Analysis
In your academic career, has the cost of required textbooks caused you to (Q4)

The "fail" variable assesses whether students failed classes due to their inability to purchase the required materials. The majority of both community college students and university students did not fail a class due to their inability to purchase the materials. The difference between groups is not statistically significant.

Key
frequency *row percentage* *column percentage*

	community_college		
fail	0	1	Total
0	2,552 31.36 96.08	5,585 68.64 95.45	8,137 100.00 95.65
1	104 28.11 3.92	266 71.89 4.55	370 100.00 4.35
Total	2,656 31.22 100.00	5,851 68.78 100.00	8,507 100.00 100.00

Pearson chi2(1) = 1.7460 Pr = 0.186

Table 3f: Impact Regarding the Cost of Textbooks Chi-square Analysis
In your academic career, has the cost of required textbooks caused you to (Q4)

The variable "no_affect" measures those students who stated that the price of materials did not affect their decision making. Approximately 63% of community college students stated textbook costs did not affect their decision to participate in a class. Approximately 59% of university students stated the price of materials did not affect their decision making in choosing their classes. Although these percentages are high, the total percentage of those who felt the adverse effects of textbook price is higher. The differences between these groups is statistically significant.

Key
frequency *row percentage* *column percentage*

	community_college		
no_affect	0	1	Total
0	1,570 29.70 59.11	3,716 70.30 63.51	5,286 100.00 62.14
1	1,086 33.72 40.89	2,135 66.28 36.49	3,221 100.00 37.86
Total	2,656 31.22 100.00	5,851 68.78 100.00	8,507 100.00 100.00

Pearson chi2(1) = 15.0258 Pr = 0.000

Actions Taken as a Result of Textbooks Cost (Florida Survey)

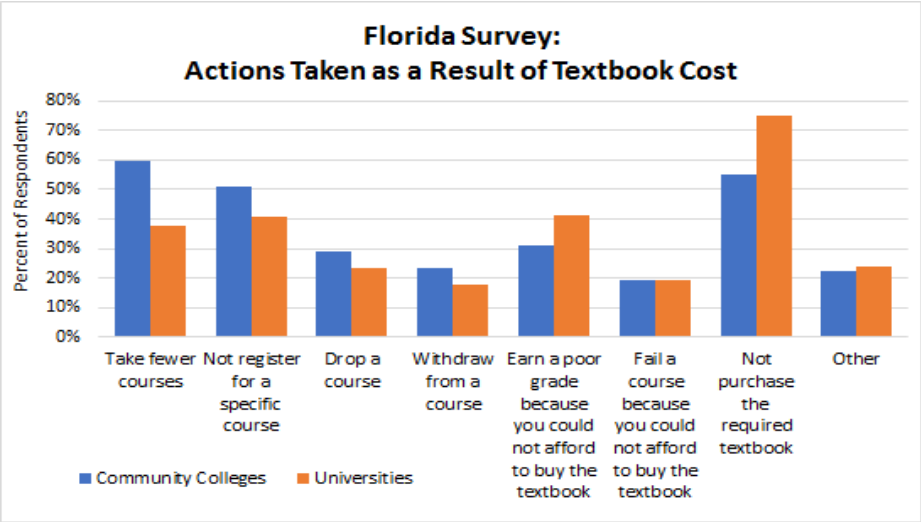
A 2016 survey of Florida students found that 20 to 60 percent of students were affected in some way by the cost of textbooks (Florida Virtual Campus, 2016).

Table 4: Impact Regarding the Cost of Textbooks Florida Student Survey
In your academic career, has the cost of required textbooks caused you to (Q4)

Answers	Florida Community Colleges	Florida Universities
Take fewer courses	59.6%	37.8%
Not register for a specific course	50.9%	40.8%
Drop a course	28.9%	23.2%
Withdraw from a course	23.5%	17.8%
Earn a poor grade because you could not afford to buy the textbook	31.2%	41.4%
Fail a course because you could not afford to buy the textbook	19.2%	19.4%
Not purchase the required textbook	55.1%	74.8%
Other	22.5%	24.1%

Note: Total Responses: community colleges (20,810), universities (34,999).
Respondents had the opportunity to select more than one option

Figure 1: Impact Regarding the Cost of Textbooks Florida Student Survey



Factors Impacting Course Selection

Approximately 58 percent of community college students and 49 percent of university students ranked "time class is being offered" as the most important factor when choosing classes. The instructor of the course ranked second among both groups of students with 26 percent and 33 percent of community college and university students respectively choosing "Instructor" as the most important factor. The "Price of materials" was consistently third place, with only 20 percent and 22 percent of community college and university students choosing it as the most important factor when registering for classes. While responses to other questions have shown that price of materials is important to students, it is not the top decision-making factor when choosing classes.

Table 5. Factors Impacting Course Selection
Of the following options, which factor is most important when you register for a class? (rank: 1 is most important, 2 is important, 3 is least important) (Q5)

	Community Colleges			Public Universities		
	Price of materials	**Instructor**	**Time class is being offered**	**Price of materials**	**Instructor**	**Time class is being offered**
Most Important	19.64%	25.83%	57.79%	21.78%	32.61%	49.21%
Important	38.44%	39.90%	22.40%	30.40%	44.43%	28.85%
Least Important	42.76%	34.05%	22.69%	51.62%	25.34%	26.21%

Notes: Community colleges: Price of Materials n=5582, Instructor n=5524, Time n=5695
Universities: Price of Materials n=2626, Instructor n=2590, Time n=2638
Respondents had the opportunity to select more than one option

Student Awareness of Meaning of "OER" – *Key Finding*
An overwhelming majority of survey respondents at community colleges and universities were not aware of the meaning of "OER" prior to taking this survey. See Table 6.

This information is particularly important, as some institutions currently use the abbreviation "OER" when designating courses with low-cost or no-cost materials, without providing a definition of the term.

Table 6. General Student Awareness of "OER"
Prior to taking this survey, were you aware of what the acronym OER meant? (Q6)

Answer	**Community Colleges**	**Public Universities**
Yes	12.54%	7.34%
No	87.46%	92.66%
Total	100%	100%

Note: Total Respondents Q6: community colleges (5891), universities (2683).

Table 6a. General Student Awareness of "OER" Chi-square Analysis
Prior to taking this survey, were you aware of what the acronym OER meant? (Q6)

There is a statistically significant difference between community college and university students who were aware of what OER meant prior to taking this survey.

Q6	community_college 0	1	Total
No	2,484	5,152	7,636
	32.53	67.47	100.00
	92.65	87.46	89.08
Yes	197	739	936
	21.05	78.95	100.00
	7.35	12.54	10.92
Total	2,681	5,891	8,572
	31.28	68.72	100.00
	100.00	100.00	100.00

Pearson chi2(1) = 51.1514 Pr = 0.000

Student Awareness of Availability of Open Educational Resources – *Key Finding*

In addition to a lack of awareness regarding the abbreviation "OER", the majority of survey respondents were also not aware of OER or other low-cost/no cost materials available at their institution. See Table 7.

Oregon community colleges and universities that had implemented designations at the time of the survey are reflected through the institutional designation inventory in Appendix D. While this inventory revealed that many institutions have implemented more than one designation method, these survey responses suggest that students remain largely unaware of the resources at their institutions.

Community college students were slightly more aware of these no-cost/low-cost resources, but of those respondents, only seven percent knew how to access them.

Table 7. Student Awareness of Available OER
How aware are you of Open Educational Resources (OER) or no-cost/low-cost textbooks or materials available at your institution? (Q7)

Answer	**Community Colleges**	**Public Universities**
I am not aware of OER at my institution	74.03%	85.39%
I have heard of OER at my institution, but I don't know much about them	12.74%	7.64%
I am aware of OER at my institution, but I am not sure how they can be accessed	6.14%	3.43%
I am aware of OER at my institution, and I know how to access them	7.09%	3.54%
Total	100%	100%

Note: Total Respondents Q7: community colleges (5895), universities (2684).

Table 7a. Student Awareness of Available OER Chi-square Analysis
How aware are you of Open Educational Resources (OER) or no-cost/low-cost textbooks or materials available at your institution? (Q7)

The first two variables are "I am aware of OER and how to find them" and ""I am aware of OER at my institution, but I am not sure how they can be accessed." Together these variables measure some level of students' awareness of OER at their institution. Approximately 7% of community college students are aware of OER and how to find them. Approximately 6% of community college students are aware of OER but do not know how to access them. In both categories the percentages of community college students is about double that of university students (3.5 and 3.45 respectively). The third variable is "I am not aware of OER at my institution". University students have a higher percentage (85%) of those who are not aware of OER at their institution than community college students (74%). This shows a higher number of students at both types of institutions are not aware of OER. The fourth variable is, "I have heard of OER at my institution, but I don't know much about them." Community college students are more likely to have heard about OER but not know much about them (12%) than university students (approximately 8%). The differences between these groups is statistically significant.

	community_college		
Q7	0	1	Total
I am aware of OER a..	94	418	512
	18.36	81.64	100.00
	3.50	7.09	5.97
I am aware of OER a..	92	362	454
	20.26	79.74	100.00
	3.43	6.14	5.29
I am not aware of O..	2,291	4,364	6,655
	34.43	65.57	100.00
	85.42	74.03	77.59
I have heard of OER..	205	751	956
	21.44	78.56	100.00
	7.64	12.74	11.15
Total	2,682	5,895	8,577
	31.27	68.73	100.00
	100.00	100.00	100.00

Pearson chi2(3) = 139.0760 Pr = 0.000

Table 7b. Student Awareness of Available OER by Individual Institution
How aware are you of Open Educational Resources (OER) or no-cost/low-cost textbooks or materials available at your institution? (Q7)

	Percentage of respondents that said they had any level of awareness of OER at their institution (Q7)*	Total number of responses to Q7 by institution
Community Colleges		
Blue Mountain Community College	21.81%	298
Central Oregon Community College	19.63%	326
Chemeketa Community College	29.07%	915
Clackamas Community College	21.89%	265
Clatsop Community College	0.00%	1
Columbia Gorge Community College	37.50%	32
Klamath Community College	0.00%	1
Lane Community College	55.56%	54
Linn-Benton Community College	37.00%	373
Mt. Hood Community College	31.78%	129
Oregon Coast Community College	24.14%	29
Portland Community College	24.34%	2687
Rogue Community College	22.06%	272
Southwestern Oregon Community College	17.76%	152
Tillamook Bay Community College	100.00%	25
Treasure Valley Community College	10.00%	50
Umpqua Community College	27.62%	286
Public Universities		
Eastern Oregon University	18.18%	11
Oregon Institute of Technology	15.46%	304
Oregon State University	27.36%	413
Portland State University	18.75%	64
Southern Oregon University	14.29%	7
University of Oregon	11.35%	1850
Western Oregon University	20.00%	35

Source of Student Knowledge of Open Educational Resources (OER) – *Key Finding*

Of the respondents that indicated some awareness of no-cost/low-cost resources, most learned about them through instructors or professors. Course registration was also a key source for community college students, and librarians/library staff were a key source for university students.

Students that participated in the group interviews shared that instructors frequently do not post their course materials list prior to the registration deadline, making it difficult for students to know how much the course materials are expected to cost, or to determine whether they can acquire a used or free copy of the required course materials prior to the start of the course.

Write-in responses to the option "Other" included students, friends, and other peers; advertisements and emails; various institutional staff; and advising/student services.

Table 8. Source of OER Information
How did you learn about OER (no-cost/low-cost) materials available at your institution? (Q8)

	Community Colleges		Public Universities	
Answer	**Yes**	**No**	**Yes**	**No**
Librarian/Library staff	12.49%	87.51%	20.16%	79.84%
Instructor/Professor	42.95%	57.05%	42.40%	58.60%
Orientation	10.62%	89.38%	8.60%	93.82%
Course registration	18.04%	81.96%	6.18%	93.82%
School website	13.03%	86.97%	9.14%	90.86%
Bookstore or Bookstore website	12.63%	97.37%	7.26%	92.74%
This survey is the first I've heard of an OER (no-cost/low-cost textbooks)	11.62%	88.38%	13.17%	86.83%
Other: please describe	16.50%	83.50%	14.48%	85.52%

Note: Only respondents that indicated some level of awareness of OERs (in Q7) were asked this question.
Total Number of Respondents to Q8: community college (1497), university (372)
Respondents had the opportunity to select more than one option

Table 8a. Source of OER Information Chi-square Analysis
How did you learn about OER (no-cost/low-cost) materials available at your institution? (Q8)

Of students who stated they had some level of awareness of OER, 12.5% of community college students and 20% of university students reported having learned about OER from the school library staff. The difference between institution types is statistically significant.

Key
frequency *row percentage* *column percentage*

	community_college		
librarian	0	1	Total
0	297	1,310	1,607
	18.48	81.52	100.00
	79.84	87.51	85.98
1	75	187	262
	28.63	71.37	100.00
	20.16	12.49	14.02
Total	372	1,497	1,869
	19.90	80.10	100.00
	100.00	100.00	100.00

Pearson chi2(1) = 14.5414 Pr = 0.000

Table 8b. Source of OER Information Chi-square Analysis
How did you learn about OER (no-cost/low-cost) materials available at your institution? (Q8)

Of those who stated some level of awareness of OER at their institution, approximately 40% of community college students and university students learned of OER from a professor. The differences between community college and university responses is not statistically significant.

Key
frequency *row percentage* *column percentage*

professor	community_college 0	community_college 1	Total
0	218 20.34 58.60	854 79.66 57.05	1,072 100.00 57.36
1	154 19.32 41.40	643 80.68 42.95	797 100.00 42.64
Total	372 19.90 100.00	1,497 80.10 100.00	1,869 100.00 100.00

Pearson chi2(1) = 0.2945 Pr = 0.587

Table 8c. Source of OER Information Chi-square Analysis
How did you learn about OER (no-cost/low-cost) materials available at your institution? (Q8)

Of those who stated any level of awareness of OER, approximately 11% of community college students and 9% of university students reported learning of OER from a school orientation. The majority of students attending both types of institutions did not learn about OER from this method. The differences between community college and university students is not statistically significant.

Key
frequency *row percentage* *column percentage*

orientation	community_college 0	community_college 1	Total
0	340 20.26 91.40	1,338 79.74 89.38	1,678 100.00 89.78
1	32 16.75 8.60	159 83.25 10.62	191 100.00 10.22
Total	372 19.90 100.00	1,497 80.10 100.00	1,869 100.00 100.00

Pearson chi2(1) = 1.3239 Pr = 0.250

Table 8d. Source of OER Information Chi-square Analysis
How did you learn about OER (no-cost/low-cost) materials available at your institution? (Q8)

Of those who stated any level of awareness, approximately 18% of community college students and 6% of university students learned about OER from the course registration page. This difference is statistically significant. The majority of students from both institutions are not learning about OER from the course registration page.

Key
frequency *row percentage* *column percentage*

	community_college		
course_reg	0	1	Total
0	349 22.14 93.82	1,227 77.86 81.96	1,576 100.00 84.32
1	23 7.85 6.18	270 92.15 18.04	293 100.00 15.68
Total	372 19.90 100.00	1,497 80.10 100.00	1,869 100.00 100.00

Pearson chi2(1) = 31.6685 Pr = 0.000

Table 8e. Source of OER Information Chi-square Analysis
How did you learn about OER (no-cost/low-cost) materials available at your institution? (Q8)

Of those who stated any level of awareness, approximately 13% of community college students and 9% of university students learned about OER from their institutions' main website. This difference is statistically significant. The majority of students from both institutions are not learning about OER from their schools' main website.

Key
frequency *row percentage* *column percentage*

website	community_college 0	community_college 1	Total
0	338 20.61 90.86	1,302 79.39 86.97	1,640 100.00 87.75
1	34 14.85 9.14	195 85.15 13.03	229 100.00 12.25
Total	372 19.90 100.00	1,497 80.10 100.00	1,869 100.00 100.00

Pearson chi2(1) = 4.1856 Pr = 0.041

Table 8f. Source of OER Information Chi-square Analysis
How did you learn about OER (no-cost/low-cost) materials available at your institution? (Q8)

Out of those who stated some level of awareness of OER, approximately 13% of community college students and 7% of university students reported learning about OER from their school bookstore. This difference is statistically significant.

Key
frequency *row percentage* *column percentage*

bookstore	community_college 0	1	Total
0	345 20.87 92.74	1,308 79.13 87.37	1,653 100.00 88.44
1	27 12.50 7.26	189 87.50 12.63	216 100.00 11.56
Total	372 19.90 100.00	1,497 80.10 100.00	1,869 100.00 100.00

Pearson chi2(1) = 8.3973 Pr = 0.004

Table 8g. Source of OER Information Chi-square Analysis
How did you learn about OER (no-cost/low-cost) materials available at your institution? (Q8)

Of those who stated any level of awareness of OER, the majority of community college students and university students did not first hear of OER from taking this survey. Approximately 12% of community college students first heard of OER from this survey while 13% of university students heard of OER from this survey. These differences are not statistically significant.

Key
frequency *row percentage* *column percentage*

first_heard	community_college 0	1	Total
0	323 19.62 86.83	1,323 80.38 88.38	1,646 100.00 88.07
1	49 21.97 13.17	174 78.03 11.62	223 100.00 11.93
Total	372 19.90 100.00	1,497 80.10 100.00	1,869 100.00 100.00

Pearson chi2(1) = 0.6802 Pr = 0.410

Student Method of Registering for Classes

A large majority of students at community colleges and universities use either a laptop or a desktop computer to register for classes.

While a small percentage of students use a phone or tablet, it would still be important for institutions to ensure that registration tools and course designations display clearly across all platforms.

Table 9. Method of Registration
What technology do you use most often to register for classes? (Q9)

Answer	**Community Colleges**	**Public Universities**
Laptop	70.95%	87.86%
Desktop	20.15%	9.10%
Phone	6.17%	2.13%
Tablet	1.83%	0.91%
Other	0.90%	0.00%
Total	100%	100%

Note: Total Respondents Q9: community colleges (5786), universities (2627).

Student Method of Buying Textbooks

When examining methods for purchasing textbooks, 52 percent of community college students and 60 percent of university students use a laptop or desktop computer. As with registration, while a small percentage of students use a phone or tablet to purchase books, it would still be prudent for institutions to ensure that textbook designations display clearly across all platforms.

Nearly 40 percent of community college respondents and 36 percent of university students typically purchase textbooks in person at the bookstore. This is important to highlight as Oregon's designation requirement does not include having physical signage or another type of designation at the bookstore where many students regularly go to purchase their books.

Table 10. Method of Buying Textbooks
What technology do you use most often to buy textbooks? (Q10)

Answer	**Community Colleges**	**Public Universities**
Laptop	41.01%	53.66%
Desktop	11.30%	6.59%
Phone	6.17%	2.55%
Tablet	1.66%	0.91%
In Person at Bookstore	39.85%	36.29%
Total	100%	100%

Note: Total Respondents Q10: community colleges (5786), universities (2626).

Students Ability to Find OER at their Institution – *Key Finding*
Overall the highest number of students answered, "No, I am not aware of any OER designation, symbol, image or description." The percentage of students who knew how to find courses that use no-cost/low-cost materials at their campus was very low. Just over 84 percent of community college students, and 94 percent of university students, reported no knowledge of how to find them. However, the percentage of students who knew how to find no-cost/low-cost courses at a community college was higher than those from universities.

Approximately ten percent of community college students find the no-cost/low-cost courses on the online course descriptions as opposed to approximately three percent of university students. This was the most common location for students to find OER or no-cost/low-cost courses. The next most common place was the online course schedule, with around five percent of community college respondents aware that these courses could be found there compared to about one percent of university students.

Table 11: Ability to Find OER
Do you know how to find the courses at your institution that use OER (no-cost/low-cost) textbooks? (Q11)

	Community Colleges		Public Universities	
Answers	**Yes**	**No**	**Yes**	**No**
Yes, on the online course descriptions	10.43%	89.57%	3.28%	96.72%
Yes, on the online course schedule	5.02%	94.98%	1.30%	98.70%
Yes, on the bookstore website	4.83%	95.17%	1.94%	98.06%
Yes, other location: Please describe	0.95%	99.05%	0.88%	99.12%
No, I am not aware of any OER designation, symbol, image or description	83.88%	16.12%	94.17%	5.83%

Notes: Total Number of Respondents Q11: community colleges (5774), universities (2625)
Respondents had the opportunity to select more than one option.

Table 11a. Ability to Find OER Chi-Square Analysis
Do you know how to find the courses at your institution that use OER (no-cost/low-cost) textbooks? (Q11)

The variable "yes" combines all the various locations students knew where to find OER. Even with the locations combined, the number of community college students who knew where to find OER (17%) was still much less than those who did not know where to find OER (83%). The difference is greater for university students with 6% aware of where to find OER while approximately 94% did not know. The differences between university and community colleges is statistically significant.

Key
frequency *row percentage* *column percentage*

	community_college		
yes	0	1	Total
0	2,458 33.94 93.71	4,785 66.06 82.87	7,243 100.00 86.26
1	165 14.30 6.29	989 85.70 17.13	1,154 100.00 13.74
Total	2,623 31.24 100.00	5,774 68.76 100.00	8,397 100.00 100.00

Pearson chi2(1) = 178.7200 Pr = 0.000

Where Students Would Like to See Designations – *Key Finding*
Almost 62 percent of university and 61 percent of community college students would like to see the designation, symbol, or icon on the online course schedule. Slightly more university students (63%) than community college students (51%) would like to see the designation on the bookstore listing. The fairly even distribution of responses to each answer aligns with the primary theme observed in the "Other: please describe" responses; that students would like to see the OER or no-cost/low-cost designation "everywhere".

Of the 356 respondents that chose "Other: Please Describe," 32 percent want to see the designations everywhere, nine percent indicated they would like to find the information on the course syllabus, eight percent in the physical bookstore, six percent suggest general advertising such as fliers in classrooms/libraries, and in school newspapers. Another six percent would like to receive an email telling them about OERs.

Table 12. Where Students Would Like to See Designations
Where would you LIKE TO SEE the designation, symbol, or icon of available OER (no-cost/low-cost materials) at your institution? (Q12)

	Community Colleges		Public Universities	
Answer	**Yes**	**No**	**Yes**	**No**
In the student registration portal	45.05%	54.95%	50.97%	49.03%
On the bookstore listings	51.55%	48.45%	63.23%	36.77%
On the online course description	59.03%	40.97%	62.81%	37.19%
On the online course schedule	61.31%	38.69%	62.01%	37.99%
Other: please describe	3.02%	96.98%	2.41%	97.59%

Notes: Total Respondents Q12: community colleges (5758), universities (2619)
Respondents had the opportunity to select more than one option.

Table 12a. Where Students Would Like to See Designations
Where would you LIKE TO SEE the designation, symbol, or icon of available OER (no-cost/low-cost materials) at your institution? (Q12)

Of those who shared where they would like to see designations, 45% of community college students and 50% of university students, stated they would like to see designations on the student registration portal. There is a statistically significant difference between community college and university responses.

Key
frequency *row percentage* *column percentage*

studentreg	community_college 0	community_college 1	Total
0	1,283 28.85 49.03	3,164 71.15 54.95	4,447 100.00 53.10
1	1,334 33.96 50.97	2,594 66.04 45.05	3,928 100.00 46.90
Total	2,617 31.25 100.00	5,758 68.75 100.00	8,375 100.00 100.00

Pearson chi2(1) = 25.3546 Pr = 0.000

Table 12b. Where Students Would Like to See Designations
Where would you LIKE TO SEE the designation, symbol, or icon of available OER (no-cost/low-cost materials) at your institution? (Q12)

Of those who shared where they would like to see designations, 59% of community college students and 63% of university students, stated they would like to see designations on the course description page. There is a statistically significant difference between community college and university responses. The majority of all students would like OER to be designated in the course description page.

Key
frequency *row percentage* *column percentage*

book_listi ngs	community_college 0	1	Total
0	962 25.64 36.76	2,790 74.36 48.45	3,752 100.00 44.80
1	1,655 35.80 63.24	2,968 64.20 51.55	4,623 100.00 55.20
Total	2,617 31.25 100.00	5,758 68.75 100.00	8,375 100.00 100.00

Pearson chi2(1) = 99.5061 Pr = 0.000

Table 12c. Where Students Would Like to See Designations
Where would you LIKE TO SEE the designation, symbol, or icon of available OER (no-cost/low-cost materials) at your institution? (Q12)

Of those who shared where they would like to see designations, 59% of community college students and 63% of university students, stated they would like to see designations on the course description page. There is a statistically significant difference between community college and university responses. The majority of all students would like OER to be designated in the course description page.

Key
frequency *row percentage* *column percentage*

course_des cript	community_college 0	1	Total
0	974	2,359	3,333
	29.22	70.78	100.00
	37.22	40.97	39.80
1	1,643	3,399	5,042
	32.59	67.41	100.00
	62.78	59.03	60.20
Total	2,617	5,758	8,375
	31.25	68.75	100.00
	100.00	100.00	100.00

Pearson chi2(1) = 10.5656 Pr = 0.001

Table 12d. Where Students Would Like to See Designations
Where would you LIKE TO SEE the designation, symbol, or icon of available OER (no-cost/low-cost materials) at your institution? (Q12)

Of those who shared where they would like to see designations, 69% of community college students and 32% of university students, stated they would like to see designations on the online course schedule. There is not a statistically significant difference between community college and university responses.

Key
frequency *row percentage* *column percentage*

online_schedule	community_college 0	community_college 1	Total
0	994 30.85 37.98	2,228 69.15 38.69	3,222 100.00 38.47
1	1,623 31.50 62.02	3,530 68.50 61.31	5,153 100.00 61.53
Total	2,617 31.25 100.00	5,758 68.75 100.00	8,375 100.00 100.00

Pearson chi2(1) = 0.3849 Pr = 0.535

Student Experiences with OER Courses

The majority of students reported either having never taken a course that was designated as an OER course or were not sure if they had taken an OER course. These findings are not surprising since most of the students surveyed did not know what an OER was prior to taking this survey. More community college students had taken an OER designated course, which most likely reflects the earlier implementation of OER designations at Oregon community colleges and the focus on lower division general education courses.

Table 13. Student Experiences with OER Courses

Have you ever taken a class that was designated as an OER (no-cost/low-cost materials) course? (Q13)

Answer	**Community Colleges**	**Public Universities**
No	24.07%	26.79%
Not sure	62.36%	69.39%
Yes	13.56%	3.82%
Total	100.00%	100.00%

Note: Total Respondents Q13: community colleges (5784), universities (2620).

OER Courses Taken

Of the course categories offered, the OER courses taken most often by students at community colleges and universities were Social Science courses and English or literature courses. The courses with the lowest reports of OER usage are Professional courses and technical training courses. Only 1.5 percent of community college respondents and 0.5 percent of university respondents report taking OER courses in Professional and Technical Training courses. This distribution is not surprising as HB 2871 requires the creation of OER for general education courses, not professional/technical courses.

Of the 1,546 students that indicated "Other" for Q14, 71 percent had either not taken an OER, or were unsure whether or not they had. Approximately 20 percent of the open-ended responses to "Other" (306 students) indicated that had taken math or statistics courses that used OER materials. Math was not a category that was available as an option. Approximately two percent of "Other" respondents took OER courses in Communication or Public Speaking. The majority of "Other" responses were uncommon and had sums of ten or less students.

Table 14. Reported Classes using OER (No-cost/Low-cost Materials)
In which types of classes have you used an OER (no-cost/low-cost materials)? (Q14)

	Community Colleges		Public Universities	
Answer	**Yes**	**No**	**Yes**	**No**
Business (Examples: Accounting, Marketing, Business Administration & Management)	9.31%	90.69%	6.90%	93.10%
Computer and Information Science Education	7.65%	92.35%	5.71%	94.29%
Health and related (Examples: Public Health, Nutrition, Dietetics)	8.73%	91.27%	4.53%	95.47%
Natural Sciences (Examples: Physics, Chemistry, Geology, Biology)	9.20%	90.80%	12.28%	87.72%
Professional (Examples: Law, Architecture, Engineering)	2.19%	97.81%	3.66%	96.34%
Social Sciences (Examples: Economics, Anthropology, Sociology, Psychology)	14.59%	85.41%	15.09%	84.91%
Technical Training (Examples: Welding, Fire Science, Hospitality, Culinary Arts	1.47%	98.53%	0.54%	99.46%
Fine Arts or Music (Examples: Painting, Graphic Design, Choir)	4.24%	95.76%	3.99%	96.01%
History (Examples: World History, US History, Art History)	5.79%	94.21%	3.34%	96.66%
English or Literature (Examples: Composition, Technical Writing, Poetry)	15.06%	84.94%	7.97%	92.03%
Language (Examples: French, German, American Sign Language ASL)	1.87%	98.13%	3.88%	96.12%
Other	51.63%	48.37%	55.06%	44.94%

Notes: Total Respondents Q14: community college (2783), universities (928).
Respondents had the opportunity to select more than one option
Of 1546 open ended responses of "Other", 71%, (1092) includes responses were written in as none, or unsure.

Student Behaviors Regarding Required Textbooks

University students are almost equally split on whether they buy all the required textbooks for each of their courses or not, with 44 percent of students not purchasing all required textbooks and 56 percent of university purchasing all their required textbooks. By contrast over three fourths of community college students purchase all required textbooks. Of the 2,416 community college and university students who indicated they did not purchase all required texts, 1,386 elaborated that their decisions were cost related.

Table 15. Student Purchasing of Required Textbooks
Do you typically purchase all of the required textbooks for each of your courses? (Q15)

Answer	**Community Colleges**	**Public Universities**
No	22.89%	44.40%
Yes	77.11%	55.60%
Total	100.00%	100.00%

Note: Total Respondents Q15: community colleges (5619), universities (2545).

Measures Students Have Taken to Reduce Textbook Costs

Students from both community colleges and universities are actively seeking ways to reduce their textbook costs. The three highest methods to reduce textbook costs are to buy used copies from the campus bookstore; to buy books from a source other than the campus bookstore; or to rent textbooks.

Approximately 63 percent of community college students, compared to 71 percent of university students, buy used copies of their books from the campus bookstore. Just over 60 percent of community college students, compared to 74 percent of university students, buy books from a source other than the campus bookstore. Renting digital textbooks and renting printed textbooks are almost even in the percent of students who chose these methods. Approximately 29 percent of community college students rented digital textbooks, while about 34 percent rented printed textbooks. More than 42 percent of university students rented a digital version of a textbook, while about 46 percent rented printed textbooks.

Table 16. Measures Taken to Reduce Textbook Costs
What measures have you taken to reduce your required textbook costs? (Q16)

	Community Colleges		Public Universities	
Answers	**Yes**	**No**	**Yes**	**No**
I do not attempt to reduce textbook costs	5.21%	94.79%	1.60%	98.40%
Buy used copies from the campus bookstore	63.26%	36.74%	71.28%	28.72%
Buy books from a source other than the campus bookstore	60.37%	39.63%	74.25%	25.75%
Rent digital textbooks	28.54%	71.46%	42.37%	57.63%
Buy lifetime access to a digital version of a textbook	4.25%	95.75%	5.85%	94.15%
Rent only the digital textbook chapters needed for the course	5.81%	94.19%	10.57%	89.43%
Rent printed textbooks	33.82%	66.18%	45.81%	54.19%
Use a reserve copy from the campus library	19.00%	81.00%	29.57%	70.43%
Share books with classmates	26.11%	73.89%	45.38%	54.62%
Sell used books	38.62%	61.38%	54.86%	45.14%
Other (please describe)	7.53%	92.47%	10.69%	89.31%

Notes: Total Respondents Q16: community colleges (5642), universities (2563).
Respondents had the opportunity to select more than one option.

Where Students Find the List of Their Required Books

The highest proportion of community college students (34%) find the list of their required books at the bookstore. The highest proportion of university students (42%) find the list of their required books on class syllabi. This could suggest that community colleges and universities need to market OER's in different places.

Table 17. Where Students Find Required Textbook List
Where do you typically find the list of required books for your classes? (Q17)

Answers	**Community Colleges**	**Public Universities**
Registration page	7.05%	5.97%
Course description	21.94%	8.51%
Course schedule	8.79%	5.42%
Bookstore	33.68%	34.49%
Syllabus	25.47%	42.26%
Email instructor	1.26%	0.82%
Other: please describe	1.81%	2.54%
Total	100.00%	100.00%

Note: Total Respondents Q17: community colleges (5642), universities (2563).

Textbook Format Preferences

The price of the printed textbook was reported as the biggest factor in determining whether students would choose a printed copy of a textbook over a free digital copy. With only a quarter of students stating they would always choose a printed copy of a textbook, the majority of students would be willing to use a free digital textbook if it was available.

Table 18. Student Preference for Printed or Free Digital Textbooks
Would you choose a printed copy of a textbook over a free digital copy of a textbook? (Q18)

Answer	**Community Colleges**	**Public Universities**
I would always choose a free digital copy of a textbook	26.36%	26.87%
I would always choose a printed copy of a textbook	24.14%	22.28%
I would want both a printed copy AND a digital copy depending on the price of the printed copy	14.67%	12.72%
It depends on the price of the printed textbook	34.83%	38.13%
Total	100.00%	100.00%

Note: Total Respondents Q18: community colleges (5202), universities (2460).

When Students Acquire Textbooks

An overwhelming majority of university students (63%) and 43 percent of community college students typically acquire their course textbooks and materials during the first or second week of classes. More than 37 percent of community college students, compared with 28 percent of university students, acquire their textbooks and course materials a week or more after registration, but before class starts. More than twice as many community college students (18%) as university students (8%) acquire their textbooks the same week that they register.

Table 19. When Students Acquire Textbooks and Materials
When do you typically acquire your course textbooks/materials? (Q19)

Answer	**Community Colleges**	**Public Universities**
A week or more after registration, but before classes start	37.94%	27.50%
During the first or second week of classes	42.87%	63.05%
During the same week that I register	18.38%	7.66%
Three weeks or more after classes have started	0.82%	1.80%
Total	100.00%	100.00%

Note: Total Respondents Q19: community colleges (5643), universities (2560).

Survey Participant Demographic Questions by Institution Type

Gender of Survey Respondents

More than 65 percent of respondents to this survey, from both community colleges and universities, were female. Academic literature suggests that high female response rate for surveys is typical.

Table 20. Gender
What gender do you most identify with? (Q21)

Answer	Community Colleges	Public Universities
Female	66.64%	65.68%
Male	29.31%	31.00%
Non-binary/third gender	1.87%	1.56%
Prefer not to say	1.23%	1.17%
Prefer to self-describe	0.96%	0.59%
Total	100.00%	100.00%

Note: Total Respondents Q21: community colleges (5626), universities (2561).

Age of Survey Respondents

Participants between the ages of 18-24 were the highest respondents in both community colleges and universities.

Table 21. Age
Which range below includes your age? (Q22)

Answer	**Community Colleges**	**Public Universities**
18-24	48.35%	75.69%
25-30	19.32%	13.60%
31-40	18.01%	6.80%
41-50	8.94%	2.62%
51-64	4.83%	1.13%
65 or older	0.55%	0.16%
Total	100.00%	100.00%

Note: Total Respondents Q22: community colleges (5626), universities (2559).

Residential Status of Participants

Just over 96 percent of community college respondents, and 70 percent of university students reported being in-state status. The large difference between out-of-state respondents (approximately four percent of community college compared to 30 percent of university respondents) at each institution type could suggest that there are simply a higher number of out of state students at universities than community colleges.

Table 22. In-State or Out-of-State Tuition Status
For tuition purposes, are you an in-state or out-of-state student? (Q23)

Answer	**Community College (n=5614)**	**Public Universities (n=2559)**
In-state	96.26%	69.56%
Out-of-state	3.74%	30.44%
Total	100.00%	100.00%

Note: Total Respondents Q23: community colleges (5614), universities (2559).

Degree Status

More than half of community college survey respondents were seeking an associate's degree, and more than three-quarters of university students were seeking their bachelor's. Less than 20 percent of all respondents fell into all other categories such as graduate level, continuing education or not applicable.

Table 23. College Degree
Which degree are you seeking? (Q24)

Answer	**Community Colleges**	**Public Universities**
Associates	54.61%	0.67%
Bachelor's (0-60 credit hours)	11.10%	7.17%
Bachelor's (61 -120+ credit hours)	19.88%	76.97%
Community Education or Continuing Education	2.99%	0.35%
Doctorate	1.58%	6.19%
Does not apply	5.51%	0.63%
Master's	4.34%	8.03%

Note: Total Respondents Q24: community colleges (5627), universities (2553).

Student Scholarship and Grant Funding

University students were more likely to qualify for work study than community college students (27% vs. 20%), and more than twice as likely (48% vs. 23%) to qualify for an academic scholarship. Community college students (56%) were much more likely than university students (25%) to qualify for Pell or other grants. More than thirty percent of all students surveyed did not qualify for any scholarships, grants or work study, and just over 1% of students had athletic scholarships.

Table 24. Student Scholarship and Grant Funding
Do you qualify for any of the following? (Q25)

	Community Colleges		Public Universities	
Answer	**Yes**	**No**	**Yes**	**No**
Academic Scholarship	23.23%	76.77%	48.18%	51.82%
Athletic Scholarship	1.26%	98.74%	1.23%	98.77%
Grants (including Pell Grants)	51.54%	48.46%	36.80%	63.20%
None of the above	38.29%	61.71%	31.90%	68.10%
Work Study	19.58%	80.42%	26.64%	73.36%

Notes: Total Respondents Q25: community colleges (5536), universities (2530)
Respondents had the opportunity to select more than one option.

Primary Source of Funding for Educational Expenses

In addition to grants and scholarships, key sources of funding for students' educational expenses included employment, family members, and student loans.

Table 25. Funding Source

What is the primary way you pay for tuition and books NOT covered by grants/scholarships? (Q26)

Answer	**Community Colleges**	**Public Universities**
A job	37.27%	23.12%
Personal Savings	12.98%	12.30%
Parents/Family member support	20.87%	32.25%
Student loans	25.66%	27.27%
Military benefits	3.19%	2.19%
Other	5.19%	2.86%
Total	100%	100%

Note: Total Respondents Q26: community colleges (5607), universities (2552).

Student Employment

Nearly 45 percent of community college respondents work more than 20 hours per week as compared to 21 percent of university students. Approximately 29 percent of community college students work less than half time, as compared to 46 percent of university students. Just over 26 percent of community college students and 33 percent of university students surveyed do not have work related income.

Table 26. Hours Worked by Student per Week
How many hours do you typically work for pay per week? (Q27)

Answer	**Community Colleges**	**Public Universities**
None	26.03%	33.03%
1-5 hours per week	4.22%	6.37%
6-10 hours per week	6.09%	12.47%
11-15 hours per week	7.56%	11.77%
16-20 hours per week	11.32%	15.25%
21-30 hours per week	14.56%	10.44%
31-40 hours per week	19.20%	6.29%
More than 40 hours per week	11.03%	4.38%
Total	100%	100%

Note: Total Respondents Q27: community colleges (5620), universities (2558).

Living Arrangements

Community College students are almost evenly distributed between those who live at home (approximately 46%) and those who live in off-campus housing (48%). The highest number of university students live in off-campus housing at about 65 percent.

Table 27. Living Arrangements
Which best describes where you currently live? (Q28)

Answer	**Community Colleges**	**Public Universities**
Live at home with family (parent or legal guardian)	45.70%	11.4%
On-campus residence hall (dorm room)	1.18%	19.5%
Off-campus housing	47.89%	65.4%
Fraternity/Sorority housing	0.07%	2.2%
Unsheltered (including tent camping, sleeping in car, or couchsurfing)	1.18%	0.2%
Other (military housing, etc.)	3.99%	1.3%
Total	100.00%	100.0%

Note: Total Respondents Q28: community colleges (5615), universities (2557).

Appendix F: Group Interview Findings

Group Interview Findings

At Portland Community College (PCC), four out of five participants had never taken a course that used free digital textbooks. Two people had taken a class that used the beta model of a book the professor was writing, so the textbook was free, though not technically an OER. At Oregon State University (OSU) one interviewee had taken an OER class at Linn Benton. The other had taken a class that was half online with open source textbooks, but the other half required an access code that needed to be paid for.

Because only two students attended the OSU group interview, it is more difficult to identify themes, but there was consensus that the timing of course materials lists is an important factor in determining whether students can select courses based on text costs. This echoes responses that were received in the survey.

Both OSU and PCC interviewees noted that textbooks are a large barrier and would be an easy way to keep education costs down. PCC students elaborated that part of the reasoning for this is because tuition is a large cost but predictable, while textbook costs vary more and are harder to plan for. Many of the students are paying for their own school by working, and they shared that the extra costs of books are really onerous.

Designation Feedback

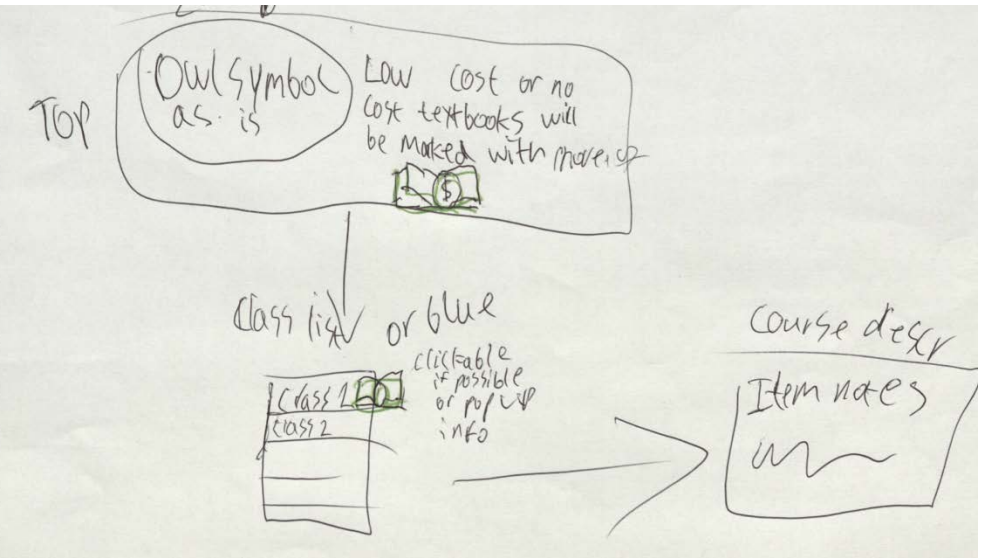
There was a general consensus from the PCC interviewees that a brightly colored symbol that was easy to recognize, displayed on the registration, course schedule, or/and in multiple locations, would be the best way to visually display the availability of OER at their school. The OSU interviewees added that the course catalogue was the best place for designation, as well as by course section. Students shared that the time a course is being offered is a big factor in choosing a class, so knowing which section uses OERs would be helpful. Both OSU interviewees mentioned that social media would be place they would like to see OER promotion.

The PCC group suggested using a bright color, such as pink, for labeling courses in the bookstore. For the icon in other locations, they suggested green or a contrasting color. They did not prefer blue as an icon color. After reviewing the icons and the written text descriptions (see Figure 1 for examples provided to the students), PPC students preferred the idea of a combination of both the icon and a text description. One student suggested the icon with an information bubble about OER if you hovered over the symbol. The PCC students all preferred the owl OER symbol as their icon of choice, with one student suggesting making the owl symbol a clickable link that would take you directly to the OER courses registration page. The PCC students unanimously agreed that they would use a list or filter for all OER designated courses if available.

See examples of icons and designations that the students provided (Figure 2).

Figure 1. Examples of Designations provided to Students at Group Interviews

Figure 2. Student Drawings of Designations from Group Interviews



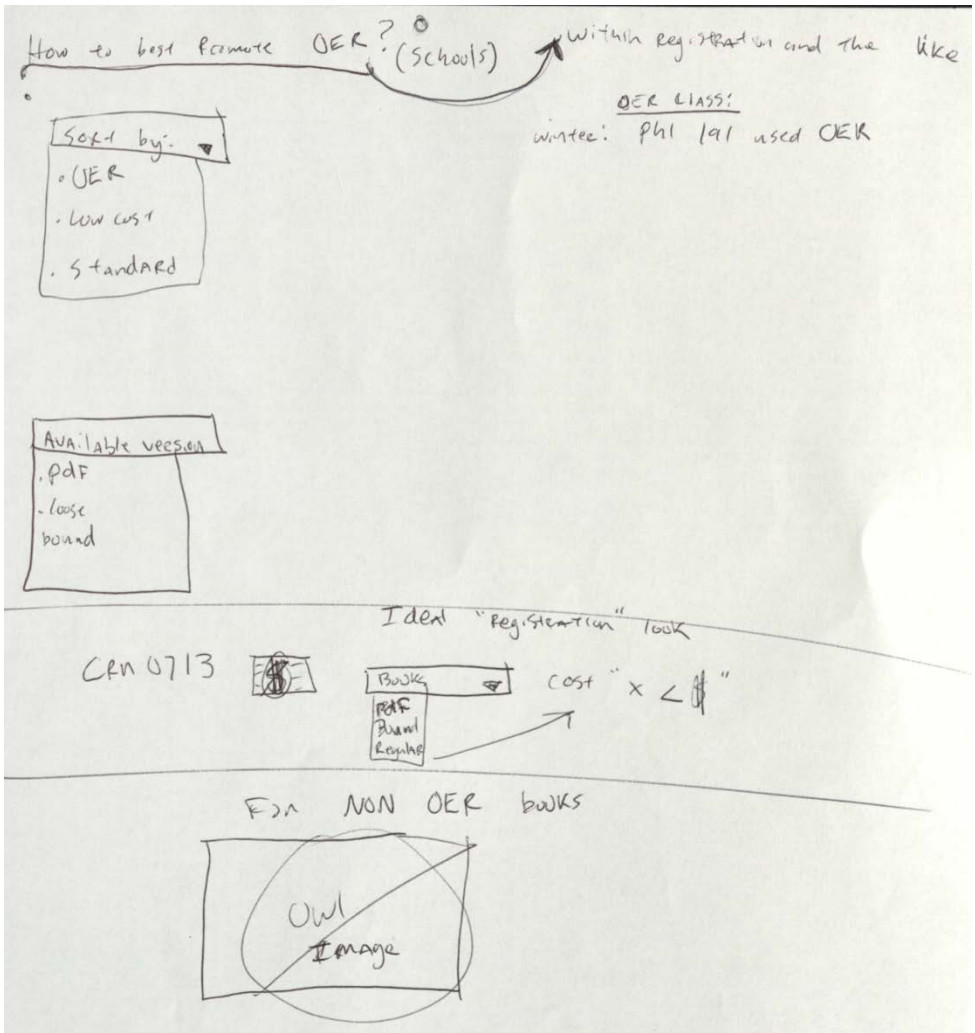
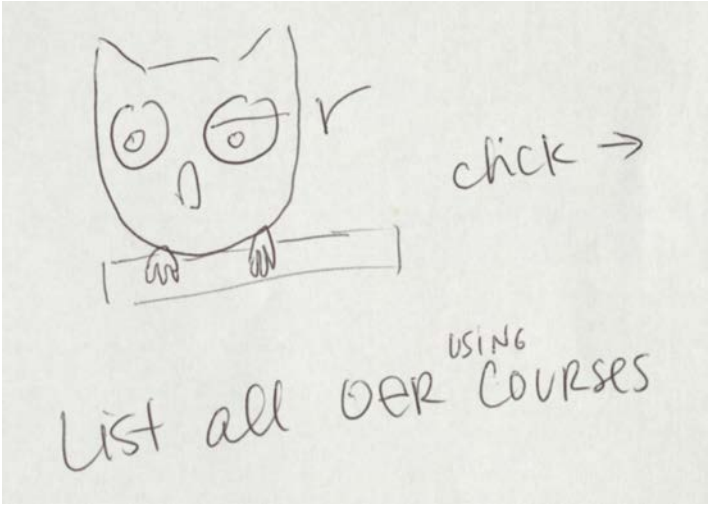
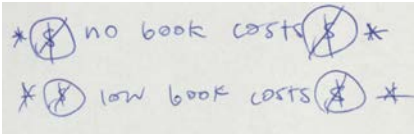
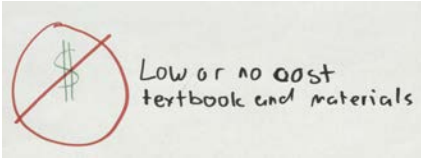
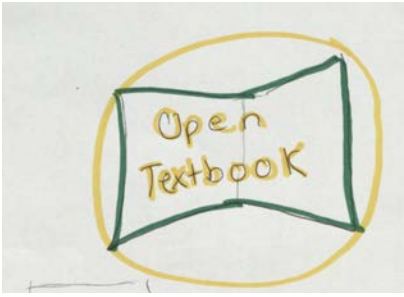


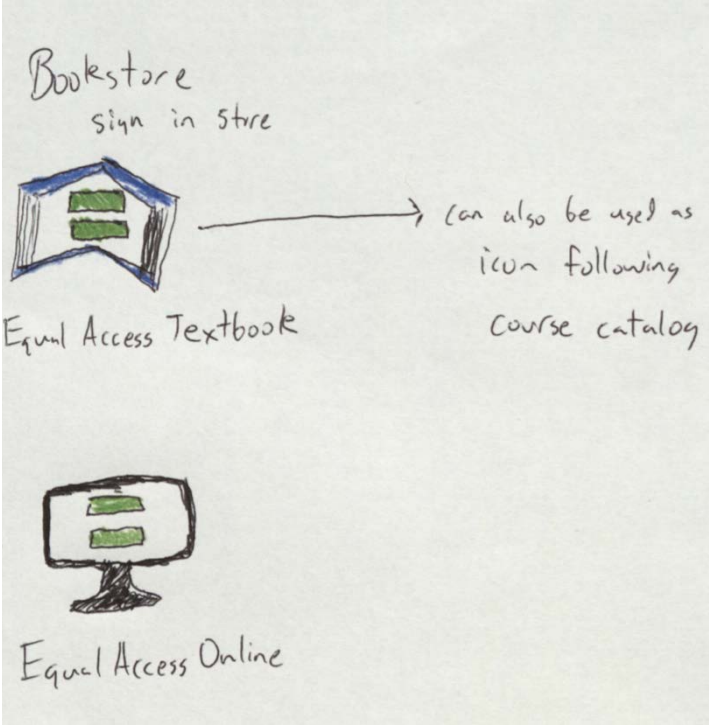
Figure 2 (cont'd). Student Drawings of Designations from Group Interviews

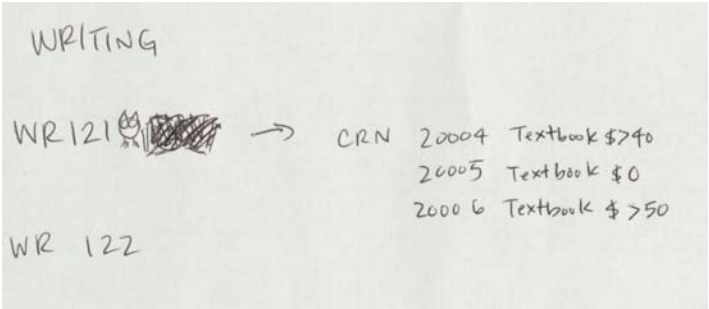












Appendix G: Results of Logistic Regressions

Model One – Student Awareness

```
Logistic regression                               Number of obs     =      8,588
                                                  LR chi2(8)        =     171.79
                                                  Prob > chi2       =     0.0000
Log likelihood = -4480.1397                       Pseudo R2         =     0.0188
```

awareness	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
comp_list_oer	1.599567	.2298426	3.27	0.001	1.20696	2.119884
oer_de~h_page	1.25409	.1628977	1.74	0.081	.9722175	1.617685
oer_de~s_page	.8552908	.1111018	-1.20	0.229	.6630453	1.103277
oer_designa~t	.888351	.0976109	-1.08	0.281	.7162351	1.101828
oer_design~re	1.126249	.1291427	1.04	0.300	.8995606	1.410063
workstudy_p~l	1.113167	.0586092	2.04	0.042	1.004023	1.234175
community_c~e	1.826251	.2278016	4.83	0.000	1.430157	2.332045
1.instructor	.9154017	.0539124	-1.50	0.133	.815606	1.027408
_cons	.166513	.0109238	-27.33	0.000	.146422	.1893607

The dependent variable, "awareness" measures the amount of survey respondents who were aware of OER at their institution. This variable also includes respondents who had heard of OER at their institution. The first five independent variables are taken from the inventory conducted by the researchers. The inventory variables are a complete list of OER classes; designations on the search page; designations of the search results page; designation of the course description page; and designations of the bookstore course materials list. "Work study" encompasses those who qualified for work study and grants. This variable acts as a socioeconomic factor. "Community college" measures the difference that being a community college student may make on a student's awareness. "Instructor" encompasses those students who acquire their class materials from the instructor directly or from their class syllabi.

The results show that schools with a complete list of OER classes increase the odds of a student's awareness of OER by a factor of 1.5. This finding is statistically significant. None of the other designation variables show any statistical significance in raising the odds of a student's awareness. However, qualifying for work study and grants increases a student's odds of being of OER at their institution by a factor 1.11. This finding is also statistically significant. Likewise, being enrolled at a community college also increases a student's odds of being aware of OER by 1.69, which is also statistically significant. The last variable, "Instructor", shows that acquiring the book list from the instructors or waiting to receive class syllabi, actually decreases a student's chance of being aware of OER although this finding is not statistically significant.

Model Two – Student's Ability to Find OER

```
Logistic regression                               Number of obs     =      1,864
                                                  LR chi2(8)        =     102.40
                                                  Prob > chi2       =     0.0000
Log likelihood = -1198.0082                       Pseudo R2         =     0.0410
```

find_oer	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
comp_list_oer	1.026391	.2618762	0.10	0.919	.6224935	1.692352
oer_de~h_page	1.165429	.27558	0.65	0.517	.7331771	1.85252
oer_de~s_page	1.056435	.2578243	0.22	0.822	.6547962	1.704432
oer_designa~t	.9854725	.1810071	-0.08	0.936	.6875428	1.412503
oer_design~re	1.016563	.2419046	0.07	0.945	.6376462	1.620649
workstudy_p~l	1.141689	.1122193	1.35	0.178	.9416325	1.38425
community_c~e	2.434212	.6233749	3.47	0.001	1.473585	4.021071
1.instructor	.5603746	.0639051	-5.08	0.000	.4481336	.7007278
_cons	.3010222	.0436804	-8.27	0.000	.2265079	.4000494

The dependent variable, "find_oer" measures the amount of survey respondents who know where to find OER at their institution. However, "find_oer" is only being measured amongst those who stated any level of awareness of OER. The first five independent variables are taken from the inventory conducted by the researchers. The inventory variables are a complete list of OER classes; designations on the search page; designations of the search results page; designation of the course description page; and designations of the bookstore course materials list. "Work study" encompasses those who qualified for work study and grants. This variable acts as a socioeconomic factor. "Community college" measures the difference that being a community college student may make on a student's awareness. "Instructor" encompasses those students who acquire their class materials from the instructor directly or from their class syllabi.

The results show that none of the designation sites had a statistically significant effect on students' ability to find OER at their institution. Likewise, qualifying for work study also did not have a statistically significant effect on student's ability to find OER at their institution. However, attending a community college increases a student's odds of knowing where to find OER by a factor of 2.4. This is statistically significant. Acquiring one's book list from the teacher or syllabi, decreases a student's odds of knowing where to find OER at their institution. This is also statistically significant.

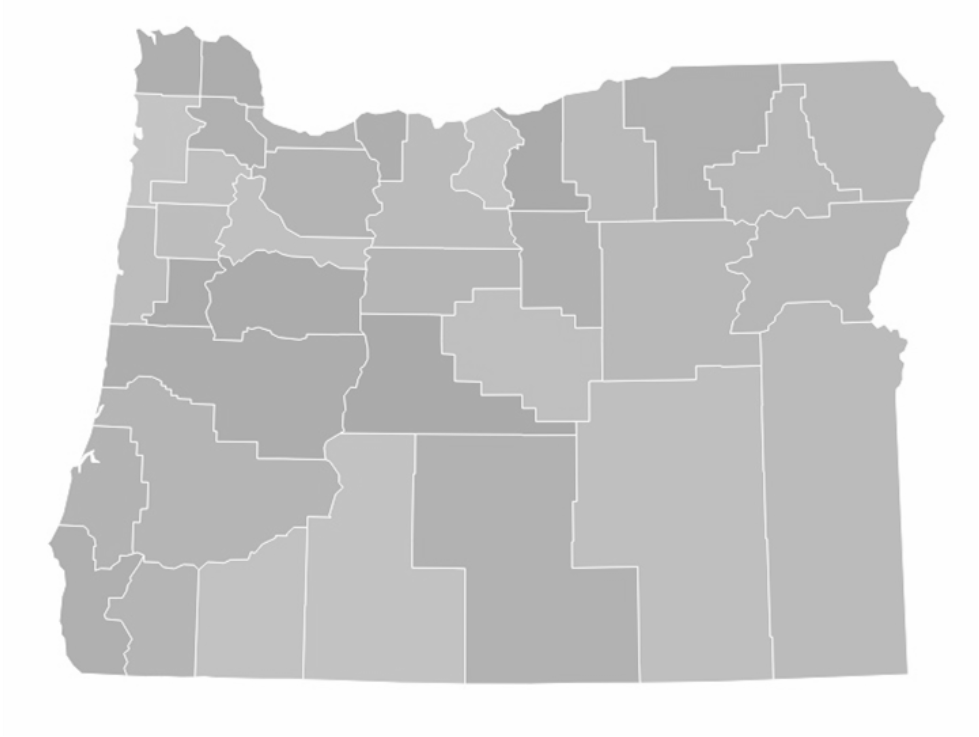
Appendix H: Survey Distribution Numbers by Institution

Oregon Community Colleges	Total # Students Contacted	Entire student body? Yes/No	Date request sent	Time Request Sent
Blue Mountain Community College	1,609	All for-credit students identified in Canvas, our LMS. Some non-credit students were also included.	4/4/2018	12:00 AM for Canvas announcement and live link email was sent at 8:00 AM. Both were on April 2nd, 2018.
Central Oregon Community College	4,600	All currently enrolled credit students	4/4/2018	9:12 a.m.
Chemeketa Community College	11,275	Yes	4/2/2018 & 4/12/2018	9:03 am & 11:55 am
Clackamas Community College	16,417	Yes	4/2/2018	1:59 PM
Clatsop Community College	None	Key people at this institution were in the midst of a Department of Education program review and a Civil Rights review.	--	--
Columbia Gorge Community College	--	--	--	--
Klamath Community College	--	--	--	--
Lane Community College	--	--	--	--
Linn-Benton Community College	10,000	yes	4/13/2018	--
Mt. Hood Community College	64,947	Yes, we sent to all current and past students with email accounts in our system.	4/2/2018	8:00 AM
Oregon Coast Community College	437	Yes, all registered students taking classes at OCCC	4/5/2018	8:45 AM
Portland Community College	24,713	All spring 2018 credit level registered students for 1 or more courses at Sylvania, Cascade, Rock Creek, Southeast campuses or through Workforce	4/2/2018	1:47 PM
Rogue Community College	5,276	Yes	--	--
Southwestern Oregon Community College	1,941	No, students who were enrolled in undergraduate courses of at least 3 credits	4/4/2018 and reminder on 4/13/2018	late afternoon early evening
Tillamook Bay Community College	379	All degree seeking students enrolled in credit courses who have an email address.	4/4/2018	9:00 AM
Treasure Valley Community College	2324	yes	4/4/2018	8:09 AM
Umpqua Community College	--	--	--	--

Oregon Public Universities	Total # Students Contacted	Entire student body? Yes/No	Date request sent	Time Request Sent
Eastern Oregon University	1,609	All for-credit students identified in Canvas, our LMS. Some non-credit students were also included.	4/4/2018	12:00 AM for Canvas announcement and live link email was sent at 8:00 AM. Both were on April 2nd, 2018.
Oregon Institute of Technology	--	--	--	--
Oregon State University	Not sent in an email. Posted on student portal so all students could potentially see it when they logged in.	Posted on student portal (only those who sign-in to the student Portal)	4/2/2018	--
Portland State University	--	--	--	--
Southern Oregon University	--	--	--	--
University of Oregon	22,000	Yes	4/10/2018	4:15 PM
Western Oregon University	--	--	--	--

Notes: “--" indicates no survey distribution numbers available

References



References

Allen, E., & Seaman, J. (2014). Opening the curriculum: Open educational resources in U.S.

Bowen, W. G., Chingos, M. M., Lack, K. A., & Nygren, T. I. (2012). Interactive learning online at public universities: Evidence from randomized trials. Ithaka S R. Retrieved from http://mitcet.mit.edu/wp- content/uploads/2012/05/BowenReport-2012.pdf

CA SB 1052 (2012). Public postsecondary education: California Open Education Resources Council. An act to amend Sections 67302 and 67302.5 of, and to add Section 66409 to, the Education Code, relating to public postsecondary education.

California Open Educational Resources Council. (2016). OER Adoption Study: Using Open Educational Resources in the College Classroom. Retrieved from http://icas-ca.org/progress-reports

Chadwell, F. A., & Fisher, D. M. (2016). Creating Open Textbooks: A Unique Partnership Between Oregon State University Libraries and Press and Open Oregon State. Open Praxis, 8(2), 123–130. https://doi.org/10.5944/openpraxis.8.2.290

Chemeketa Press (2018). Chemeketa Press Effective and Affordable Textbooks. Retrieved from https://chemeketapress.org/mission/. Accessed online May 20, 2018

Dillman, D., Tortora, R., & Bowker, D. (1999). Principles for Constructing Web Surveys. Retrieved from https://sesrc.wsu.edu/dillman/papers/1998/principlesforconstructingwebsurveys.pdf

Florida Virtual Campus. (2016). Florida Student Textbook & Course Materials Survey. Tallahassee, FL.

Foucault, B. E., & Scheufele, D. A. (2002). Web vs campus store? Why students buy textbooks online. Journal of Consumer Marketing, 19(5), 409–423. https://doi.org/10.1108/07363760210437632

Harris, G. (2017). Documenting the Birth of the Chemeketa Press. Retrieved from https://tps.chemeketa.edu/blog/2017/05/02/documenting-the-birth-of-chemeketa-press/. Accessed online May 20, 2018.

HECC. (2018a). *Commission.* Oregon Higher Education Coordinating Commission website. Retrieved from http://www.oregon.gov/highered/about/Pages/commission.aspx. Accessed online January 18, 2018

HECC. (2018b). UO *Capstone Project Description.* Higher Education Coordinating Commission.

HECC. (2017a). *Oregon Community Colleges Unduplicated Headcount by Age 2016-2017.* Oregon Higher Education Coordinating Commission. Retrieved from http://www.oregon.gov/highered/research/Documents/Student/CC-Headcount-by-age.pdf

HECC. (2017b). *Oregon Community Colleges Unduplicated Headcount by Gender 2016-2017.* Oregon Higher Education Coordinating Commission. Retrieved from http://www.oregon.gov/highered/research/Documents/Student/CC-Headcount-by-gender.pdf

HECC. (2017c). *Oregon Public University Enrollment by Age and Student Level Fall 2017 Headcount.* Oregon Higher Education Coordinating Commission. Retrieved from http://www.oregon.gov/highered/research/Documents/Student/Univ-4yr-pub-fall-age.pdf

HECC. (2017d). *Oregon Public University Enrollment by Gender and Student Level Fall 2017 Headcount.* Oregon Higher Education Coordinating Commission. Retrieved from http://www.oregon.gov/highered/research/Documents/Student/Univ-4yr-pub-fall-gender.pdf

Hilton, J. (2016). Open educational resources and college textbook choices: a review of research on efficacy and perceptions. Educational Technology Research & Development, 64(4), 573–590. https://doi.org/10.1007/s11423-016-9434-9

Hilton, J., & Laman, C. (2012). One college's use of an open psychology textbook. Open Learning: The Journal of Open and Distance Learning, 27(3), 201–217.

Intersegmental Committee of the Academic Senates. (n.d.). California Open Educational Resources Council. *ICAS*. Retrieved May 2018, from http://icas-ca.org/coerc

Lenox, S. (April 20, 2018). Interview with Stephanie Lenox, Faculty Editor, Chemeketa Press, Salem, Oregon.

Lovett, M., Meyer, O., & Thill, C. (2008). JIME-The open learning initiative: Measuring the effectiveness of the OLI statistics course in accelerating student learning. Journal of Interactive Media in Education, 2008(1).

Marmarelli, T., & Ringle, M. (2011). The Reed College iPad Study. The Reed Institute: Reed College. Retrieved from http://www.reed.edu/cis/about/ipad_pilot/Reed_ipad_report.pdf

Martinez-Estrada, P. D., & Conaway, R. N. (2012). EBooks: The Next Step in Educational Innovation. Business Communication Quarterly, 75(2), 125–135. https://doi.org/10.1177/1080569911432628

Morris-Babb, M., & Henderson, S. (2012). An experiment in open-access textbook publishing: Changing the world one textbook at a time 1. Journal of Scholarly Publishing, 43(2), 148–155.

Murphy, A. (2016). Open Oregon State Makes College Education More Affordable. Retrieved from http://blogs.oregonstate.edu/engage/2016/01/11/open-oregon-state-makes-college-education-more-affordable. Accessed online May 20, 2018.

Open Oregon State (2018a). Available and in-development Open Textbooks. Retrieved from https://open.oregonstate.edu/textbooks/catalog.htm. Accessed online May 20,2018.

Open Oregon State (2018b). Modules and Objects. Retrieved from https://open.oregonstate.edu/textbooks/. Accessed online May 20,2018.

Open Oregon State (2018c). Open Textbooks. Retrieved from https://open.oregonstate.edu/textbooks/. Accessed online May 20,2018.

OR HB 2729 (2017). Relating to open educational resources at post-secondary institutions of education; creating new provisions; repealing ORS 348.753; and declaring an emergency.

OR HB 2871 (2015). Relating to higher education; and declaring an emergency.

Pearson Foundation (2011). Survey on Students and Tablets, Pearson Foundation, available at: www.pearsonfoundation.org/education-leadership/research/Survey-Students-and-Tablets. html

Seaman, Julia Seaman, Jeff. (2017). Opening the Textbook: Education Resources in U.S. Higher Education, 2017. Babson Survey Research Group. Retrieved from www.onlinelearningsurvey.com/oer.html

Selby, R. D., Carter, K. P., & Gage, S. H. (2014). Survey concerning electronic textbooks: Assessing student behavior and environmental considerations. International Journal of Sustainability in Higher Education; Bradford, 15(2), 142–156. Retrieved from https://search.proquest.com/docview/1508308812/abstract/CC30711DDC4B4751PQ/1

Smith, G. (2008). Does gender influence online survey participation?: A record-linkage analysis of university faculty online survey response behavior. ERIC Document Reproduction Service No. ED 501717. Retrieved from http://scholarworks.sjsu.edu/elementary_ed_pub/4

Underwood, D., Kim, H., and Matier, M. (2000). To mail or to Web: Comparisons of survey response rates and respondent characteristics. Paper presented at the 40th Annual Forum of the Association for Institutional Research, Cincinnati, OH, May 21–24, 2000.

UNESCO. (2002). Forum on the impact of open courseware for higher education in developing countries. Final report. Retrieved from www.unesco.org/iiep/eng/focus/opensrc/PDF/OERForumFinalReport.pdf

Wiley, D., Green, C., & Soares, L. (2012). Dramatically Bringing down the Cost of Education with OER: How Open Education Resources Unlock the Door to Free Learning. Center for American Progress. Retrieved from https://eric.ed.gov/?id=ED535639