INSTRUCTOR PERSPECTIVES ON OPEN TEXTBOOKS IN HIGHER EDUCATION

By

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ABSTRACT

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With this thesis, I explore the costs associated with higher education and how those costs may impact access. By applying Bourdieu’s theory of education, I explore the forms of capital inherent in an individual or group and their effect on social mobility. I discuss how economic status, culture, and class can create inequality between low and high-socioeconomic status students and their access to, and completion of, a higher education. I explore the implementation of open textbooks as having the potential to bridge gaps between students by making college less expensive and as such making it more accessible to students from all income levels. I theorize that by limiting the financial burden of higher education, adoption of open textbooks could increase retention rates.

Research shows that students are overall in support of open textbooks, and a majority of the students studied report a positive experience in using open textbooks versus print, yet there is little research engaging instructors’ perspectives on open textbooks. This is a vital area of research since it is instructors who choose the required textbooks for their courses and, in turn, create the associated cost for students.
Using a survey that I conducted at a medium-sized public university in the Pacific Northwest in 2015, I explore the knowledge and assessments of open textbooks and barriers to assigning open textbooks, from instructors’ perspectives.
ACKNOWLEDGEMENTS

I would like to take this opportunity to thank all of the people who helped me by offering guidance, support, and love throughout the process of completing this thesis. My utmost appreciation goes out to my committee members, friends and colleagues, and my family.

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Lastly, I would like to thank my family. Casey, I could never have gotten this far in life without you. You are an endless source of inspiration and love to me. My Tara (Muffin), thank you for always being excited to hear about my thesis and even more
excited for me to finish and move home. Mom, I doubt you could have ever understood what Sociology is, no matter how much I would have tried to explain it, but it wouldn’t have changed how proud of me I know you would be right now. Dad, Todd, Nancy, Jim, Susie, Ryan, Sidonia, Katie, Hayden, Steve, Randy, and Leah thank you for your love and support. I could not have done this without all of you.
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INTRODUCTION

Individuals who obtain a college degree are afforded benefits, including, but not limited to, higher earnings and a lower chance of unemployment (Bureau of Labor Statistics 2014; Torche 2011). Higher education may be viewed, then, as an equalizer in society between those who are economically secure and those who are not (Beaver 2010; Bliss, Hilton, Wiley, and Thanos 2013; DeParle 2012; Torche 2011). As the expenses associated with higher education programs, such as books and tuition, continue to rise (Beaver 2010; Bliss et al. 2013; Bliss, Robinson, Hilton, and Wiley 2013; Gallant 2015; Hilton, Robinson, Wiley, and Ackerman 2014; Hilton and Wiley 2011; Houle 2013; Johnson, Cook, Miller, Silver, Stevens, and Clow 2012; Jones and Jackson 2012; Koch 2006; Murphy and Weston 2014; Overland 2011; Vickers 2010; Wiley, Green, and Soares 2012) access may become increasingly limited to those with the lowest levels of economic security (Beaver 2010; Haveman and Smeeding 2006; Hilton et al. 2014; Koch 2006; Wiley, Green, and Soares 2012).

With this thesis, I explore the barriers holding individuals back from enrolling into and the completion of higher education. I do so in alignment with other scholars who have argued that an individual’s socioeconomic status (SES) may be a determining factor as to how easy or wrought with obstacles one’s path to a college degree might be (Beaver 2010; DeParle 2012; Haveman and Smeeding 2006; Hilton et al. 2014; Houle 2013; Torche 2011). Socioeconomic status is a measurement which considers one’s job, earnings, and academic achievements (American Psychological Association 2015). This
term will appear frequently throughout this text as relationships are often shown between individuals and/or families SES and their overall academic accomplishments (American Psychological Association 2015; Beaver 2010; DeParle 2012; Haveman and Smeeding 2006; Hilton et al. 2014; Houle 2013; Torche 2011). As most students are young and have not yet established themselves economically, it is primarily the SES of their parents which may predict the barriers they face in academia (Beaver 2010; Haveman and Smeeding 2006; Houle 2013; Torche 2011).

With this thesis, I further explore the differing levels and forms of capital between lower and higher SES individuals and families and analyze how they create inequality with relation to access to a higher education (Beaver 2010; DeParle 2012; Haveman and Smeeding 2006; Hilton et al. 2014; Houle 2013; Wiley, Green, and Soares 2012; Torche 2011). I contribute to the area of literature that shows that reducing the costs associated with obtaining a college degree could eliminate some of these barriers (Beaver 2010; Bliss et al. 2013; Gallant 2015; Hilton et al. 2014; Koch 2006; McKeirch, Ives, and McGreal 2013; Overland 2011; Vickers 2010) and decrease overall social inequality by making college more accessible to all individuals regardless of their economic, social, symbolic, and/or cultural capital. The primary assumption of my thesis is that the implementation of open textbooks could eliminate a large brunt of the cost associated with obtaining a college degree (Bliss et al. 2013; Bliss, Robinson, Hilton, and Wiley 2013; Gallant 2015; Hilton et al. 2014; Jones and Jackson 2012; Koch 2006; McKeirch,
Open textbooks are a form of Open Education Resources (OER). Open Education Resources include any academic resources and/or materials that are made available freely under the public domain, under which they are not subject to copyright and are available for use to everyone. These materials are permitted to be used freely and adapted by anyone because they have been released under an intellectual property license that allows for such use. Open Education Resources include entire courses, lecture and instruction materials and modules, textbooks, videos, exams and tests, and software (Bliss et al. 2013; Bliss, Robinson, Hilton, and Wiley 2013; Gallant 2015; McKerlich, Ives, and McGreal 2013; Overland 2011; William and Flora Hewlett Foundation 2015; Yuan, MacNeill, and Kraan 2008; Wiley, Green, and Soares 2012). Open textbooks, as a form of OER, are freely available for use and revision under the same non-restrictive copyright license. There are many open textbooks available from a wide variety of disciplines (Gallant 2015; OpenStax 2015; Overland 2011; Yuan et al. 2008; Wiley, Green, and Soares 2012).

I will explore these topics using Bourdieu’s (1977) Cultural Capital framework. My use of Bourdieu’s theory of education to frame my discussion of students’ barriers to obtaining a college degree will be macro in nature. I will look at the larger scale social structures of dominance and power within social classes, and their access to the capital necessary to navigate through the path to completing a college degree program.
While there is a growing amount of research showing students’ success with and positive feelings towards open textbooks, there is a lack of research from the viewpoint of the instructors. As the decision makers for when open textbooks are assigned, this is a crucial perspective. I aim to fill this gap by providing a study of instructors’ assessments of open textbooks.

First, I provide a profile on the university in which I conducted my study. I conducted this study in 2015 at a medium sized public university in the Pacific Northwest, which I will term, Ocean View University (OVU) to maintain the confidentiality of the respondents. Ocean View University was selected for its relevance to the study, as its student demographics (Chapter Six: Research Site) include a high number of low income, first generation, and minority students. Ocean View University also has low student retention and graduation rates when compared with other similar institutions. These factors make OVU an ideal case study for conducting a survey on instructors’ perspectives of open textbooks. The demographics of OVU students suggest that they would benefit from the cost reduction to higher education associated with open textbook implementation. To understand instructor perspectives of open textbooks, I conducted a survey of 47 instructors at OVU. The survey included 37 total questions, of which there were 12 demographic questions. There was a final open-ended question where participants were encouraged to offer any additional comments that they may have about open textbooks.
In Chapter One of this thesis, I discuss Bourdieu’s (1977) theory of Cultural Capital in education as the theoretical framework for understanding the role of open textbooks in access to, and completion of, a higher education. Through the lens of Cultural Capital Theory, I show how inequality arises from the unequal access to a college education between classes in society due to their differing levels of capital (Bourdieu 1977). As higher education costs rise, the socioeconomically disadvantaged in society are left without the economic capital to access its benefits (Beaver 2010; DeParle 2012; Haveman and Smeeding 2006; Hilton et al. 2014; Houle 2013; Koch 2006; Wiley, Green, and Soares 2012). Higher SES individuals and groups have not only the economic capital to navigate through higher education, but also the social, and symbolic capital that all work to build their cultural capital. This equates to heightened preparation, resources, and access for those individuals to navigate their higher education. This also leads to the reproduction of the role of cultural capital in creating and maintaining social classes (Bourdieu 1996). Although research supports the implementation of open textbooks as a possible solution for low-income students to gain economic, social, symbolic, and cultural mobility by expanding higher education access (Bliss et al. 2013; Bliss, Robinson, Hilton, and Wiley 2013; Hilton et al. 2014; Overland 2011), students may be powerless to implement them into our educational system.

In Chapter Two, I discuss how a college degree affords certain benefits that could contribute to social mobility (Autor, Katz, and Kearney 2008; Beaver 2010; DeParle 2012; Torche 2011). I discuss the rising costs associated with higher education (Beaver
2010; Bliss et al. 2013; Gallant 2015; Hilton et al. 2014; Hilton and Wiley 2011; Jones and Jackson 2012; Koch 2006; Miller et al. 2012; Overland 2011; Vickers 2010; Wiley, Green, and Soares 2012) and how those escalating costs may affect access for lower-income students (Beaver 2010; DeParle 2012; Haveman and Smeeding 2006; Hilton et al. 2014; Houle 2013; Wiley, Green, and Soares 2012). In Chapter Three, I explore the demographic makeup of those students experiencing the biggest barriers to access, due to the high cost of college. I then discuss how one possible way to reduce the barriers faced by low-income students could be found in lowering the cost of higher education through the adoption of open textbooks (Bliss et al. 2013; Bliss, Robinson, Hilton et al. 2014; Hilton, and Wiley 2013; McKerlich, Ives, and McGreal 2013; Miller et al. 2012; Overland 2011; Vickers 2010; Wiley, Green, and Soares 2012). In Chapter Four, following a brief definition of open textbooks and OER, I examine the organizations and institutions promoting and producing open textbooks. I then explore prior research on open textbooks, and discuss the effects of open textbook implementation on students, instructors, and institutions of higher education. In Chapter Five, I discuss the environmental impacts associated with print textbooks. I explore how the adoption of open textbooks may alleviate some of the adverse environmental effects related to paper production. In Chapter Six, I outline my data and methods for exploring instructor perspectives on open textbooks, by conducting a study of instructors at OVU. I then follow with a discussion of my results of this study in Chapter Seven. In the final
Chapter, I offer my concluding thoughts, including a brief summary, limitations of the study, recommendations for OVU, and suggestions for future research.
CHAPTER ONE: THEORETICAL FRAMEWORK

To further understand the forces in society working to create and enforce the barriers faced by low-income students trying to gain a higher education I will use the lens of Cultural Capital Theory. In this chapter, I will provide an overview of Cultural Capital Theory and show its theoretical application in understanding the challenges faced by low-income students as they try to obtain a college degree.

Cultural Capital Theory

My use of Cultural Capital Theory will focus on the work of Pierre Bourdieu (1977) and his application of cultural capital to his theory of education. The integration of Cultural Capital Theory into my analysis of students’ barriers to obtaining a college degree will be macro in nature, looking at the larger scale social structures of dominance and power within social classes and their access to the capital necessary to navigate through the path to completing a college degree.

Cultural capital can be understood as the non-financial factors that work to promote social mobility. These may include the advantages or disadvantages that are passed down from one’s parents. Cultural capital, with relation to education, may include the transmission of knowledge, education, skills, attitude, and language/s of one’s parents and family. Under this analysis, economic, social, and symbolic forms of capital are also evaluated as they work to foster cultural capital. Economic capital is a strong predictor of social, cultural, and symbolic capital. Those in society who come from families with high financial assets and resources (economic capital) tend to have membership to elite
networks of individuals and groups that can help advance them into, and through, their higher education (social capital networks). Society’s elites are then afforded symbolic capital via recognition and a status of prestige and honor (Bourdieu 1996).

Bourdieu (1977) was known for analyzing the structure of the French educational system and noting the inequality faced by students within the system created by the differing levels of cultural, economic, social, and symbolic capital. He furthered his analysis to show how these varying levels of capital play a critical role in the reproduction of cultural capital and thusly the reproduction of social classes and inequality. As can be seen within society, and was acknowledged by Bourdieu (1977), this relationship between power and capital is reciprocal. Those in high levels of power have heightened capital, just as those with high levels of capital, in turn, are afforded higher levels of power within society. The Cultural Capital framework emphasizes concepts of power struggles and inequality within society created by the unequal distribution of wealth (economic capital) and access to knowledge (cultural capital), peer resources and networks (social capital), and status (symbolic capital). These inequalities lead to the creation of societal classes, or divides of individuals within society. Bourdieu’s (1977) primary comparative analysis was between those with high economic, social, symbolic, and cultural capital and those without (Bourdieu and Passeron 1977; Bourdieu 1996). These classes of individuals are grouped by their relative power within society (with regards to access to capital).
Students who come from higher class family structures may have access to many more resources that could make accessing and completing a higher education much easier. For those students who fall into the lower class levels of society gaining access to the resources necessary to successfully navigate a higher education may be limited (Beaver 2010; DeParle 2012; Haveman and Smeeding 2006; Hilton et al. 2014; Houle 2013; Wiley, Green, and Soares 2012; Torche 2011). Such necessary resources may include social capital connections to other upper class individuals who can offer advice and/or possible recommendations for navigating the college path. Resources may also include the actual financial wealth of one’s family (economic capital). Wealthy families may have had college money set aside for their children, whereas poor families would find this feat challenging. Having your college education paid for by your parents/family could mean the elimination of many stressors that might bar a student from successfully completing their degree program. Low-income students without families to contribute to their financial needs may find themselves attempting to balance college classes and their academic studies with financially necessary employment. Those students hoping to gain social mobility via a college degree may face many barriers to success if they fall into the lower levels of the socioeconomic tiers (Beaver 2010; DeParle 2012; Houle 2013; Haveman and Smeeding 2006; Koch 2006; Torche 2011).

In addition, I discuss the role open textbook implementation may play in eliminating some of the adverse environmental effects of the paper production necessary to accommodate print textbooks (Chapter Five). A Cultural Capital framework can be
applied to this discussion as it is the more wealthy country (the United States) that, in an effort to avoid the strict rules and regulations set by the U.S. government and the Environmental Protection Agency, has begun to outsource its paper producing pollutants to poorer countries (such as India) who have limited environmental protection laws. From a Cultural Capital perspective we see that the country with higher levels of economic capital asserts its dominance over a country that’s economic capital is weak.

Under a Cultural Capital framework, the educational system may be viewed as further reinforcing and reproducing social inequality. When discussing k-12 education, under a Cultural Capital lens, one may note that it is predominately property taxes that are funding most schools. This equates to wealthy neighborhoods with high property taxes having more educational funds. Schools in more affluent districts may then have the funds to attract better teachers and have more current classroom technology and textbooks. The advantages of attending one of these more affluent schools may better prepare those students for higher education by affording them more resources, and thusly more social mobility. Cultural Capital can be used to analyze the barriers to accessing (and completing) a college education because of the inequality faced by individuals in different socioeconomic groups. Students from low-income families may not have access to the various forms of capital benefiting wealthier students as they progress through the higher education path (Beaver 2010; DeParle 2012; Houle 2013; Haveman and Smeeding 2006; Torche 2011). I will analyze these barriers in greater scope under the Cultural Capital lens in the following chapters.
CHAPTER TWO: HIGHER EDUCATION OVERVIEW

In the preceding chapter I explained my integration of the Cultural Capital framework into my analysis of access to a college education. Cultural capital, including economic, social and symbolic capital, may have a powerful impact on a student’s access to, and ability to complete, a college degree program (Beaver 2010; DeParle 2012; Haveman and Smeeding 2006; Houle 2013; Koch 2006; Torche 2011; Wiley, Green, and Soares 2012; Torche 2011). In this chapter I will explore the social mobility related to obtaining a college degree, while integrating the Cultural Capital framework, in an effort to show how a lack of cultural and economic capital can be detrimental to one’s attempt to move out of the lower socioeconomic level (Beaver 2010; DeParle 2012; Haveman and Smeeding 2006; Houle 2013; Torche 2011). I will continue to explore the rising cost of obtaining a college degree and the effect that escalated fees have on college access (Beaver 2010; Bliss et al. 2013; Bliss, Robinson, Hilton, and Wiley 2013; Gallant 2015; Hilton et al. 2014; Koch 2006; McKerlich, Ives, and McGreal 2013; Overland 2011; Vickers 2010; Wiley, Green, and Soares 2012).

College Degrees and Social Mobility

A college degree is marketed as an agent of social mobility enabling individuals from any race, ethnicity, gender, and/or financial background or status to move beyond race and class barriers (Beaver 2010; DeParle 2012; Torche 2011). Attainment of a college degree comes with many fruitful benefits including higher pay (economic capital) (Autor, Katz and Kearney 2008; Beaver 2010; Torche 2011), longer life expectancies,
more positive overall health, and greater levels of happiness (cultural capital) (Attawell and Levin 2007; Pallas 2000; Ross and Mirowsky 1999; Rowley and Hurtado 2003; Stevens, Armstrong and Arum 2008; Torche 2011), as well as an assumption within society of greater integrity and social and professional standing (symbolic capital) (Beaver 2010). Employers value degrees and often give preference to candidates who have attained them (social capital) (Beaver 2010). The Bureau of Labor Statistics (2016) offers data showing the rise in an individual’s earnings as their educational attainment rises, as well as showing that an individual’s chances of being unemployed are drastically reduced with heightened educational attainment (Figure 1).

![Earnings and unemployment rates by educational attainment](image)

**Figure 1: Earnings and Unemployment Rates by Educational Attainment**

Since the start of the 21st century, college graduates earn 90% higher income than those holding only a high school degree (Autor, Katz, and Kearney 2008; Beaver 2010;
Lack of a college degree can make achieving upward social mobility extremely challenging (Beaver 2010; DeParle 2012; Torche 2011). A Cultural Capital lens can be used to address the unequal balance between the educated and those who are not, with relation to life chances and success. The lives of those with a college degree experience immense social and economic advantages in comparison to those without higher education.

The benefits associated with obtaining a college degree include, but are not limited to, higher earning levels, and a lessened chance of unemployment. Under a Cultural Capital lens one could state that obtaining a college degree could act as an equalizer among individuals in society from different classes and backgrounds (Beaver 2010; DeParle 2012; Torche 2011). Although this statement would only hold true if individuals all held the same economic, social, symbolic, and cultural capital affording them equal opportunity, status, and power. Next, I will discuss the rising cost of higher education and the effect that escalated fees have on college access while connecting the discussion to the Cultural Capital framework.

Rising costs

In-state tuition at both the California State Universities (CSU) and the Universities of California (UC) has more than tripled in the last 20 years (College Board 2016; Gallant 2015). These increases in tuition are not due to heightened institutional expenditures but instead are from an aggressive reduction in state funding (Jones and Jackson 2012; Wiley, Green, and Soares 2012). The higher education institutions have transferred their economic loss onto the students and their families leaving many low-
income individuals unable to afford a higher education (Houle 2013; Jones and Jackson 2012; Johnson et al. 2014; Wiley, Green, and Soares 2012). Rises in the costs associated with higher education are seen in two year and four year public and private colleges and/or universities (See Figure 2) (College Board 2016).

<table>
<thead>
<tr>
<th>Years</th>
<th>Private Nonprofit</th>
<th>Five-Year % Change</th>
<th>Public Four-Year</th>
<th>Five-Year % Change</th>
<th>Public Two-Year</th>
<th>Five-Year % Change</th>
<th>Private Nonprofit</th>
<th>Five-Year % Change</th>
<th>Public Four-Year</th>
<th>Five-Year % Change</th>
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<tbody>
<tr>
<td>1975-76</td>
<td>$10,088</td>
<td></td>
<td>$2,957</td>
<td>$1,079</td>
<td></td>
<td></td>
<td>$16,273</td>
<td></td>
<td>$7,583</td>
<td></td>
</tr>
<tr>
<td>1980-81</td>
<td>$10,428</td>
<td>3%</td>
<td>$2,320</td>
<td>-3%</td>
<td>$1,128</td>
<td>5%</td>
<td>$16,443</td>
<td>6%</td>
<td>$7,302</td>
<td></td>
</tr>
<tr>
<td>1985-90</td>
<td>$10,551</td>
<td>30%</td>
<td>$2,918</td>
<td>28%</td>
<td>$1,419</td>
<td>28%</td>
<td>$16,929</td>
<td>22%</td>
<td>$8,540</td>
<td></td>
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<tr>
<td>1990-95</td>
<td>$17,094</td>
<td>26%</td>
<td>$3,495</td>
<td>29%</td>
<td>$1,658</td>
<td>17%</td>
<td>$24,953</td>
<td>29%</td>
<td>$11,206</td>
<td></td>
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<tr>
<td>1995-00</td>
<td>$19,117</td>
<td>12%</td>
<td>$4,380</td>
<td>28%</td>
<td>$2,091</td>
<td>28%</td>
<td>$27,252</td>
<td>16%</td>
<td>$18,952</td>
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</tr>
<tr>
<td>2000-05</td>
<td>$22,787</td>
<td>16%</td>
<td>$5,945</td>
<td>14%</td>
<td>$2,368</td>
<td>8%</td>
<td>$30,716</td>
<td>13%</td>
<td>$21,035</td>
<td></td>
</tr>
<tr>
<td>2005-10</td>
<td>$25,024</td>
<td>15%</td>
<td>$6,505</td>
<td>18%</td>
<td>$2,658</td>
<td>14%</td>
<td>$35,456</td>
<td>14%</td>
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<td>14%</td>
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<td>24%</td>
<td>$3,062</td>
<td>13%</td>
<td>$39,918</td>
<td>14%</td>
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<tr>
<td>2015-16</td>
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<td>$9,411</td>
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<td>$43,951</td>
<td>16%</td>
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</table>

Figure 2: Average Tuition and Fees and Room and Board in 2015 Dollars, 1975-76 to 2015-16, Selected Years
Source: The College Board, Annual Survey of Colleges; NCES, IPEDS data.

It is not just tuition that has escalated but also the cost of required textbooks. Over the past twenty years textbook costs have increased at a rate four times higher than inflation (Allen 2010; Gallant 2015; Hilton et al. 2014; Miller et al. 2012; Overland 2011; Wiley, Green, and Soares 2012). As seen in Figure 3, college textbook prices have risen drastically higher since 1978 (rise of 812%), compared to the rise in medical services (rise of 575%), new home prices (rise of 325%), and the consumer price index (rise of 250%). In 2010, research estimated textbook spending by the 19 million students at colleges and universities to be $4.5 billion (Kinsley 2012).
16

Figure 3: Percent Change Since 1978 for Educational Books, Medical Expenses, New Home Prices, and Consumer Price Index

Many low-income students often do not purchase the required textbooks assigned in their courses. In classrooms where students are financially unable to purchase the required textbooks, instructors face an immense challenge in appropriately instructing students (Buczynski 2007). Those students who are financially secure and can afford the costs associated with the required classroom materials, including textbooks, have an advantage over those financially insecure students who try to navigate the courses without the necessary materials.

Money equals access

Previously I discussed the benefits associated with obtaining a college degree. Because of those benefits, for individuals who are born into poverty, a college education may be viewed as the path out (Beaver 2010; DeParle 2012; Torche 2011). Due to the rising costs associated with higher education (Beaver 2010; Bliss et al. 2013; Bliss,
Robinson, Hilton, and Wiley 2013; Gallant 2015; Hilton et al. 2014; Koch 2006; Overland 2011; Wiley, Green, and Soares 2012), instead of working to break down these barriers, the institution of higher education seems to be working to further engage and enforce them. Research shows that one of the most significant factors linked to student success is a student’s socioeconomic status (Beaver 2010; Houle 2013; Torche 2011). Regardless of one’s intellect, ability, or determination the escalating costs of higher education are making it excessively harder for low-income students to gain social mobility (Beaver 2010; DeParle 2012; Wiley, Green, and Soares 2012).

And as many students have not yet established their own source of income, it is the SES of their parents that acts as a strong predictor for their future college achievements (Beaver 2010; Houle 2013; Toche 2011). The relationship between college degree achievement and low SES are important factors to consider when evaluating a student’s academic barriers. When students come from families with a low SES often they are first generation college students (American Psychological Association 2015; Beaver 2010; Torche 2011). A first generation college student is one whose parents have never attained a bachelor’s degree, making them the first in their family to do so. Many first generation low-income students, coming to college from families with a low-SES are unprepared to navigate the waters of college/university life. Many have no choice but to work over the top of full-time class schedules and find it hard to balance their financial and educational loads. Parents with a high SES most often have attained a college degree. They pass onto their children cultural and economic investments (economic, symbolic,
social, and cultural capital) which have a strong positive effect on their children’s ability to successfully access and complete a college degree program (Beaver 2010; Houle 2013; Torche 2011).

A student’s parents SES could be a determining predictor of the student’s overall academic performance. This may be in part due to the fact that children from higher SES families typically receive more financial help from their parents. Their parents are more likely to have saved money specifically for their children’s educations and are able to contribute more money towards their cost of living (Houle 2013).

Without their families acting as a source of guidance on navigating the college experience, and without much needed financial support, many low-income students find themselves unable to complete their college degrees. Research has noted that individuals from lower SES are more likely to postpone college enrollment (Beaver 2010; Hilton et al. 2014; Planty and Provasnik 2008). This could be due to the lack of benefits poorer students receive from their financially challenged families. Even when low-income students are able to enroll into college they are less likely to graduate than higher-income students. Enrollment in a four-year school happens for less than 30% of students in the lowest level of income. From those 30%, fewer than half actually graduate college (Beaver 2010; DeParle 2012).

There is a divide between those of higher and lower socioeconomic status within society with relation to college degree achievement. This divide is commonly represented as a system of gap points. In the last 30 years (from 1980-2010) the gap between
bachelor’s degree attainment of the poor and the wealthy has risen by 14 points (DeParle 2012). Although the immediately recognizable difference between these success rates is the student’s SES, one may question if other factors might be responsible for the inequality between classes. However, when test scores, overall grades, and academic commitment are taken into account it is still a matter of one’s SES predicting college completion. A study of eighth grade students found that of those students who had a lower SES and had above-average test scores, only 26% completed a bachelor’s degree. By comparison, 30% of students with a higher SES, but low test scores, graduated (DeParle 2012).

From a Cultural Capital perspective, a college education is more easily accessible and attainable for those individuals who are financially secure. Their economic capital will generate the social, symbolic, and cultural capital that can limit, if not erase, the barriers many low-income students face in completing a higher education. As costs associated with obtaining a college degree continue to rise (Beaver 2010; Bliss et al. 2013; Bliss, Robinson, Hilton, and Wiley 2013; Gallant 2015; Hilton et al. 2014; Houle 2013; Jones and Jackson 2012; Koch 2006; Miller et al. 2012; Overland 2011; Vickers 2010; Wiley, Green, and Soares 2012), access to the affluence associated with completion of a higher education is limited to those in the higher SES classes; this reproduces class structures, leaving behind the poor in society and further contributing to our deepening societal economic divide (Beaver 2010; DeParle 2012; Torche 2011).
CHAPTER THREE: DEMOGRAPHICS

In the previous chapter I explored the rising costs associated with obtaining a college degree and how those costs limit access for many low income students (Beaver 2010; DeParle 2012; Haveman and Smeeding 2006; Hilton et al. 2014; Houle 2013; Koch 2006; Torche 2011; Wiley, Green, and Soares 2012). In this chapter I will further explore the demographics of the groups with the least access to a higher education.

Demographics and Access

In Chapter Two I addressed the benefits afforded to those individuals within society who are able to access and complete a college education. From the perspective of Cultural Capital one may note that, it is those in society with cultural, economic, social, and symbolic capital who have access to the resources necessary to achieve, maintain, and reproduce their elite status within society. If college access were equal amongst students from all SES backgrounds, then higher education may be able to act as an equalizer between classes and eliminate many of our economic divides. Instead, the poorest in society find themselves with bleak optimism for social mobility (Beaver 2010; DeParle 2012; Houle 2013; Torche 2011). Looking beyond class, there are certain racial minority groups within society who may be experiencing a disproportionate lack of college access.

The growing Hispanic and Latina/o population may feel the largest brunt of this dilemma. From 2008 to 2010 there was an increase of 1.63 million children within the Latina/o community living in poverty, placing the total number of children in 2010 at
6.11 million. During these years Latina/o’s saw an increase two and a half times higher than Whites and three times higher than Blacks as being categorized as low-income (Lopez and Velasco 2011).

Just as the Latina/o population is on the rise, so is the number of Latina/o students enrolling into college. Data from the Census Bureau on School and College Enrollment (2012) shows a 200% rise in enrollment numbers for Latina/o students aged 18-24 from 1996-2012. This rise in Latina/o enrollment is drastic in comparison to the 12% rise in enrollment by White students and the 72% rise in enrollment by Black students. 2012 was a groundbreaking year for Latina/o students as it was the first time in recorded history that the college enrollment rate of Whites was surpassed by another race in the United States. In 2012 Latina/o students attained a 49% college enrollment rate in comparison to the 47% enrollment rate of Whites (United States Census Bureau 2012). Although the numbers of Latina/o and Black students enrolling into degree programs are on the rise the actual number of Latina/o students completing their degree programs is quite low (Meling, Kupcznski, Mundy, and Green 2012). Regardless of their high enrollment numbers, in 2012 Latina/o students accounted for just 9% of young adults (ages 25 to 29) with bachelor’s degrees (Beaver 2010; United States Census Bureau 2012). Overall for low-income first generation college students only 11% will complete their bachelor’s degree within 6 years (Beaver 2010).

Minority students, and more particularly Latina/o students, show the lowest rates of college retention and degree completion (Beaver 2010; Meling et al. 2012; Oseguera,
Locks, and Vega 2009). As was noted in previous chapters, coming from a low-income family has a large effect on a student’s chances for college enrollment as well as successful degree completion. “Hispanic students are entering college with the lowest average socioeconomic statuses among minorities; as a result this affects their access to information, quality of education, and educational performance” (Meling et al 2012; O’Connor 2009).

As was discussed in Chapter Two, many low-income students must juggle financial insecurity and family obligations over the top of their college responsibilities. Research conducted in a 2004 study of the values and attributes influencing Hispanic students showed, “Hispanic students are more concerned about paying for their education and have a strong sense of responsibility to take care of family in contrast to non-Hispanics who work to network (social capital) or advance in their future careers” (Longerbeam, Seldacek and Alatorre 2004; Meling et al. 2012). This creates a unique pedagogical dilemma for instructors and universities as Latina/o students may leave college less prepared to utilize their degrees than non-Hispanic students.

In an effort to address these obstacles within higher education a label was created termed Hispanic Serving Institutions (HSI). Colleges can apply for the status of being a HSI if their population of students is at least 25% Hispanic. This status affords the degree-granting institutions additional grant money and government funding in the hopes of the funds being allocated to better serve the Hispanic student community and foster higher retention and graduation rates (United States Department of Education 2016). One
problem with this label is that the guidelines for allocating the additional funding are vague. As a drastically higher percentage of funding in higher education institutions goes towards student recruitment in comparison to student retention, the mere label of an institution as Hispanic Serving will not be enough to combat the low degree completion rates that students from low socioeconomic backgrounds are seeing (Beaver 2010; Meling et al. 2012).

One possible way to remove at least a portion of the barriers faced by low-income students could be found in colleges reducing costs to students through the adoption of open textbooks (Bliss et al. 2013; Bliss, Robinson, Hilton, and Wiley 2013; Gallant 2015; Hilton et al. 2014; Koch 2006; Overland 2011; Wiley, Green, and Soares 2012). In the following chapter I will discuss the role open textbooks can play in reducing barriers to college access and degree completion.
CHAPTER FOUR: OPEN TEXTBOOK MARKET

In the previous chapter I discussed the overrepresentation of minority status students as low-income or coming from families with lower level SES statuses. Specifically I engaged Cultural Capital theory to analyze this overrepresentation as it relates to students experiencing unequal access to college and creates inequality with relation to student retention. In this chapter I will define and explore the concept of open textbooks within a college setting and evaluate how their implementation may act to reduce some of the financial barriers faced by students of lower SES categories.

**Open Textbooks**

Modern students born with access to the internet and newer technology require curriculum and education that encompasses their enthusiasm towards newer technology. Modern students of the tech generation search for information on Wikipedia instead of a print encyclopedia. Cliff Notes are no longer used as Spark Notes are readily available online. Jobs are searched, applied for, and offered via the internet and email, making searching a print newspaper a thing of the past. Updating the classroom to include OER and open textbooks can enhance learning environments, improve teaching and learning, and is more true to the life that students will experience in the real world and in their careers (Courts and Tucker 2012).

Open Education Resources (OER) are defined as any academic resources and/or materials that are made available freely under the public domain. These materials are permitted to be used freely and adapted by anyone because they have been released under
an intellectual property license. Open Education Resources include entire courses, lecture and instructional materials and modules, textbooks, videos, exams and tests, software, and anything else that may be used to engage knowledge (Bliss, Robinson, Hilton, and Wiley 2013; Courts and Tucker 2012; McKerlich, Ives, and McGreal 2013; Overland 2011; Wiley, Green, and Soares 2012; William and Flora Hewlett Foundation 2015; Yuan et al. 2008). Open textbooks fall under OER provisions. They are textbooks which are freely available for use and revision under the same non-restrictive license and can cover any variety of disciplines (Courts and Tucker 2012; McKerlich, Ives, and McGreal 2013; OpenStax 2015; Overland 2011; Wiley, Green, and Soares 2012; Yuan et al. 2008). Because open textbooks are free to access, the implementation of open textbooks, and other OER, could make college accessible to more students and lead to a reduction in barriers towards students’ successful outcomes by drastically lowering college costs (Bliss et al. 2013; Bliss, Robinson, Hilton, and Wiley 2013; Hilton et al. 2014; McKerlich, Ives, and McGreal 2013; Overland 2011; Vickers 2010; Wiley, Green, and Soares 2012). One estimate notes that a switch to open textbooks could save students up to 80% of academic costs associated with materials and supplies (Allen 2010; Bliss, Robinson, Hilton, and Wiley 2013; McKerlich, Ives, and McGreal 2013). A study conducted in 2011, at a public 4 year university, stated that the amount of money students pay for college textbooks accounts for over 26 percent of the cost of tuition (Gallant 2015; Wiley, Green, and Soares 2012). There are many arguments that are used to justify the need for open textbooks in higher education. One such argument is the potential open
textbooks have, via these cost reductions, to bridge gaps between low and high-income students.

*Students care about cost*

Students are greatly affected by textbook costs. In a 2012 study results showed, “More than half of students surveyed did not purchase the required textbook for a course due to high cost. The cost of textbooks caused 31% of respondents to decline registering for a course, 35% of respondents to register for fewer classes, 14% of respondents to drop a course, and 10% of respondents to withdraw from a course” (Gallant 2015:1). These numbers communicate a large scale problem in higher education; especially if the institution in question has a large percentage of low-income students. Textbook cost can affect a student’s course preparedness. If a student is unable to afford the required text they may come to class less prepared and risk the possibility of negative academic outcomes, including course dropping and withdrawal. Prior research has also shown that the use of open textbooks can affect the decision of which higher education institution students choose to attend. Prior research found that among 501 college students at the University of Nebraska who were enrolled in the Fall 2014 and Spring 2015 semesters, nearly half of students stated that if a university offered free textbooks they would choose that university over another (Gallant 2015). One study noted that it is only when student complaints are high regarding textbook prices that professors begin to feel influenced to take cost into consideration (Miller et al. 2012). Research conducted on instructors’ perspectives of textbook cost found that 80% of instructors reported that they had received complaints from students regarding high textbook costs (Miller et al 2012).
Another argument for open textbooks analyzes the use of taxes in funding textbook production. Colleges and universities receive grants from the government to engage in research and academic development, including textbook production (Aguiar 2011; Hilton and Wiley 2011; Stacey 2013; Wiley, Green and Soares 2012; Yuan et al. 2008). Educators can apply for grant funding to produce a textbook through many divisions of the U.S. government including the Departments of Labor, Education, and Energy (Aguiar 2011; Bliss, Robinson, Hilton, and Wiley 2013; Hilton and Wiley 2011; Wiley, Green, and Soares 2012). Grants can also be procured by the Natural Science Foundation and other governmental bodies (Wiley, Green and Soares 2012). These grants are funded by our tax dollars. When an educator or educational institution receives a taxpayer funded grant to develop a textbook, the students (as taxpayers) have already paid for it. Under this analysis it seems repetitive to then ask the same student who paid initially for the book’s production to pay a second time for access to it once it is completed (Wiley, Green and Soares 2012).

_Actors in the open textbook market_

There are many organizations and institutions working to enact, promote and develop open textbooks for college use. The list of supporters includes both for-profit and non-profit companies, non-profit foundations, educational institutions, and our United States government agencies (Aguiar 2011; McKerlich, Ives, and McGreal 2013; Stacey 2013). For the remainder of this section I will examine these supporters and the part they play in the promotion of open textbooks. I will include an analysis of their goals and challenges, and how they acquire funding.
Some of the earliest producers in the open textbook industry now have a history of support that goes back over 20 years. OpenStax is a non-profit OER website dedicated to freely providing textbooks and other educational materials. The company was developed by Dr. Richard Baraniuk in 1999 at Rice University. OpenStax is able to operate via grants made by Rice University and several non-profit foundations (OpenStax 2015; Yuan et al. 2008). OpenStax was adopted by 13 California State University libraries at the beginning of the 2015 year. The purpose of the library adoption was to increase awareness to faculty and students about open textbooks and OER. Funding for this venture was made possible by the Gary Michelson Twenty Million Minds Foundation (20MM). The focus of Dr. Michelson’s philanthropic work is centered in seeking newer technology in an effort to make educational costs lower and access more broad. Dr. Michelson has awarded more than $1.3 million to OpenStax, through his foundation 20MM, for their work in developing and producing OER and open textbooks (OpenStax 2015).

Flat World Knowledge (FWK) is a for-profit organization that produces open source textbooks and makes them available online at no cost to users. The way this organization makes a profit is through selling alternate formats of their books, such as audio and printed versions. They also sell supplemental materials, such as study guides, in an effort to generate profits and support their business (Hilton and Wiley 2011; Overland 2011; Wiley, Green, and Soares 2012; Yuan et al. 2008). If a student prefers a
printed text FWK offers students the option to “purchase for print” at a cost of less than $40 a book (Hilton and Wiley 2011; Overland 2011; Wiley, Green and Soares 2012).

There are many initiatives operating to further study the implementation of OER and open textbooks. These include student assessments of the programs and how student outcomes are affected by open textbook implementation. To study the use of OER, eight colleges agreed to run simultaneous courses, in which one class used standard print textbooks and the alternate class adopted OER including open textbooks. The study, titled the “Kaleidoscope Open Course Initiative (KOCI)” began in 2012. One of the main goals of KOCI was to heighten student success rates by eliminating the barrier created by the cost of textbooks. In KOCI’s first run, with eight participating colleges, results showed a potential savings of $338,337.74 for participating students. This was calculated based on the 3,734 participating students enrolled in the KOCI classes and an average cost per textbook of $90.60. KOCI’s study has since expanded to over 20 schools (Hilton et al. 2014; Hilton, Robinson, Wiley and Ackerman 2014). Kim Thanos, the program manager for KOCI, noted the program’s success at not only saving students money, but also at improving student success. Possibly this heightened success is due to students who would have tried to pass the class without buying the book now having access to the textbook at no cost. Thanos notes that in studies following KOCI’s expansion,

Faculty members from Santa Ana College in California and Tompkins Cortland Community College in New York jointly designed a developmental math course design using the materials and math lab created by Washington State’s Open Course Library project. The faculty saw the percentage of students completing the course with a grade of C or better double. The team at Mercy College, a four-year private college in New York, built on this work by adopting the same materials,
but testing new delivery approaches. The results were similar with double-digit improvements in student success (Next Generation Learning Challenges 2013).

Support for open textbooks is also seen in countries outside of the United States (McKerlich, Ives and McGreal 2013; Stacey 2013; Yuan et al. 2008). In 2012, the British Columbia Ministry of Advanced Education, in Canada, began funding open textbooks with a commitment to produce 40 open textbooks. This initiative was termed the “Open Textbook Project” and has since begun its second phase in 2014 to add an additional 20 textbooks targeting “trades and skills training” (BCcampus 2015; Stacey 2013). The Open Textbook Project has generated student savings between $985,700- 1,214,092, with 24 (19 Public, 5 Private) participating institutions. These savings are calculated based on the 9,857 students affected by the availability of the programs now 137 textbooks available under the open license (BCcampus 2015 Stacey 2013).

*Open textbook financial sustainability*

Many of these initiatives to develop and/or adopt open textbooks were made possible by grants coming from large non-profit foundations dedicated to making education less expensive and reducing barriers to student success. It is the grants provided by the non-profit sector that have brought OER into the forefront of higher education. A large challenge to the continued success of open textbooks lies in determining where the funding will come from to continue to support these ventures (Aguiar 2011; Stacey 2013). Although foundations such as William and Flora Hewlett, Andrew W. Mellon and Bill and Melinda Gates paved the initial road for OER, as non-profit foundation funding is not a constant guarantee, those who have depended on these
grants to gain the foothold they now have must seek out alternate ways to forge ahead with OER production and implementation (Aguiar 2011; Hilton and Wiley 2011; Stacey 2013; Yuan et al. 2008). Sustaining long-term production, promotion, and access to these free textbooks is an issue. As some companies, like FWK, are financially relying on a combination of grants and those students who choose to purchase the print or audio versions, as open textbooks become more accepted and mainstream, they will see their profits decrease. One possible source of support is the role that the government can play in the promotion and funding of continued OER technology (Aguiar 2011; Hilton and Wiley 2011; Stacey 2013).

In recent years the U.S. government has begun to take an active interest in the expansion of OER technologies and the role they may play within the college setting. Individual states, as well as departmental agencies within the government, have adopted legislation with a key focus on the promotion of OER and open textbook initiatives. The states of Washington and California have both taken an interest in the promotion of open textbooks as part of their OER initiatives (Hilton and Wiley 2011; McKerlich, Ives, and McGreal 2013; Wiley, Green, and Soares 2012). Washington has an initiative that would cap the cost of college classroom materials at $30 per class (Aguiar 2011; Hilton and Wiley 2011; Overland, 2011; Vickers 2010). This one simple move could lead to a plethora of new support and the adoption of open textbooks. Continuing on this theme, “California lawmakers proposed legislation (SB 1052) at the end of January 2012 that would create a digital library of free college textbooks that could save the state’s college
students millions of dollars each year in education costs” (Wiley, Green, and Soares 2012:1). The bill passed but the Senate did not allocate the necessary funding for the provisions of the bill to be fully enacted. Instead they allocated 5 million dollars in funding and then called upon the Office of the Chancellor of the California State University system to seek out private funding to reach the full budget. The William and Flora Hewlett Foundation and the Gates Foundation offered to match the state’s funding in the Fall of 2013 so that the bill could begin advancing its goals (California Open Education Resource Council 2014).

Although many governmental departments support open textbook adoption in education sometimes the bills are challenged. The Department of Labor Trade Adjustment Assistance Community College and Career Training Grants Program (TAACCCT) is a publicly funded OER initiative. TAACCCT was established with the responsibility of “Providing eligible institutions of higher education with funds to expand and improve their ability to deliver education and career training programs that can be completed in two years or less… All TAACCCT initiatives are expected to… produce OER licensed using Creative Commons (CC)” (Stacey 2013:6). TAACCCT dispersed its first grants in 2011 totaling $500 million dollars. The total approved allocation of funds for this program was $2 billion dollars to be dispersed over 4 years (Bliss, Robinson, Hilton, and Wiley 2013; Stacey 2013). Yet, just as quickly as the initiative was passed and began to operate, it was met with opposition by other governmental agencies.

TAACCCT was developed by the Department of Labor (DOL), which receives
portions of its funding for programs from the House Appropriations Committee (HAC).

In 2012, just months after TAACCCT’s first allocation of funds, HAC released a bill termed the Labor, Health and Human Services (LHHS) funding bill which contained provisions that would have removed the authority from DOL to invest any further funding into OER technologies (Stacey 2013). The reasoning suggested behind this attempt at stripping funds was expressed through the sentiment that OER is an established industry (via its grant funding) and the government wants funds to be used for new unsupported technologies. Although the LHHS bill was defeated, and governmental support for OER is still active within many agencies, there are still departments fighting to sever the funding of OER initiatives.

Open textbooks could help eliminate barriers to student success. They may be beneficial not only to students, but also to college institutions and instructors. Support from foundations has gotten the ball rolling but with opposition from some governmental departments and an inability to continue to rely on foundation funding, open textbooks and OER technologies face a severe funding dilemma for the long haul. Foundations can sever funding to companies or programs like OpenStax or KOCI at any time. Although some for-profit companies, like FWK, have money coming in from sales of alternate sources (such as purchasing printed versions of texts), the overall goal of OER is for students and instructors to use the free versions of textbooks and alternate teaching aids; once this goal is met those profits are lost. The government has invested in OER technology, including open textbooks, but the commitment needed from our government
to fully embrace this shift in academia is not being fully met (Stacey 2013). As income
inequality deepens, and access to an education becomes more segregated, possibly we
will see a much needed shift in government support. Until then we can only hope that
OER, including open textbooks, continues to be a popular investment for foundations.

In the next chapter I will discuss the environmental impact created by the demand
for paper that is a vital part of the process of printing textbooks.
CHAPTER FIVE: THE ENVIRONMENTAL IMPACT OF PAPER

As we saw in the previous chapter, open textbooks can be beneficial to higher education institutions, instructors, and students. In this chapter, I will discuss how the switch to open textbooks could have a positive environmental impact. There are many environmental pollutants created via the process of manufacturing print textbooks. To determine the polluting culprits the entire process of making a textbook must be taken into consideration. This includes the necessary raw materials, pulp and paper production, printing and binding, transportation of goods, distribution, storage, water and waste management. In addition to the pollutants generated from paper production, negative environmental impacts also surface from the ink used in printing, related energy consumption, the creation of waste and how it is disposed. The process of printing textbooks can be linked to the release of pollutants into our air and water; impacting plant, animal, and human life.

Environmental Impact

The paper needed to produce textbooks plays a large role in the negative environmental impact of the paper production industry. This includes the degradation and destruction of our forests, destroying animal and plant species, and adversely affecting climate change by deforestation and releasing chemicals known to emit greenhouse gases. Research has shown that the most significant polluters of the textbook manufacturing process come from the manufacturing of the paper itself (Borggren, Moberg, and Finnveden 2011; Enroth 2009; Kinsella et al. 2007). Specifically, pulp and
paper production have been determined to be the highest polluting contributors within the
process. Paper production can be responsible for up to 70% of the overall environmental
impact caused by printed media (Borggren et al. 2011; Kinsella et al. 2007). Impacts vary
depending on type of book being produced, number of pages, printing technique, and
location of the pulp and paper mill and printing offices. Since many countries have
varying rules and regulations relating to the manufacturing of paper, levels of pollutants
emitted from different factories can vary greatly. The overall environmental footprint
associated with the paper required for textbook production will be greater explored in the
remaining sections of this chapter.

*Outsourcing pollution*

Here in the United States, we not only consume the most paper but it is also
estimated that 1.5 million additional tons of recycled pulp per year is needed to meet our
growing paper demands. In an effort to meet this increased demand pulp and paper mills
are attempting to expand production, but the demand is predominantly being met by
paper industry’s located within developing countries due to their limited environmental
guidelines and cheaper labor costs (Kinsella et al. 2007).

One reason why the paper industry relies on recycled pulp is due to the
degradation of the world’s forests created in part by the paper industry’s demands. One of
the largest paper companies in the U.S. (International Paper) acquired the controlling
shares of stock in a larger paper mill located in India (Pradesh Paper Mills) in 2011
(Dixon, Damodaran, Shrivastava and Swati 2013). For the pulp paper mills in India to
keep up with the demands of their purchasers (mainly the U.S.) they rely on meeting their
fiber needs by using recycled paper; most of which comes from the United States. The United States uses less than 10% of recycled fiber for its own paper production. Recycled fiber requires 30-40% less energy than using virgin fiber (Green Press Initiative 2008). An assumption may be made that these facts would inspire increases in United States recycling efforts and lead to cost and environmental savings. Instead of producing our own paper (in the U.S.) and following the guidelines established to recycle it ourselves (in the U.S.), we sell the “used” paper back to countries like India who are desperate to fulfill the heightened new demands on their paper industry that were created by the United States initially (Dixon et al. 2013).

The outsourcing of the United States paper needs onto the country of India have had detrimental effects on their country’s environment. The toxins released by pulp paper mills in India have been determined to be one of the 12 most highly polluting industries in the country (Sharma, Chandra, Singh, and Singh 2014). It is not just the air in which pollutants are emitted from the paper industry; water is targeted as well. “Pulp and paper mills are the 5th largest contributor to industrial water pollution. Pulp and paper mill effluents pollute water, air and soil, causing a major threat to the environment” (Sharma et al. 2014:6). An environmental study conducted in India discussed the release of a polymer called lignin which is derived from the pulping process. Lignin has a brownish color, which when released into water leads to an increase in water temperatures. In effect this decreases photosynthesis and the concentration of dissolved oxygen in the affected water. Pollutants discharged by pulp and paper mills make their way into bodies
of water and have catastrophic effects on fish and other aquatic plants and animals (Sharma et al. 2014). Sharma et al. (2014) notes that,

Various studies have reported detrimental effects of pulp and paper mill effluent on animals living in water bodies receiving the effluent. The effects are in the form of respiratory stress, oxidation stress, liver damage and geno-toxicity. A health study conducted near a pulp paper mill in India in 1996 reported health impacts such as diarrhea, vomiting, headaches, nausea, and eye irritation on children and workers due to the pulp and paper mill wastewater discharged to the environment (9).

Environmental policies, covering a spectrum of issues from energy use and transportation, to the use of environmentally responsible paper, are implemented by United States governmental agencies to guard against pollutants. In an effort to avoid these guidelines the Unites States often looks to other countries, with weaker environmental laws and cheap labor, to meet its paper production demands and to outsource the problem of the excessive amounts of polluting waste the discarded paper products create (Chowdhury 2012; Dixon et al. 2013). The outsourcing of our pollution is one of many serious problems created by the demand for paper.

Global warming and the paper industry

Another issue concerning the paper industry’s environmental impact lies in its contribution to global warming. Every step of the process of producing a print textbook is shown to emit toxic chemicals known to cause global warming. Pulp and paper production, transportation, ink production, shipping, and distribution are all linked to direct emissions of carbon dioxide. Paper printing and finishing are linked to excessive energy consumption. Toxic emissions are dispersed into the environment by waste
management procedures including recycling for fiber recovery, incineration, and landfills (Borggren et al. 2011; Chowdhury 2011; Enroth 2009; Kinsella et al. 2007).

By 2007 half of the world’s forests had been destroyed due to human activity. Nearly 80% of what remains of our earth’s forests has been degraded by human activity (Kinsella, Gleason, Mills, Rycroft, Ford, Sheehan, and Martin 2007). Printed books often use wood fiber which is most often harvested from forests. Thirty million trees were destroyed in 2006 to meet the demands of the U.S. paper industry. These 30 million trees had a carbon footprint equating to 12.4 million metric tons of carbon dioxide (8.85 pounds per book sold) (Green Press Initiative 2008). Twenty-five percent of carbon dioxide emissions that are caused by humans come from deforestation. Harvesting trees to make paper leads to a loss of carbon in the forests which also leads to heightened CO2 emissions. It is this link that accounts for the largest portion of CO2 emissions connected to the book industry (Green Press Initiative 2008; Kinsella et al. 2007). Pulp and paper production account for 50% of the fossil carbon dioxide emissions related to printed textbooks. Thirty-five percent of emissions come from the actual printing process, and nine percent from waste management; all of which equal harmful impacts on our environment and contribute to global warming (Enroth 2009). Our remaining forests are still threatened by the continual demands of the paper industry (Green Press Initiative 2008; Kinsella et al. 2007).

Another environmental issue emerging from the paper industry is the release of methane. Methane is a greenhouse gas that is 23 times more heat-trapping than CO2.
When paper is not recycled, and is instead discarded into landfills, it will release methane while decomposing. The most significant source of methane released from landfills has been identified by the U.S. Environmental Protection Agency as being released from decomposing paper (Kinsella et al. 2007). The release of these toxins affects our air, water and soil which, in turn, directly affecting our plants, animals, the planet and human existence.

Dematerialization via open textbooks

There is a high carbon footprint associated with printed materials (Chowdhury 2011; Enroth 2009; Kinsella et al. 2007). Libraries and educational institutions can play a key role in helping the environment through a commitment to dematerialization. This can be accomplished by replacing printed books, journals, newspapers, etc. with digital content, such as open textbooks and open source technology. Dematerialization of printed content at institutions could lead to savings in greenhouse gas emissions. Greenhouse gases include carbon dioxide and other harmful gases such as nitrous oxide, ozone, hydrocarbon and chlorofluorocarbons, as well as black carbon (Chowdhury 2011).

Typically greenhouse gas emissions are measured in metric tons of carbon dioxide. Information and communications technology, by utilizing dematerialization, could cut carbon dioxide emissions drastically. Prior research noted that, “By 2020 a savings in CO2 emissions could be made that would be greater than the current annual emissions of either the U.S. or China. Man-made global emissions could be cut by 15% by 2020 following these dematerialization guidelines” (Chowdhury 2011:489).
Although a switch from print to open textbooks would not be solely enough to reverse the damage we have reeked on our planet, it is a good start to decreasing our negative carbon footprint. Borggren et al. (2011:139/145) notes that,

Producing fewer books that end up being wasted is still an important part of the environmental performance of the printed book industry. The seller-buyer relationship is one area where the internet may provide improvements… as goods may be produced in more direct response to customer demands, which could lead to reduced energy demands for warehousing.

Better yet, if a switch were made from print to open textbooks there would be no related overproduction of paper products related to textbook production, no demands for warehousing, and a drastic reduction in energy use.

The climate benefits of reducing paper consumption are significant. If, for example, the United States cut its office paper use by roughly 10 percent (or 540,000 tons) greenhouse gas emissions would fall by 1.6 million tons. This is the equivalent of taking 280,000 cars off the road for a year (Kinsella et al. 2007: v).

Imagine the positive impact that could be generated by all educational institutions switching to open textbooks instead of print.

Textbooks require paper, and a lot of it. As I have discussed in this chapter there are many negative impacts on the environment associated with textbook production mainly due to paper processing. The paper industry’s actions, our individual choices in purchasing paper products, and the disposal of paper products has an immense impact on our environment and our lives. Textbook production can be linked to the destruction of our forests, the destruction of habitats for plants and animals, pollution to the air and water, landfills linked to the production of methane, CO2 emissions, global warming and
overall climate change. Although a switch from print to open textbooks is not enough to save our planet, it is a simple and positive start that we have the technology and resources to begin enacting immediately.
CHAPTER SIX: MATERIALS AND METHODS

The cost of higher education is rising. This includes both higher education tuition and textbook prices (Ackerman, Hilton, Robinson and Wiley 2014; Beaver 2010; Bliss et al. 2013; Bliss, Robinson, Hilton, and Wiley 2013; Hilton et al. 2014; Jones and Jackson 2012; Koch 2006; Overland 2011; Vickers 2010; Wiley, Green, and Soares 2012). These increases in cost contribute to the gap between those students who are financially secure and those who are not (Ackerman et al. 2014; Beaver 2010; Bliss et al. 2013; Hilton et al. 2014; Koch 2006; Torche 2011; Wiley, Green, and Soares 2012). For students living on a tight budget it can become necessary to seek out alternate options for textbook purchases to save money, such as online retailers. Students also often purchase older editions of textbooks to save money, or completely forego purchasing the required course materials altogether. As discussed in Chapter Four, students are overall in support of open textbooks (Bliss et al. 2013; Bliss, Robinson, Hilton, and Wiley 2013), and a majority of students report a positive experience in using open textbooks versus print (Bliss et al. 2013; Bliss, Robinson, Hilton, and Wiley 2013), yet there is little research engaging instructors’ perspectives on open textbooks. This is a vital area of research since it is instructors who choose the required textbooks for their courses and, in turn, create the cost associated to their students.

Based on these facts the aim of my research is to assess Ocean View University (OVU) instructors' perspectives on open textbooks in higher education. From this data, generalizations may be made about whether or not instructors feel the shift to open
textbooks would be a positive or a negative experience for the students, themselves, and the University.

To measure instructor knowledge, awareness, and use of open textbooks I asked instructors a series of questions engaging their current and future use of open textbooks and their knowledge of university incentives for adoption. Additionally, I asked questions engaging instructors perceived feelings about open textbook implementation and its impact on student success and on OVU. Lastly, I asked questions engaging instructors concerns with open textbook use and the impact of print textbooks on the environment.

Research Site

Ocean View University (OVU) is a medium-sized public university in the Pacific Northwest: I am using a pseudonym for the institution to maintain the confidentiality of the respondents. It is a part of the California State University (CSU) system and is home to just under 9,000 students this last Fall 2015 semester (Ocean View University Fact Book 2015).

Ocean View University has a rising Hispanic/Latino population. In the Fall of 2015, 44% of first time undergraduates self-reported Hispanic/Latino origin. This number rose from 30% in the Fall of 2012. In the Fall of 2015, nearly 60% of first year undergraduate students reported being first generation college students. In addition, OVU was recently awarded the status of being a Hispanic Serving Institution (HSI) as their population of student who self-identify as Hispanic is over 25% (Ocean View University Fact Book 2015).
The American Psychological Association (APA) (2015) notes that often first generation college students are from families with a low SES (Beaver 2010; Meling et al. 2012). In Chapter Three I discussed the high numbers of Hispanic/Latino families living in poverty (Lopez and Velasco 2011), and the rise of the Hispanic/Latino population of college students. Data compiled by OVU’s Institutional Research department confirms the pattern addressed by the APA. Low-income students represented 33% of first time undergraduates at OVU in the Fall of 2012. In the Fall of 2013 this number rose to 37%. In 2015 it rose to 55% (Ocean View University Fact Book 2015). Lopez and Velasco (2011) addressed in their research that it is not just Latina/o’s that tend to fall into the lowest income brackets but overall it is students who compose minority statuses (Chapter Three). The OVU website shows in 2013, non-underrepresented minorities (URM) (Non-URM is defined by OVU as “White or Asian undergraduates”) graduate at a rate that is about 7-21% higher than URM students.

So why does it matter that OVU has a growing base of URM students? Or that their numbers of first generation and low-income students are on the rise? This dilemma can be connected back to Cultural Capital Theory. In Chapter Two inequality was analyzed between children from low and high-income families (economic capital). Those students with economic capital often have higher symbolic, social, and cultural capital which helps them navigate the higher education path. As OVU has high numbers of low-income minority and first generation students it is important to take into consideration
that these students are entering higher education with different skills and needs than those students who come from high-income families.

As minority, low-income, first generation students are all on the rise at OVU another important factor in my analysis of student demographics relates to OVUs ability to meet these students’ needs appropriately. One possible way to determine if these students’ needs are being met would be to analyze OVU’s student retention rates. The definition of “retention rate” according to the OVU website is, “How many first-time to college full-time undergraduates were retained for 1, 2 and 3 years” (Ocean View University Fact Book 2015). The OVU Fact Book states,

Over five years of data, an average of 27% of first-time undergraduate students left after their first year and an additional 13% left after only two years. Only 55% of the original first-time undergraduate cohort returned for a third year of courses. The 6 year graduation rate for the last 10 years at OVU was only 42%, compared to close to 50% for CSU system-wide students.

According to the statistics represented in OVU’s 2016 Fact Book, “Ocean View significantly lags behind the CSU system-wide graduation rates. Around 12% of OVU students graduate within four years, compared to about 17% of the system-wide students.” With such high numbers of students dropping out before completing their degrees it is important to ask the question, what can be done to retain these students and ensure their success?

Bailey, Jenkins, and Leinbach (2005) found that nationally 38% of public 4-year college students are from the two lowest income quartiles. At OVU students seem to be in even more financial need than Bailey et al.’s findings. The financial aid section of
OVU’s website notes that for the 2015-2016 academic year 84% of first year students applied for financial aid. Of the 84% who applied, 74% of students were determined to have financial need, and of that 74% of students 93% actually received financial aid. Of the entire base of full-time undergraduates 83% were determined to have financial need of which 96% actually received financial aid (Ocean View University Fact Book 2015). In response to the heightened populations of low-income, minority, first generation, financially insecure students OVU has created a strategic plan for goals they hope to achieve by 2025 termed the Graduation Initiative 2025. At the beginning of this list OVU cites the university system’s mission,

To seek out individuals with collegiate promise who face cultural, geographical, physical, educational, financial, or personal barriers and to assist them in advancing to the highest educational levels they can reach with a quality postsecondary education. We encourage you to leverage these goals as an opportunity to reaffirm your longstanding commitment to the principle of educational opportunity for underrepresented students (Ocean View University Fact Book 2015).

Ocean View University instructors’ perspectives of open textbooks in higher education are relevant to this study, as OVUs student demographics include a high number of low-income, first generation, and minority students. Ocean View University also has low student retention rates when compared with other similar institutions. As noted in Chapter Three, prior research has shown that of low-income first generation college students, only 11% will complete their bachelor’s degree within 6 years (Beaver 2012). Ocean View University mirrors colleges and universities who are all seeing an increase in Latina/o student enrollment (Meling et al. 2012; United States Department of
Education 2016). In addition, OVU has lower graduation rates than most colleges in the CSU system (Ocean View University Fast Facts 2016). Although OVU does not offer specific racial/ethnic data as to which students are not making it to graduation, prior research has shown that although the number of Latina/o students enrolling into degree programs is on the rise, the actual number of Latina/o students completing their degree programs is quite low (United States Census Bureau 2016). These factors make OVU an ideal case study for conducting a survey on instructors’ perspectives of open textbooks in higher education as the demographics of OVU students suggests that they would benefit from the cost reduction to higher education associated with open textbook implementation.

**Instructor survey**

To gain an understanding of OVU instructors’ perspectives of open textbooks in higher education, I developed a survey using SNAP Survey. The survey ran from November 30th to December 11th of 2015, and was approved by my Institutional Review Board (IRB 15-090). A random sample population of 200 instructors at OVU was generated by the Institutional Research and Planning (IRP) department at OVU. Emails were sent to all instructors in the sample. I sent one initial invitation to the survey, and two follow up reminders over the next 10 days. Of the 200 instructors contacted, 47 completed the survey for a 23.5% response rate. Prior to conducting the survey, I had been informed by IRP that response rates, for surveys of my nature, were usually around 50%. I feel that my resulting lower response rate was due to a few intersecting factors. First, the survey ran immediately following the campus break for Thanksgiving and over
the 2 weeks leading up to semester finals. As it was university instructors I was surveying, I feel this chosen period of time may have been an exceptionally busy period due to final preparations and end of the semester work. Second, I offered no incentives for participation in my survey. Lastly, many respondents conveyed sentiments that they avoided using open textbooks within their classrooms due to a lack of open textbook options and/or the materials being inefficient or inadequate in comparison to their paper-textbook counterparts. I feel that this overall negative view of open textbooks may shed some light on the low response rate of instructors.

To explore instructors’ perspectives towards open textbooks at OVU I developed a survey on SNAP Survey with 37 total questions. The survey instrument included questions about demographics, employment and education, general textbook information, student success, open textbooks, and one open-ended question where participants were encouraged to offer any additional comments that they may have about open textbooks. At the beginning of my survey I offered the following statement,

The following questions will gauge your assessment of open textbooks. Wikipedia defines an “open textbook” as “A textbook licensed under an open copyright license, and made available online to be freely used by students, teachers and members of the public.” When I use the terminology “open textbook” within this survey I am referring only to the above definition and not to any other free model, such as having a copy of the text available in the library or offering your students scans of the required text/s.

Measures

My measures will be broken down into four categories including Respondent Demographics, Instructor Textbook Norms, Student Textbook Norms, and Open Textbooks. Measures are detailed below.
Respondent Demographics: To understand if there are any patterns based on individual-level attributes of the instructors, I included several demographic measures. I also included measures of respondents’ education and employment status, as well as their comfort with technology. I describe each measure below.

**Gender.** Participants were asked to select the category that best explained their gender. They were given the option to select all that apply with the categories of male, female, transgender male/ transgender man, transgender female/ transgender woman, genderqueer/ gender non-conforming, and prefer not to state.

**Race.** Participants were asked to select their race and/or origin. They were given the option to select all that apply with the categories of White, Hispanic/ Latino/ or Spanish Origin, Black or African American, Asian, American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, and prefer not to state. There was an additional option to fill in a preferred race or origin in addition to the above or if the respondents preferred race or origin was not listed.

**Age.** Participants were asked to provide their age in years.

**Degree.** Participants were asked to select the highest level degree that they have obtained with the categories of bachelor’s degree, master’s degree, or doctoral degree.

**College Level Instruction.** Participants were asked to provide the number of years that they have been teaching at the college level.

**Employment Status.** Participants were asked to select their status of employment at OVU from the categories of adjunct, tenure track, and other.
In the questionnaire, participants were asked to select the income bracket under which their annual salary falls at OVU. Respondents could choose their income bracket in categories ranging from under $15,000, to over $91,000 per year, in $5,000 increments.

Teaching Discipline. Participants were asked to fill in the department/s in which they teach in at OVU.

Comfort with Technology. Participants were asked to respond to the statement: I am comfortable using newer technology in the classroom. The participant could choose along a Likert scale from strongly disagree to strongly agree, or select “not sure.”

Instructor Textbook Norms: To understand instructor’s textbook requirements for students, and the effect textbook cost plays in instructor choice, I asked the participants several questions relating to the number of required textbooks and their cost. I also included a measure of how influential textbooks cost may be on instructor choice. I describe each measure below.

Number of Textbooks. Participants were asked to select the average number of textbooks that they require their students to purchase per semester. The categories of choice were one-two, three-four, five-six, and six+.

Textbook Cost. Participants were asked to select the average cost per semester of their required textbooks per student. They could choose between less than $20 and more than $201, in $20 increments, or they could select “not sure.”

Effect of Textbook Cost. Participants were asked to state whether or not they agreed with the statement: The cost to a student of a textbook has an influence on my
decision of requiring it for my course. The participants could choose along a Likert scale from strongly disagree to strongly agree, or select “not sure.”

*Student Textbook Norms:* To understand instructor perceptions of textbooks, and student decision making about textbooks, I asked the participant instructors several questions relating to their perception of the effect cost has on student textbook purchases. Additionally, I asked questions engaging instructors’ perceptions of the effect textbook purchases play in a students’ course participation and overall class grade. I describe each measure below.

**Older Editions.** Participants were asked to select the proportion of students they feel purchase older editions than the required textbook editions to save money. They could choose between zero to 20 percent, and 100 percent, in increments of 20 percent.

**Required Textbooks.** Participants were asked to select what percent of students they feel purchase all the required textbooks. They could choose between zero to 20 percent, and 100 percent, in increments of 20 percent.

**Effect of Textbook Price.** Participants were also asked to respond to the statement: Students decide which textbooks to buy based on price. The participant could choose along a Likert scale from strongly disagree to strongly agree, or select “not sure.”

**Textbook Effect on Participation.** Participants were asked to respond to the statement: Student participation is impacted by whether or not they purchase the required textbooks. The participant could choose along a Likert scale from strongly disagree to strongly agree, or select “not sure.”
Textbook Effect on Grades. Participants were asked to respond to the statement: Student grades are impacted by whether or not they purchase the required textbooks. The participant could choose along a Likert scale from strongly disagree to strongly agree, or select “not sure.”

Open Textbooks: To understand instructor’s knowledge and perceptions of open textbooks, I asked several questions relating to the perceived effects on student success, their concerns about implementation, what they perceive to be potential impacts on pedagogy, the environment, and institutional concerns of OVU. I describe the measures for each of these, below.

Knowledge. Participants were asked to respond to the statement: I feel knowledgeable about open textbooks. The participant could choose along a Likert scale from strongly disagree to strongly agree, or select “not sure.”

Impact on Student Success. I asked participants the extent to which they agree or disagree with several statements regarding open textbooks and student success. I asked about the general Benefit to Students of open textbooks, whether they believed open textbooks could Reduce Academic Barriers, and if open textbooks had an Effect on Retention. For each, the participant could choose along a Likert scale from strongly disagree to strongly agree, or select “not sure.”

Impacts on Pedagogy. Participants were also asked to respond to the statement: If I were to switch to open textbooks, it is likely that I would have limited choices for my
classes. The participant could choose along a Likert scale from strongly disagree to strongly agree, or select “not sure.”

Additionally, participants were asked to answer four questions relating to how they feel switching to open textbooks, versus print, would affect their pedagogy. The areas of pedagogy referenced were Lecture Preparation, Accessing Supplemental Course Materials, Syllabus Preparation, and Teaching Style. Under each of these areas the participants were offered the same options to choose from which included harder with open textbooks, easier with open textbooks, no change, and unknown.

Impact on Environment. Participants were also asked to respond to the statement: Switching to open textbooks would help reduce the adverse environmental impacts of printed textbooks. The participant could choose along a Likert scale from strongly disagree to strongly agree, or select “not sure.”

Impact on OVU. Participants were asked to respond to the statement: Open textbook adoption would be beneficial to OVU. The participant could choose along a Likert scale from strongly disagree to strongly agree, or select “not sure.”

Incentives. Participants were asked two questions pertaining to incentives from OVU to switch from print to open textbooks. First they were asked if they were familiar with any OVU incentives (Knowledge of Incentives), then they were asked if such an incentive would impact their likelihood of implementing open textbooks (Impact of Incentive). For each, participants could choose between yes, no and “not sure.”
Implementation. I asked participants if they would currently consider assigning an open textbook (Current Implementation), and if they would be more likely to use open textbooks in the future than now (Future Implementation). For each, respondents could answer along a Likert scale from strongly disagree to strongly agree, or “not sure.”

Data analyses

I used Quantitative analysis to measure the multiple choice and multiple select items of this survey. These results were analyzed using SPSS Statistical Software. Descriptive statistics, via basic frequencies, were used to break down the participants’ responses to these questions. Because of the small sample size in this study, a full statistical analysis was not appropriate. A descriptive analysis of results was conducted instead. The final open-ended question was analyzed using thematic analysis in which an emphasis was placed on recording patterns or themes recurring throughout the examination of data.
CHAPTER SEVEN: RESULTS AND DISCUSSION

Results

Thus far, I have provided an analysis, through a Cultural Capital framework, of the factors that may be contributing to student’s barriers in accessing and completing college. In Chapter Two, I discussed the role that the escalating tuition and textbook costs may play in hindering some students’ chances at completing a higher education (Beaver 2010; Gallant 2015; Hilton et al. 2014; Koch 2006; Vickers 2010; Wiley, Green, and Soares 2012). In Chapter Three, I provided an overview of those students most affected by the rising costs associated with completing a college degree. In Chapter Four, I examined the implementation of open textbooks as a possible cost saving tool that could reduce some of the barriers students face (Bliss et al. 2013; Bliss, Robinson, Hilton, and Wiley 2013; Gallant 2015; Hilton et al. 2014; Koch 2006; Overland 2011; Vickers 2010; Wiley, Green, and Soares 2012). In Chapter Five, I explored the environmental effects associated with the paper production needed to accommodate the print textbook market. I argue that open textbook implementation can reduce barriers to student success and help bridge gaps between students of low and high SES. Although studies have been conducted to survey students’ attitudes towards open textbooks, little research has been done on instructors’ perspectives of them. This is a vital area of research as it is the instructors who choose the required textbooks for their course and, as such, the associated costs to their students.
To fill this gap in research, I conducted a survey of OVU instructors to gauge their perspectives on open textbooks in higher education. Of the 200 instructors sent my initial survey invitation, 47 instructors completed the survey (23.5% response rate).

These instructors represented 23 departments (out of a total 42) at OVU. A description of the instructor participants can be seen in Table 1 where OVU respondent demographics are compared to overall OVU and CSU faculty demographics. My results will be broken down into four categories including Respondent Demographics, Instructor Textbook Norms, Student Textbook Norms, and Open Textbooks. The results are detailed below.

**Respondent Demographics**

In this section I present my respondent demographics. This will allow for analysis of any patterns based on individual-level attributes of the instructors. The findings are described below.

Table 1: Respondent, Ocean View University Faculty, and California State University Faculty Demographics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Respondents</th>
<th>OVU Faculty</th>
<th>CSU Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respondent Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>53% (24)</td>
<td>47%</td>
<td>44%</td>
</tr>
<tr>
<td>Female</td>
<td>44% (20)</td>
<td>53%</td>
<td>52%</td>
</tr>
<tr>
<td>Prefer Not To State</td>
<td>2% (1)</td>
<td></td>
<td>4%</td>
</tr>
<tr>
<td><strong>Respondent Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 to 29</td>
<td>5% (2)</td>
<td>Unknown</td>
<td>1%</td>
</tr>
<tr>
<td>30 to 39</td>
<td>32% (13)</td>
<td>Unknown</td>
<td>15.8%</td>
</tr>
<tr>
<td>40 to 49</td>
<td>24% (10)</td>
<td>Unknown</td>
<td>29.8%</td>
</tr>
<tr>
<td>50 to 59</td>
<td>29% (12)</td>
<td>Unknown</td>
<td>29.6%</td>
</tr>
<tr>
<td>60+</td>
<td>10% (4)</td>
<td>Unknown</td>
<td>23.7%</td>
</tr>
<tr>
<td><strong>Respondent Race</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>84% (38)</td>
<td>75%</td>
<td>66%</td>
</tr>
<tr>
<td>Latina/o</td>
<td>4% (2)</td>
<td>4%</td>
<td>9%</td>
</tr>
<tr>
<td>Black</td>
<td>0</td>
<td>1%</td>
<td>4%</td>
</tr>
<tr>
<td>Asian</td>
<td>2% (1)</td>
<td>4%</td>
<td>16%</td>
</tr>
<tr>
<td>Variable</td>
<td>Respondents</td>
<td>OVU Faculty</td>
<td>CSU Faculty</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>2% (1)</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>Prefer Not To State</td>
<td>7% (3)</td>
<td>13%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Source: Adapted from CalState Profile of CSU Employees Fall 2013 and Ocean View University Fast Facts Fall 2015.

**Gender.** With reference to gender, of the 47 instructors who completed the survey, 53% selected male, 44% selected female and 2% selected the option “prefer not to state.” There were two participants who did not select any answer for their identities. By comparison, male faculty in the overall CSU system is almost 10% less and female faculty in the CSU system is 10% higher than my OVU respondents (California State University 2013). The gender information for faculty at OVU offered on their website shows that the entire faculty population is more closely representative of the overall CSU totals than what is represented by my respondents.

**Race.** Looking at race, 84% of the instructors selected their race and/or origin as White, 4% selected Hispanic/ Latino/ or Spanish Origin, 2% selected Asian, 2% selected American Indian or Alaska Native, and 7% selected “prefer not to state.” There were two participants who did not select any answer to reference their race and/or ethnicity. My respondent sample mirrors that of OVU’s overall racial faculty demographic in all categories except White where the representation of my respondents is 10% higher. In comparison to the overall CSU faculty demographics for race, my respondents show an 18% higher representation of Whites, a 5% lower number of individuals who identify as Latina/o, no respondents who identified as Black (in comparison to a 4% overall CSU
representation), and a 14% lower representation of individuals who identify as Asian (California State University 2013).

**Age.** Ages of instructors who participated in my survey ranged from 27 to 73 with a mean age of 46. Of the total 47 participants who took the survey, five did not input any response to the question of age. In comparison to the ages of the overall faculty of the CSU system my respondents age demographics accounts for more than double the percent of faculty in the 20 to 39 age bracket and half the percent of faculty over 60 (California State University 2013). I was unable to find information detailing the demographic ages of the overall faculty at OVU for comparison to my respondent sample.

Table 2: Respondent Degree, Years Instructing, and Employment Status Demographics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Respondents</th>
<th>OVU Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Degree</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor’s</td>
<td>2% (1)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Master’s</td>
<td>34% (16)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Doctoral</td>
<td>64% (30)</td>
<td>Unknown</td>
</tr>
<tr>
<td><strong>College Level Instruction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 5</td>
<td>34% (16)</td>
<td>Unknown</td>
</tr>
<tr>
<td>5 to 10</td>
<td>19% (9)</td>
<td>Unknown</td>
</tr>
<tr>
<td>11 to 20</td>
<td>34% (16)</td>
<td>Unknown</td>
</tr>
<tr>
<td>21+</td>
<td>13% (6)</td>
<td>Unknown</td>
</tr>
<tr>
<td><strong>Employment Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjunct</td>
<td>44% (20)</td>
<td>60%</td>
</tr>
<tr>
<td>Tenure Track</td>
<td>46% (21)</td>
<td>40%</td>
</tr>
<tr>
<td>Other</td>
<td>11% (5)</td>
<td></td>
</tr>
</tbody>
</table>

**Degree.** Thirty-four percent of respondents indicated a master’s degree as their highest level of education. Sixty-four percent of respondents listed their highest level of education as a doctoral degree and 2% of respondents selected a bachelor’s degree. I was
unable to find information detailing the degree level attained by the overall faculty at OVU for comparison to my respondent sample.

**College Level Instruction.** Thirty-four percent of respondents selected that they have taught at the college level for under 5 years, 19% selected 5 to 10 years, 34% selected 11-20 years, and 13% selected over 20 years. I was unable to find information detailing the amount of years of college level instruction of the overall faculty at OVU for comparison to my respondent sample.

**Employment Status.** Of my respondents, 43.5% selected that they hold an adjunct status of employment at OVU, 45.5% selected tenure track status, and 11% selected the option “other.” In comparison, overall OVU faculty are represented as being 60% adjunct and 40% tenure or tenure-track status making my respondent sample a slight over-representation of tenured faculty and a notable under-representation of adjunct faculty. In comparison to the overall CSU system, from 2008 to 2013 the entire CSU system has seen a decline in the hiring of full-time tenure-track faculty. In 2008, 678 new full-time tenure-track faculty were hired. In 2013 the number dropped to 470 new hires. In 2013-2014, 51 percent of CSU faculty were listed as part-time adjunct status (California State University 2014), suggesting that my respondents demographics are representative of the overall CSU system.

**Income.** Twenty-seven percent of respondents selected a salary under $30,000 annually. Thirty-one percent stated an annual salary of between $31-45,000 and 10%
stated an annual salary between $46-60,000. Sixteen percent of instructors selected between $61-75,000 and 13 percent make $86,000 or above.

**Technology.** As seen in Figure 4, 92% of respondents either somewhat or strongly agree with the statement that they are comfortable using newer technology in their classrooms. As OER offers many materials to instructors to implement into their pedagogy, such as lecture slides and supplemental materials, gauging instructor’s comfort with newer technology is important in understanding the ease with which they will be able to implement newer technology into their instruction. Having a workable understanding of, and comfort with, newer technology is vital to successfully implementing these resources, including the implementation of open textbooks into the classroom.

![Classroom Technology](image)

*Figure 4: Classroom Technology*
Instructor Textbook Norms: It is almost always individual faculty that chooses the textbooks for their classes. Prior research found that the faculty making these decisions may pay little attention to the cost of their required course textbooks or the burdens the associated costs may present for their students (Koch 2006; Miller, Silver, Stevens, and Clow 2012). To understand instructor’s textbook requirements for students, and the effect textbook costs play in instructor choice, participants were asked several questions relating to the number of required textbooks in their classes and their cost. A measure was also included to determine how influential the costs of textbooks may be on instructor choice. The results of each measure are discussed below.

Number of Textbooks and Cost. The following questions relate to textbook cost and instructors’ perceptions of students’ purchases and engagement. Most all respondents surveyed (91%) stated that they require only 1 or 2 textbooks per course with the most common selected total cost per semester of their required textbooks per student being between $101-120. In comparison to national averages, the National Association of College Stores (2015) reports the average college student will spend on textbooks each year to be $655. Whereas the College Board (2015) puts the annual cost of books and materials at $1,168. My respondent’s averages, when tabulated to a full-time students course load, would fall between these two estimates making them representative of national averages.
Effect of Textbook Cost

Respondents were then asked if the cost to a student of a textbook has an influence on their decision of requiring it for their course. The majority of respondents (87%) selected that they either somewhat or strongly agree with this statement (Figure 5).

Research conducted by the Connecticut Board of Governors for Higher Education found only 58% of the state’s faculty were aware of the textbook costs for their courses and 43% stated that cost played a factor in their choice of required text (Koch 2006). In comparison to this research, OVU instructors may be much more highly cognizant of the actual cost of their required textbooks, although a comparative analysis was not conducted to see if their perceived costs accurately represented the actual costs of the
required materials. Additionally, OVU instructors showcase a much stronger influence related to textbook cost and selection.

Figure 6: Employment Status and the Effect of Textbook Cost

In an effort to determine if there are any patterns in participant responses based on individual level attributes of the surveyed instructors, I ran cross tabulations on the responses noted in Figure 5. Participants were asked if the cost to a student of a textbook has an influence on their decision of requiring it for their course. The responses to this question were cross tabulated against the demographic measure of employment status at OUV. The findings from this comparison are represented in Figure 6.

When comparing the measures of OVU employment status and responses to the question, "I consider textbook cost to students when picking the required textbooks for a
class," 55% of respondents who selected the employment status of “adjunct” either strongly or somewhat agree with this statement. In comparison, 45% of respondents who selected that they hold “tenure” status either somewhat or strongly agree (Figure 6).

![Figure 7: Employment Status and Salary at Ocean View University](chart)

In Figure 7 I compared the responses of participants between their stated annual salary at OVU and their employment status at OVU. Cross tabulations show that 100% of participants who listed themselves as “adjunct” status make under $50,000 a year, in comparison to 100% of participants who listed themselves as “tenure” status who all make over $50,000 a year. The data shown between Figures 6 and 7 may represent a sense of solidarity by adjunct instructors making less money towards the cost of their required textbooks.
Student Textbook Norms: To understand instructor perceptions of textbooks, and student decision making about textbooks, I asked the participating instructors several questions relating to their perception of the effect cost has on student textbook purchases. Additionally, I asked questions engaging instructor’s perceptions of the effect that textbook purchases play in a student’s course participation and overall class grade. The results of these measures are detailed below.

Figure 8: Student Purchases of Required Textbooks and Older Editions

Required Textbooks and Older Editions. If a student is unable to afford the required textbooks for a course they may opt to purchase an older edition of the required text or possibly forego the textbook purchase altogether. The following questions engaged OVU instructors’ perceptions of how often they feel these circumstances exist.
for their students. Figure 8 (Required Texts) shows the levels at which instructors perceive that their students are purchasing all of the required textbooks for their courses. Over a third (36%) of instructors feel that 81-100% of their students are purchasing all the required textbooks for their courses. Thirty percent feel that between 61-80% of students are purchasing all the required texts and 25% of instructors feel it is closer to 41-60% of students. In Figure 8 (Older Editions), I have represented the responses of OVU instructors as to what percent of their students may be purchasing older editions of the required textbooks to save money. Most (57.5%) instructors feel it is 40% or less of their students that are buying older editions of textbooks.

A study conducted in 2011 found that 75% of Arizona State University college students surveyed stated that they would forego a required textbook purchase for a class if the cost is too high (Miller et al 2012). Additionally prior research has shown that seven out of ten students report high textbook costs leading to them not purchasing the required text. Of these seven out of ten students 79% stated that they felt not having their own copy of the required textbook would lead to them doing poorly in the class, yet they still did not purchase the required textbook (Redden 2011; Miller et al 2012; Berry, Cook, Hill, and Stevens 2011). When compared to the above prior research, my respondents may be overestimating their students purchases and underestimating the influential role cost may be playing in student purchases.
Figure 9: Effect of Textbook Price

Effect of Textbook Price. When asked if OVU instructors feel that students decide which textbooks to buy based on price, 62% of respondents either somewhat or strongly agree with the statement (Figure 9).
Textbook Effect on Participation and Grades. Respondents were asked two questions relating to their assumptions about the impact that not purchasing the required textbooks might have on their students’ overall learning and course participation. When asked if instructors agree with the statement: Students’ participation in a course is impacted by whether or not they purchase the required textbooks, 85% of respondents selected that they either somewhat or strongly agree (Figure 10: Effect on Participation). When asked if instructors agree with the statement: Students’ grades are impacted by whether or not they purchase the required textbooks, 91.5% of respondents selected that they either somewhat or strongly agree (Figure 10: Effect on Grades).
Open Textbooks: To understand instructor’s knowledge and perceptions of open textbooks, I asked several questions relating to the perceived effects on student success, their concerns about implementation, what they perceive to be potential impacts on pedagogy, the environment, and institutional concerns of OVU. I describe the results for each of these, below.

![Open Textbook Knowledge](image)

Figure 11: Open Textbook Knowledge

Knowledge. When asked if instructors agree with the statement: I feel knowledgeable about open textbooks, 57.5% of respondents selected that they either strongly or somewhat agree. Twenty-five percent of respondents selected that they either strongly or somewhat disagree with this statement (Figure 11).
Prior research has shown that when asked their level of knowledge, in a broad study taking into account responses from more than 2,500 colleges and universities, 51.2% of respondents stated being either very aware or aware of open textbooks (Allen and Seamen 2011). In comparison, it would appear that OVU respondents showcase slightly higher perceptions of their knowledge of open textbooks than instructors on the overall college/university level.

Figure 12: Open Textbook Impact on Student Success

Impact on Student Success. When asked if instructors agree with the statement: Switching to open textbooks would benefit my students, 52% of respondents selected that they either strongly or somewhat agree. Seventeen percent of respondents selected that
they either strongly or somewhat disagree with this statement, and 30.5% of respondents selected that they neither agree nor disagree (Figure 12: Benefit to Students).

When asked if instructors agreed with the statement: Open textbooks could reduce barriers to students’ chances for academic success, 76% of respondents selected that they either strongly or somewhat agree with this statement. Only one respondent selected that they either strongly or somewhat disagree (Figure 12: Reduce Academic Barriers).

Instructors were then asked to state to what extent they agreed with the following statement: Switching to open textbooks would reduce dropout rates at OVU. Forty-nine percent of respondents selected the neither agree nor disagree. Seventeen percent selected that they either somewhat or strongly agree and 34% of respondents selected that they either somewhat or strongly disagree (Figure 12: Effect on Retention).

I feel these numbers are notable as the majority of respondents feel open textbooks would benefit their students and reduce barriers to their students chances for academic success, yet they do not feel that open textbook adoption would have a positive effect on student retention. This leads me to believe that OVU instructor’s feel issues with retention are unrelated to these circumstances. Future research would benefit from surveying instructors’ perceptions of what they feel causes and may alleviate student retention issues.
In an effort to determine if there are any patterns in responses based on individual level attributes of the surveyed instructors I ran cross tabulations on the responses noted in Figure 12, in which participants were asked the level at which they agree with three separate statements regarding the impact of open textbook adoption on different measures of student success against the demographic measure of employment status at OVU. My findings are represented in Figure 13.

Of those participants who responded that their employment status at OVU is “adjunct,” 67% either somewhat or strongly agree that open textbooks could be beneficial...
to their students. In comparison, only 33% of instructors who selected their employment status as “tenure” either somewhat or strongly agree (Figure 13: Benefit to Students).

Of those participants who responded that their employment status at OVU is “adjunct,” 56% either somewhat or strongly agree that open textbooks can reduce barriers to student success. In comparison, only 44% of instructors who selected their employment status as “tenure” either somewhat or strongly agree (Figure 13: Reduce Academic Barriers).

Of those participants who responded that their employment status at OVU is “adjunct,” 75% either somewhat or strongly agree that open textbooks can reduce dropout rates at OVU. In comparison, only 25% of instructors who selected their employment status as “tenure” either somewhat or strongly agree (Figure 13: Benefit to Students).

As I noted, with reference to Figures 6 and 7, there may be some relationship between the lower salary of adjunct faculty versus tenured professors and their perceptions about open textbooks. In all three cross tabulations represented in Figure 13, those respondents who state an employment status as adjunct always show a stronger belief that the implementation of open textbooks could have positive effects on students overall success.
Impact on Pedagogy. Ocean View University instructors were asked to answer five questions relating to how they felt that a switch to open textbooks, versus print, would affect their pedagogy. When asked if a switch to open textbooks would affect textbook availability, the majority (83%) of respondents felt it would be harder to find an available textbook if a switch was made to open textbooks. Only 6% of respondents felt it would be easier with open textbooks (Figure 14: Textbook Availability). Most (58%) respondents stated that they feel that there would be no change in lecture preparation, 56% stated no change in accessing supplemental course materials, 82% stated no change in syllabus preparation, and 73% stated no change in teaching style (Figure 14).
Instructors at OVU seem to contradict prior research which has indicated a common sense by faculty that preparation time would increase if open textbooks were implemented (Bliss et al. 2013; Bliss, Robinson, Hilton, and Wiley 2013; Gallant 2015; Yuan et al. 2008). In a study of college instructors, teachers were asked if they felt the amount of time they spend preparing for a course changed after implementing open textbooks. Most (82%) noted that they felt somewhat more or much more time went into the initial first semester revisions necessary to implement the new open textbook into their course (Bliss et al. 2013; Bliss, Robinson, Hilton, and Wiley 2013) In a separate study of eight college teachers, preparation time was recorded and reported between courses with print texts and with open textbooks. Results from a chi-square test determined that there was no statistical difference found (Bliss, Robinson, Hilton, and Wiley 2013).
Figure 15: Employment Status and Open Textbook Pedagogical Impacts

In an effort to determine if there are any patterns in responses based on individual level attributes of the surveyed instructors, I ran cross tabulations on the responses noted in Figure 14, in which participants were asked 5 separate questions relating to the impact open textbook implementation would have on their textbook availability, lecture preparation, accessing of supplemental materials, syllabus preparation, and overall teaching style. The responses to these questions were cross tabulated against the demographic measure of employment status at OVU. My findings are represented in Figure 15.
Of those participants who responded that their employment status at OVU is “adjunct,” 49% feel that if a switch is made to open textbooks it would limit their textbook choices. In comparison, 51% of instructors who selected their employment status as “tenure” feel the same (Figure 15: Textbook Availability).

Of those participants who responded that their employment status at OVU is “adjunct,” 80% feel that if a switch is made to open textbooks their lecture preparation would be easier. In comparison, only 20% of instructors who selected their employment status as “tenure” feel the same (Figure 15: Lecture Preparation).

Of those participants who responded that their employment status at OVU is “adjunct,” 63% feel that if a switch is made to open textbooks accessing supplemental course materials would be easier. In comparison, only 37% of instructors who selected their employment status as “tenure” feel the same (Figure 15: Supplemental Materials).

Of those participants who responded that their employment status at OVU is “adjunct,” 75% feel that if a switch is made to open textbooks preparation of course syllabus would be easier. In comparison, only 25% of instructors who selected their employment status as “tenure” feel the same (Figure 15: Syllabus Preparation).

Of those participants who responded that their employment status at OVU is “adjunct,” 75% feel that if a switch is made to open textbooks their overall teaching style would be easier. In comparison, only 25% of instructors who selected their employment status as “tenure” feel the same (Figure 15: Teaching Style).
For every measure on open textbook pedagogical impacts (Figure 15) respondents who stated their employment status as adjunct showed a higher support for open textbook implementation and a lesser feeling that open textbook implementation would limit their pedagogy in any way in comparison to those respondents who stated a tenure status level of employment. This data led me to run a cross tabulation on instructors’ employment status and how many years they have been instructing at the college level (Figure 16).

Figure 16: Employment Status and Years of College Instruction

Figure 16 shows that of those instructors who selected “adjunct” status employment, 16% have been teaching at the college level for more than 10 years. In comparison, for those respondents who selected their employment level as “tenure” 84%
have been teaching at the college level for over 10 years. From these findings it could be argued that adjunct faculty have less experience teaching at the college level and as such may show higher levels of preference for open textbook implementation (as seen in Figure 15) due to the nature of open textbooks being part of the overall OER system which includes entire courses, lecture and instruction materials and modules, textbooks, videos, exams and tests, and software (Bliss et al. 2013; Bliss, Robinson, Hilton, and Wiley 2013; Gallant 2015; McKerlich, Ives, and McGreal 2013; Overland 2011; William and Flora Hewlett Foundation 2015; Yuan, MacNeill, and Kraan 2008; Wiley, Green, and Soares 2012). These additional instructional aides may be more helpful to new instructors without many years of experience in comparison to seasoned professors.

Figure 17: Environmental Impact of Open Textbooks
Impact on Environment. When asked if instructors agreed with the statement: Switching to open textbooks would help reduce the adverse environmental impacts of printed textbooks, 68% of respondents selected that they either strongly or somewhat agree with this statement. Only 12% of respondents selected that they either strongly or somewhat disagree (Figure 17).

Prior research conducted on faculty at Athabasca University showed 65% of instructors reported using open source textbooks. Sixty-eight percent of these instructors’ listed environmental concerns as one of the most important factors that they felt would increase their OER use (McKerlich, Ives, and McGreal 2013). Future research should include surveying OVU instructors perceptions on the role environmental concerns of print paper textbooks may have on their drive to adopt and/or use open textbooks.
When asked if instructors agree with the statement: Switching to open textbooks would be beneficial to OVU, 51% of respondents selected that they either strongly or somewhat agree with this statement. Twenty-one percent of respondents selected that they either strongly or somewhat disagree with this statement (Figure 18).

Prior research from the ninth annual report on the state of online learning in U.S. higher education, based on responses by more than 2,500 colleges and universities, showed 57% of surveyed faculty believed that open textbooks have value for their campus (less than 5% of surveyed faculty disagreed with this statement) and over 60% of
instructors felt OER has the potential to save their institution money (Allen and Seaman 2011). These findings would suggest that OVU instructors are less receptive of the benefits that open textbooks and OER may represent for their institution in comparison to other college/university faculty.

In addition, I find it notable that 76% of OVU instructors feel open textbooks could reduce barriers to students’ chances for academic success (Figure 12: Reduce Academic Barriers), yet only 51% of instructors feel the switch would benefit OVU. Further research should include a deeper analysis as to why these numbers are so low. Integrating an open-ended question could gauge instructors’ thoughts on the effect open textbook implementation would have on their institution.

![Figure 19: Incentives and Open Textbook Use](image-url)
Incentives. Participants were asked whether or not OVU offers any incentives for open textbook use. Ninety-one percent of respondents selected that they are either “not sure” or that OVU does not offer any open textbook incentives (Figure 19: Knowledge of Incentives). The follow up to this question asked instructors to answer the question: If OVU offered an incentive to instructors for using open textbooks would you be more inclined to use them in your classroom/s? Answers were split almost equally among all categories (Figure 19: Impact of Incentives).

While researching OVU to determine its relevance as the site for my study I found that they were one of the participating colleges to join the “largest free and low-cost textbook library showcase to increase awareness around open textbooks and OER in 2015.” The initiative was funded by the Gary Michelson Twenty Million Minds Foundation (Ocean View University 2015). Under this initiative, OVU instructors were offered the incentive to apply for a grant that would accompany instructors’ adoption of open textbooks into their courses.
Figure 20: Open Textbook Implementation

**Current Implementation.** When asked if OVU instructors agree with the statement: I would consider assigning an open textbook for a class, 80% of respondents selected that they either strongly or somewhat agree with this statement. Only 9% of respondents selected that they either strongly or somewhat disagree (Figure 20: Current Implementation).

**Future Implementation.** When asked if OVU instructors agree with the statement: I will be more likely to use open textbooks in the future than I am right now, 40.5% of respondents selected that they either strongly or somewhat agree. Twelve and a half
percent of instructors selected that they either strongly or somewhat disagree with this statement (Figure 20: Future Implementation).

Finally, instructors were asked to take a moment and offer any additional comments they may have about open textbooks. Of the 47 instructors who completed the survey, 25 submitted open-ended responses. I have divided the most repetitious themes into the categories quality concerns, limited choices, compensation concerns, and positive feedback. In some instances instructors offered both negative and positive feedback within their comment. Most of the feedback offered by instructors was negative and referenced open textbooks lack of quality and available choices of texts. Recurring themes included:

Quality Concerns.

_Quality of open sourced textbooks is my biggest concern, cost being second._

_Of the few open textbooks that I have found, the quality was significantly lower than the traditional textbooks._

_I have looked at two open texts for the course I teach. The quality wasn’t very high._

_I would be offering my students substandard instruction if I was restricted to open textbooks._

_I wouldn’t be opposed to using open textbooks if they were quality and fit my students’ needs, but the open textbooks I’ve seen available for the courses I teach are not high quality._

_I’m hoping that the quality improves in the next few years and I’ll probably switch to open text._
Limiting resources to cheap or free ones limits the value and accuracy of a student’s education.

I find that there are inaccuracies and biases in the open textbooks available. They are also not as engaging and as pedagogically sound as the publisher textbooks.

I really don’t like the open textbook concept... We’ve got largely inferior texts that don’t have to pass through strong editorial review.

Open textbooks often fail to meet the academic rigor of peer-review published sources, and personally I am not comfortable with providing information that hasn’t been verified by experts in the field.

I’ve had a handful of students bemoan the lack of a physical textbook.

Not all students are always connected to electricity and the internet... a hard copy book has a value to these students.

**Limited Choices.**

**Need more of them! Beyond Intro!**

I am very willing to use open textbooks and have tried to do so in the past, but the options available are too limited to meet the content of my courses at this time.

I regret that I was not able to find open textbooks while I was teaching that I liked, or at all, for my courses.

The open textbooks I have seen do not have adequate coverage of the material I teach.

There are no open textbooks for my subject area.

There are few, if any open textbooks for the courses that I am teaching.

It is difficult to use open textbooks in my field because information changes rapidly.

**Compensation Concerns.**

As a textbook author... an open textbook would basically be free labor.
As an author of a textbook, I really don’t like the open textbook concept. We lose that tiny bit of extra money that we might make on a book. That sort of sucks for those of us who put time into creating resources.

If OVU would incentivize production of open sources via assigned time I might be more enthusiastic about them.

Positive Feedback.

I think open textbooks are a great idea.

I already use an open textbook for my class. I got rid of the $132 book and moved to open resources last year.

I already use open source textbooks... I love the book because it is expressly for first year composition students.

I’m already very enthusiastic about free and open sources.

Open textbooks are wonderful and accessible.

I’m in favor of open textbooks as a course supplement, or as a way for students with financial barriers to obtain a reasonable substitute for the primary text.

I use the Physics text from OpenStax College. It is adequate, not excellent, could be improved. Switching to this book has not affected learning outcomes in the department.

As can be seen in OVU instructors’ comments, an unfortunate barrier to instructor adoption of open textbooks lies in the assumption that open source textbooks are lacking in quality in comparison to standard print texts (Aguiar 2011). Prior research has shown that faculty feels uneasy about the open textbook peer review process, editorial oversight, and the text’s production value (Kolowich 2010). These perceptions of lessened quality persist even amongst data showing that after open textbook implementation 90% of
instructors report that their students are either equally prepared or more prepared for course work and class interactions than in previous semesters when open textbooks were not utilized (Bliss, Robinson, Hilton, and Wiley 2013).

One study found that the size of college or university plays a role in determining whether or not faculty would approve of open textbook implementation. The larger the institution (enrollment over 10,000) the more strongly opposed to policy intervention the faculty was (Miller et al. 2012). Keeping with the theme of college size determining open textbook support, a study conducted at the University of California, Berkeley (which was home to 37,581 students in fall 2014) found that instructors did not believe the quality of open source texts was comparable to their standard print versions (Kolowich 2010; Agiuar 2011). Prior research engaging students’ assessments of open textbook quality showed an overwhelming 97% of participating students surveyed ranked their open textbooks as either the same quality as other texts in other courses or better than the quality of texts in other courses (Bliss et al. 2013; Bliss, Robinson, Hilton, and Wiley 2013).
CHAPTER EIGHT: CONCLUSIONS

Throughout this thesis I argue that open textbook implementation can reduce barriers to student access to and successful completion of a college education. This could work to bridge gaps between students of low and high SES. I also argue that instructor support for open textbooks is key to reducing these barriers, as it is the instructors who are responsible for choosing the required textbooks for their courses and, as such, the costs to their students.

Ocean View University was selected for its relevance to the study, as its student demographics (Chapter Six: Research Site) include a high number of low-income, first generation, and minority students. Ocean View University also has low student retention and graduation rates when compared with other similar institutions. These factors make OVU an ideal case study for conducting a survey on instructors’ assessments of open textbooks. The demographics of OVU students suggest that they would benefit from the cost reduction to higher education associated with open textbook implementation. Results from my survey showed an overall lack of OVU instructor knowledge about campus incentives offered to faculty for implementing open texts. When comparing responses between respondents who stated either adjunct or tenured employment status at OVU, adjunct faculty showed higher levels of support and less concerns over pedagogical impacts than tenured faculty. Participants stated limited choices and an overall lack of quality in open textbooks as the most common themes for their lack of open textbook
adoption. Based off of the demographic data of OVU (Chapter Three) this institution, and its students, could benefit from instructors embracing and implementing open textbooks.

*Ocean View University Recommendations*

Given the faculty’s perceptions of lower open textbook quality and a lack of knowledge about the university’s incentive program, I offer the following suggestions to OVU for future institution improvement:

- Instructors can’t utilize the university wide grant offered for open textbook adoption if 91% of faculty is unaware of its existence (Figure 19: Knowledge of Incentives).
- An evaluation of the previous effort to communicate the incentive to faculty should be performed and revised.
- A revised, and much more comprehensive, effort to educate faculty on the open textbook grant opportunity should be initiated.
- The revised incentive should incorporate educational seminars for faculty on the peer-review process, cost savings for students, and overall quality and availability of open textbooks.
- Regardless of participation in the university wide grant incentive, Ocean View should implement educational seminars for faculty on the peer-review process, cost savings for students, and overall quality and availability of open textbooks.
Limitations

There were limitations present in my survey which should be acknowledged. First, the survey relied on instructors’ answers to questions which are only as accurate as the perceptions of those who participated. For instance, instructors were asked to state the cost of an average courses required textbooks per student. An important follow-up to this survey might include an actual analysis of the instructors’ syllabi and the actual cost of required textbooks. In addition, my response rate was low (23.5%). A larger initial sample size and a stronger response rate would have been helpful in making cross tabulations between responses and determining statistical significance. For instance, one study I found stated that certain departments in higher education often showcase stronger support for open textbook implementation. Unfortunately, although my participants represented 23 departments of study at OVU, the 23 departments had little to no overlap making comparisons to this data unattainable. Similarly along these lines, if I were to have a larger sample size (and/or response rate) there may be a larger variation to race and/or ethnicity demographic information in which the sample could have been useful in determining how open textbook assessments may be racialized.

Suggestions for future research

Future research would strongly benefit from a larger sample size and higher response rates. In addition, adding a student survey alongside the instructor survey may be of importance to understanding if instructors’ assessments are in line with students. Ocean View University could possibly institute a longitudinal analysis of instructors’ perspectives on open textbooks and relate these findings to changes within the institution
relating to open textbook support and grant opportunities. Additionally, a study may be
conducted in which actual quality (content, peer review process…) is compared between
open and print textbooks. Comparative studies may also be conducted to compare course
dropout rates and grades between students in courses with print versus open texts.

It is my hope that this research can be coupled with future research to work to
better understand instructors’ assessments of open textbooks, the challenges they feel
keep them from open text adoption, and what factors may inspire them to feel more
inclined in the future to implement them into their pedagogy.
REFERENCES


Johnson, Hans, Kevin Cook, Patrick Murphy and Margaret Weston. 2014. “Higher


Appendix A: E-mail Invitation

Instructors at [Redacted].

I am a Master's student [Redacted] in the Public Sociology program. I would like to take a moment to ask for your participation in completing the following survey on open textbooks. Please review the below information and click the survey link if you wish to participate. This survey will open on November 30th and will close on December 12th.

Thank you in advance for your time and consideration.

https://www.snapsurveys.com/wh/s.asp?k=144890371669

**Overview:** This research aims to assess [Redacted] instructors’ attitudes towards open textbooks. It seeks to explore the level of awareness instructors at [Redacted] have regarding open textbooks, if they are using them in their classrooms, and what they feel are the benefits and/or barriers to open textbook use. The results of this survey will be used to complete my Master’s thesis. You may contact me directly at [Redacted] with any concerns or questions at [Redacted] or by phone at [Redacted]. This research is being reviewed according to [Redacted] IRB procedures for research involving human subjects.

**Participant Role:** If you decide to participate in this study, you will be asked to complete an online survey questionnaire which may take between 5 to 10 minutes. The survey will ask you questions about your personal assessment of open textbooks.

**Risks and Benefits:** I do not anticipate any personal risks to you for participating in this study. Faculty may find it rewarding to have an opportunity to discuss their opinions on textbooks, and worries they have about textbook prices and the impacts on students. There is no compensation for participating in this survey.

**Voluntary Participation:** Participation in this study is completely voluntary and you may stop participating at any time. You have the right to decline to enter this study or decline to answer any and/or all questions for any reason.

**Confidentiality:** Your responses will be kept completely confidential. We will not know your IP addresses when you respond to the internet survey. After the data collection is completed all electronic information will be coded and secured using a password protected file. The data from this study will be presented as part of my Master's thesis.

**Concerns:** If you have any questions or concerns with this study contact the Chair of the Institutional Review Board for the Protection of Human Subjects, [Redacted] at [Redacted]. If you have any questions about your rights as a participant, report them to the [Redacted].

By selecting yes to consent you are agreeing that you have read the above information, you are voluntarily agreeing to participate, and that you are at least 18 years of age. Please click the survey link below to agree to consent and continue onto the survey.

https://www.snapsurveys.com/wh/s.asp?k=144890371669
Appendix B: Survey

Instructors' Attitudes Towards Open Textbooks

Participant Role: If you decide to participate in this study, you will be asked to complete an online survey questionnaire which may take between 5 to 10 minutes. The survey will ask you questions about your personal assessment of open textbooks.

Risks and Benefits: I do not anticipate any personal risks to you for participating in this study. Faculty may find it rewarding to have an opportunity to discuss their opinions on textbooks, and worries they have about textbook prices and the impacts on students.

Voluntary Participation: Participation in this study is completely voluntary and you may stop participating at any time. You have the right to decline to enter this study or decline to answer any and/or all questions for any reason.

Q1 Confidentiality: Your responses will be kept completely confidential. We will not know your IP addresses when you respond to the internet survey. After the data collection is completed all electronic information will be coded and secured using a password protected file. The data from this study will be presented as part of my Master's thesis.

Concerns: If you have any questions or concerns with this study contact the Chair of the Institutional Review Board for the Protection of Human Subjects, at [redacted]. If you have any questions about your rights as a participant, report them to the [redacted].

By selecting yes to consent below you are agreeing that you have read the above information, you are voluntarily agreeing to participate, and that you are at least 18 years of age. **DO YOU AGREE TO CONSENT TO THIS SURVEY?**

- Yes
- No
Q2 Please select the extent to which you agree or disagree with each of the following statements.

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<thead>
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<th>I feel knowledgeable about open textbooks.</th>
<th>Strongly Disagree</th>
<th>Somewhat Disagree</th>
<th>Neither Disagree Nor Agree</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
<th>Not Sure</th>
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<tr>
<td>I am comfortable using newer technology in the classroom.</td>
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<tr>
<td>Switching to open textbooks would benefit my students.</td>
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<td>Switching to open textbooks would be beneficial to</td>
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<tr>
<td>Switching to open textbooks would help reduce the adverse environmental impacts of printed textbooks.</td>
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<tr>
<td>If I were to switch to open textbooks, it is likely that I would have limited choices for my classes.</td>
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<td>I will be more likely to use open textbooks in the future than I am right now.</td>
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</tbody>
</table>

Q3 Please select the percentage to which you feel answers the following questions.

<table>
<thead>
<tr>
<th>What percentage of your students do you feel purchase all the required textbooks?</th>
<th>0-20%</th>
<th>21-40%</th>
<th>41-60%</th>
<th>61-80%</th>
<th>81-99%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>What percentage of your students do you feel purchase older editions than the required editions to save money?</td>
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</tbody>
</table>
Q4 How do you feel switching to using open textbooks, versus print, would affect your pedagogy with reference to the following:

<table>
<thead>
<tr>
<th>Lecture Preparation</th>
<th>Harder With Open Textbooks</th>
<th>Easier With Open Textbooks</th>
<th>No Change</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessing Supplemental Course Materials</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Syllabus Preparation</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Teaching Style</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Q5 Does your institution offer any incentives to instructors for using open textbooks?
○ Yes
○ No
○ Not Sure

Q6 If your institution offered an incentive to instructors for using open textbooks would you be more inclined to use them in your classroom/s?
○ Yes
○ No
○ Not Sure

Q7 What is the average number of textbooks you require your students to purchase per semester?
○ 1-2
○ 3-4
○ 5-6
○ 6+

Q8 What is the average cost per semester of your required textbooks per student?
○ Less than $20
○ $21-40
○ $41-60
○ $61-80
○ $81-100
○ $101-120
○ $121-140
○ $141-160
○ $161-180
○ $181-200
○ $200+
○ Not Sure
Q9 How many years have you been teaching at the college level?

Q10 How many years have you been teaching at?

Q11 What is the highest level degree you have obtained?

- Bachelor's Degree
- Master's Degree
- Doctoral Degree
<table>
<thead>
<tr>
<th>Question</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q12</td>
<td>In what year did you obtain your highest degree?</td>
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<td>Before 1970</td>
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<td>1971</td>
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<td>2015</td>
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<table>
<thead>
<tr>
<th>Question</th>
<th>Text</th>
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</thead>
<tbody>
<tr>
<td>Q13</td>
<td>What department/s do you teach in?</td>
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<td>[Blank]</td>
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</tbody>
</table>
Q14 What status is your employment at?
- Adjunct
- Tenure Track
- Other

Q15 What income bracket do you fall into for your annual salary at?
- Under $15,000
- $15k-20
- $21k-25
- $26k-30
- $31k-35
- $36k-40
- $41k-45
- $46k-50
- $51k-55
- $56k-60
- $61k-65
- $66k-70
- $71k-75
- $76k-80
- $81k-85
- $86k-90
- $91k+

Q16 Do you hold another job in addition to instructing?
- Yes
- No

Q17 What is your average teaching course load during a semester at?
- 1 Course
- 2 Courses
- 3 Courses
- 4 Courses
- 5 Courses
- 6+ Courses

Q18 What is your age in years?
Q19  Identity: Please select all that apply.

☐ Male
☐ Female
☐ Transgender Male/ Transgender Man
☐ Transgender Female/ Transgender Woman
☐ Genderqueer/ Gender Non-Conforming
☐ Prefer Not To State
Preferred Identity (in addition to or not listed above)

Q20  Race and/or Origin: Please select all that apply.

☐ White
☐ Hispanic/ Latino/ or Spanish Origin
☐ Black or African American
☐ Asian
☐ American Indian or Alaska Native
☐ Native Hawaiian or other Pacific Islander
☐ Prefer Not To State
Preferred Race or Origin (in addition to or not listed above)

Q21  Please take a moment to offer any additional comments you have about open textbooks.