A Qualitative Investigation of Faculty Open Educational Resource Usage in the Washington Community and Technical College System: Models for Support and Implementation

Boyoung Chae, Ph.D. and Mark Jenkins, Ph.D.

Washington State Board for Community and Technical Colleges

January 2015

Reproduction of Articles

Feel free to share this report openly. This report is released under the Creative Commons Attribution license. Credit should be given to the authors of this paper *and* the Washington State Board for Community and Technical Colleges (SBCTC). Questions concerning this report should be sent to Boyoung Chae (bchae@sbctc.edu) or Mark Jenkins (mjenkins@sbctc.edu).

Acknowledgements

The Washington State Board for Community and Technical Colleges (SBCTC) is immensely grateful to the many individuals and organizations that contributed to the completion of this study.

First, SBCTC offers its sincere gratitude to the faculty members who participated in the interviews. Your in-depth insights helped us gain systemic and meaningful data on faculty's usage and need for support in Open Educational Resources (OER) at Washington Community and Technical Colleges and provided us with direction for the future development of OER in the system.

SBCTC also wishes to acknowledge the 770 faculty from our system who responded to our earlier survey, the results of which led directly to the current study. We learned about the overall status of OER use from the survey and were able to develop a detailed and informed interview protocol for this study.

Finally, we would like to recognize the eLearning directors, OER directors and advocates, library directors, and faculty coordinators in Washington's thirty-four community and technical colleges, who encouraged faculty to participate in this study. Your support is highly appreciated and it is instrumental in building a strong OER community in Washington.

Table of Contents

Executive Summary

Faculty in the Washington Community and Technical Colleges (WA CTC) system appear to use Open Educational Resources (OER) for various pedagogical and philosophical reasons. They have experienced a wide variety of benefits and challenges in implementing OER. Their needs for support include several interconnected areas.

- Faculty use of OER can be divided into four major categories: supplementing a course with OER unintentionally; supplementing a course with OER intentionally; using open textbooks as a replacement for commercial textbooks; and using open course materials in ways that are unrelated to the format of a textbook.

- Implementing OER in teaching practices was largely influenced by faculty members' attitudes toward their teaching practice. Faculty who implemented OER emphasized their desire in making educational content more easily available to students at minimum cost and issues of pedagogical freedom in their teaching practice as key motivating factors.

- Faculty experienced and took advantage of a range of different benefits in their classrooms by implementing OER. Faculty identified six major benefits, including cost savings for students, enhanced ability to respond to emerging instructional situations as they occurred, increased ability to foster and sustain collaboration, more diverse course content, and opportunities for increased reflection on teaching practices.

- Faculty identified six major challenges in implementing OER in their classrooms, including lack of time, institutional skepticism, lack of technology and skills with technology, copyright and licensing, feelings of uncertainty regarding the quality of the materials and its perception by others, difficulty in reviewing the materials, and differences in course specifications, such as scope and level of the course.

- The study identifies nine types of support that faculty believe to be necessary in order to continue to incorporate OER in their teaching. They are: endorsement from the college and department, clear policies on the use of OER, training on how to use OER, easy and organized pathways to access OER, a local support system with local experts, department level initiatives, intracampus partnerships, and funding opportunities.

We strongly recommend readers to go beyond the summary of this study, as the interview transcriptions offer detailed and in-depth illustrations of how faculty in the WA CTC system have tried to make OER work.

Previous Study

The design and execution of this study was preceded by a state-wide survey conducted in November 2013 that aimed to discover how Open Educational Resources (OER) are being used in the Washington State Community and Technical college (WA CTC) system, and what types of support are required to support OER use by faculty. A total of 780 faculty members responded in the survey. The primary findings of the study include:

- The majority of participants are aware of OER. Among those who responded to the survey 82% reported that they have heard about OER.

- The majority of participants appear to understand the fundamental concept of OER. Among the participants who indicated that they have heard about OER, 90% employed the key words that identify the core ideas that define OER.

- Among participants who indicated that they have heard about OER, 67% reported that they had searched for OER in their discipline.

- Among participants who indicated that they had searched for OER in their discipline, 60% reported that they have used OER in their teaching practice.

- Participants who indicated that they have *not* used OER for their own courses after initial review reported that they faced several challenges. Many reported that they could not locate OER pertinent to their course content.

- Among participants who indicated that they used OER in their teaching practice, 90% reported that they experienced benefits specific to OER.

- Among participants who indicated that they used OER in their teaching practice, 89% reported that they experienced challenges or difficulties specific to OER. Among these 89%, the types of challenges they described ranged widely.

- Among participants who indicated that they used OER in their teaching practice, the types of websites they visit to search for OER were varied. YouTube was clearly the most frequently used source for OER.

- Participants who indicated that they have used OER in their teaching practice are seeking various support mechanisms and services from the college or state. Over 70% consider the following areas of support to be necessary: (1) More training opportunities related to OER, (2) More professional development activities to present on OER use, (3) More formal ways to connect to the community of faculty OER users, (4) The formal endorsement of their department or school for OER use, (5) More and better supported opportunities to create OER, and (6) More information on OER.

The findings from this survey provided a broad sketch of how OER have been used in the WA CTC system. During the data analysis however, we came to understand that it was necessary to investigate further with a more inductive approach. For example, the survey informed us that numerous faculty have used OER in their classrooms, but did not tell us much about the extent and types of OER use. As such, the survey not only justified a need for further investigation it also provided a foundation to build a well-informed interview protocol for the current study and inspired us to use a more suitable research methodology.

7

Introduction

Community colleges have been the gateway to postsecondary education for many economically disadvantaged students (American Association of Community Colleges, 2014). According to a national affordability study, 44 percent of low-income[1] students choose to attend community colleges as their first college and nearly 70 percent of these students reported that they chose community colleges for affordability reasons (The National Center for Public Policy and Higher Education, 2011) .

However, while the lower tuition at a community college extends access to college education for under-served students, these students may face another financial challenge: the cost of textbooks. The College Board estimated that in 2014-15 the average tuition and fees for a full-time student enrolled in a public two-year college amounts to $3,347 and the books and supplies cost is $1,328 (College Board, 2014) -- equivalent to almost 40 percent of the tuition cost. The cost of textbooks presents a significant financial barrier for community college students.

Open Educational Resources (OER), educational materials that are made available for the public use, have been widely touted as a possible solution to help reduce the cost of textbooks in the community college system. While the cost of textbooks is a heavy burden for nearly all students, given the financial hardship of many community college students it has received particular attention. As of 2014, over 250 colleges have joined the Community College Consortium for Open Educational Resources and have been actively contributing to the organization's development. In the Open Course Library project, the Washington state community and technical system produced 81 open course packages for the system's highest enrollment courses– a project that received funding from both the Bill and Melinda Gates Foundation and the Washington state legislature. On a larger scale, the US Department of Labor's Trade Adjustment Assistance Community College and Career Training (TAACCCT)

---

[1] Low income students indicate those with less than $25,000 family annual income.

Grant Program requires the release of all deliverables as OER. This program has so far made grants to nearly 800 community and technical colleges nation-wide and is likely to be renewed for an additional round of funding.

Despite this progress, to date little has been published about how community and technical college faculty actually use and perceive OER and what types of support they need to implement and sustain OER use. Most studies focus on the general picture of faculty's use of OER in all higher education institutions including 2-year, 4-year and graduate schools (e.g., Allen & Seaman, 2014; Farrow, 2014). While these studies provide meaningful conclusions that paint a general picture of OER use in higher education, they do not provide specific guidelines in how to design a support system for community college faculty.

The lack of qualitative data is also notable. Most studies rely on quantitative surveys that collect data on various dimensions of the topic. These data provide a useful window on the different aspects of OER use in higher education. However, lacking qualitative data, it is difficult to connect the findings to provide a more systematic and holistic view.

To respond to this need, this qualitative study investigates community and technical college faculty's OER usage and support needs. First, our study examines the spectrum of faculty's use of OER and their motivations for implementing them in their instructional practice. Second, the study categorizes the benefits and challenges that faculty experience using OER. Finally, we have synthesized faculty responses pertaining to the types of institutional support needed for successful OER implementation.

To achieve these objectives, we sought to address the following research questions:

1. How do community and technical college faculty members use OER?
2. What are the key motivations to begin to use and to continue using OER in faculty's teaching practices?
3. What are the benefits and challenges faculty experienced in implementing OER?

4. What types of support do faculty require to make OER more usable and significant in their teaching practice?

Data Collection & Analysis

Employing a qualitative interview study design (deMarrais, 2004), data were collected between February 2014 and March 2014. Due to the geographical dispersion of participants, the data were collected primarily through phone interviews. Emails were sent to potential participants inviting them to participate in a telephone interview. We utilized a semi-structured interview protocol. Faculty were asked to first illustrate their own journey in using OER, from their first encounter to their classroom implementation, to successes and failures, and were asked what they had intended to achieve. Using this personal trajectory as a basis, we further investigated specific ways they used OER in the classroom, what they experienced as challenges and benefits of their personal use of OER, and what type of support they require to make OER more usable.

A criterion sampling (Patton, 2001) strategy was used to select participants with particular characteristics. Participants in this study are all faculty members in Washington's community and technical colleges who have integrated OER into their teaching practices.

The data were analyzed using a domain analysis method (Spradley, 1979), a form of ethnographic analysis that is strongly grounded in inductive analysis. Employing this method, the data were categorized into appropriate analytical contexts.

Because we used a semi-structured interview protocol, the data were likely to be dispersed around the themes of the protocol. Thus, in the first step the data were parsed to be analyzed based on three domains. These domains were the three dimensions of the interview questions: faculty's use of OER, benefits and challenges faculty experienced during OER use, and the additional support faculty need for OER implementation. After this preliminary categorization, sub-categories were identified under each domain.

<div align="center">**Findings**</div>

Faculty's Use of Open Educational Resources

      Spectrum of OER Use

A majority of the participating faculty[2] described their use of OER in the context of textbook use. Some faculty saw OER as an alternative to the traditional commercial textbook, while others considered OER as an additional resource to supplement commercial textbooks.

Table 1

Spectrum of Faculty's Use of OER

Supplementary Use	Primary Use
1. Supplementing the course with OER *unintentionally* 2. Supplementing the course with OER *intentionally*	1. Using open textbooks as a replacement for commercial textbooks 2. Using open course materials. Complete disassociation from the format of the textbook

As illustrated in Table 1, faculty's use of OER fell into two major categories: using OER as supplemental course material or using OER as primary course material.

Supplementary use. Many faculty started implementing OER as a supplementary resource and gradually increased the extent of their use of OER. They used commercial textbooks as primary materials for the delivery of their courses and used a variety of OER to support their teaching. Two major patterns of supplementary use were found:

1. Supplementing the course with OER unintentionally. Some faculty were found to have used OER without a clear intention to leverage the specific qualities of openly available resources. They used them as additional resources to supplement what they perceived to be missing from commercial textbooks and to enhance their students' learning experiences. For instance, they would add YouTube videos to provide supporting examples or add hyperlinks

---

[2] Unless otherwise noted, faculty in the Findings section refers to the participants in this study who work for the Washington Community and Technical Colleges only.

to external resources. While their use of OER was not intentional in the sense of building a course around open resources, exploring the web for the additional resources seemed to increase their awareness of the open and freely available resources.

2. Supplementing the course with OER intentionally. Faculty in this category still used commercial textbooks as primary sources of the curriculum and use OER as supplementary materials. However, their use of OER is much more intentional than the faculty in the preceding category. They were more mindful about copyright issues and would check if the materials are openly available before implementing them in their class. They might not necessarily know the technical elements of OER, but made specific efforts to use open materials.

Primary use. A great number of faculty replaced commercial textbooks with openly available textbooks or course materials that they adopted or composed. We were able to identify two major patterns:

1. Using open textbooks. Faculty in this category replaced commercial textbooks with openly available ones. These open textbooks are free to download and often times allow modification of content. The Textbook is still the primary resource for their courses, but the "openness" of the textbooks provides students with free or cost-effective access. This approach seemed to be preferred by many faculty, as it provides pre-structured turnkey solutions for easy implementation..

2. Using open course materials. Faculty in this category stated that they were intentionally moving away from the format of the textbook. They preferred to provide students with a course materials packet that would allow constant and immediate modifications. These faculty reasoned that OER gave them an opportunity to question the necessity of using textbooks and believed that they could design the course in a more responsive way if the content were not confined to the format of a textbook.

Motivation

For faculty who participated in the follow-up interview it appeared that implementing OER in their teaching practice was largely influenced by their educational philosophy. Two major motivations for faculty to use OER in their teaching practices were (1) their strong belief in educational opportunity which fuels their desire to provide low-cost access to academic content, and (2) their pursuit of pedagogical freedom.

Faculty's belief in educational opportunity. Many faculty expressed their strong desire to make education more accessible in community and technical colleges. They are concerned about the rising costs of textbooks and turned to OER to reduce the financial burden on their students. The following is typical of this view:

> *I was absolutely shocked by the cost of textbooks, especially in a community college.*
> *Students nickel and dime, they work overtime, they take more classes to be able to*
> *afford tuition, and the textbook sometimes are half the cost of tuition. In other words,*
> *the class may cost around $500 to $550. The textbook is $180. I was also shocked by*
> *the fact that every two and a half years, there is a new edition*

Sometimes a sense of urgency reinforced their belief in accessible education. Several faculty witnessed the financial struggles aced by their students, even those occurring outside the classroom.

> *My decision to redesign my course using OER was what I would call an educational*
> *emergency. I was teaching a summer communication class and discovered that only*
> *three students in the course had the textbook. In Tacoma, 70% of the people in the*
> *area are living in extreme poverty. I had to find alternatives for my students to carry*
> *this class*

For these faculty members implementing alternatives to commercial textbooks had been their long-term practice before they were introduced to the concept of OER. They did not necessarily understand the technical elements of OER and its definition, such as open

13

licensing or public domain, yet they gathered the available resources from the web, then repackaged and provided them for their students.

> *I did not know the term, but I've used OER for many years and this came about*
> *mainly when I was teaching a college success class and I questioned—and while the*
> *text, the resources were excellent, the books were very expensive. And this was*
> *probably like in the year 1999. And we had a lot of resources that I felt like we could*
> *use on campus, and this was even before we were doing so much of it online*

Many faculty said that when the term OER was introduced to them they realized it represented a philosophy that they had already implemented in their teaching practice.

> *Before it was called OER, my former director and I would speak best practices and*
> *looking beyond our college. But we could not access those online sites that seem to*
> *have really good resources because they were not available to the public– and this is,*
> *you know, 15 years ago. We didn't think that was right, and we developed our own*
> *web publication that we have published annually now for 15 years, and that's the*
> *Innovative Teaching Showcase. So we started out with four instructors and had them*
> *write up the innovative things in their teaching, and shared all their assignments,*
> *their syllabi and everything, and we put that recorded interview clips on a website.*
> *When OER came out, we knew that's where we have headed all along*

> ***Faculty's pursuit of pedagogical freedom.*** OER appealed to some faculty because of its fluid and flexible nature. This viewpoint was expressed most strongly by the faculty who abandoned the textbook format (regardless of its openness) and developed their own open course materials. These faculty exhibited a strong preference for materials that allowed them to take full control of course development and move away from what they see as the disadvantages of the traditional textbook

> *It's absolutely imperative to understand that if you're teacher and you're using open*
> *educational resources, you as a teacher get to see immediately if those resources are*

14

helpful or not to your students. And if they're not helpful to your students, you have

the power to edit them, to change them, and that is absolutely head and shoulders

above any other reason why I do these open educational materials. I can tell right

away whether or not what I'm putting out for my students is helpful and works

Several faculty used terms such as *freedom* and *liberation*, to describe their

experience of the benefits of OER.

OER to me is freedom, freedom from this push towards the norm. I am not a big fan

of having things in locked steps. As the quarter goes on, I am feeling my class, how it

is going and I change on the fly. I always felt constrained by the textbook. I also felt

constrained by certain pedagogy based on the traditional view of what mathematics

classroom is. This freedom from OER gives me new energy, like what can't I do?

Whether it was their belief in more accessible education or their pursuit of

pedagogical freedom, many faculty chose to use OER because they understand it to be more

open, fluid, and evolving in nature, characteristics that they see as consonant with their

philosophical preferences about their teaching practice.

Benefits in Using OER

Faculty experienced a variety of perceived benefits in implementing OER in their

courses. The benefits they identified can be broken down into six categories. These are

illustrated in Figure 1. The benefits are overlapping and interrelated and they provide context
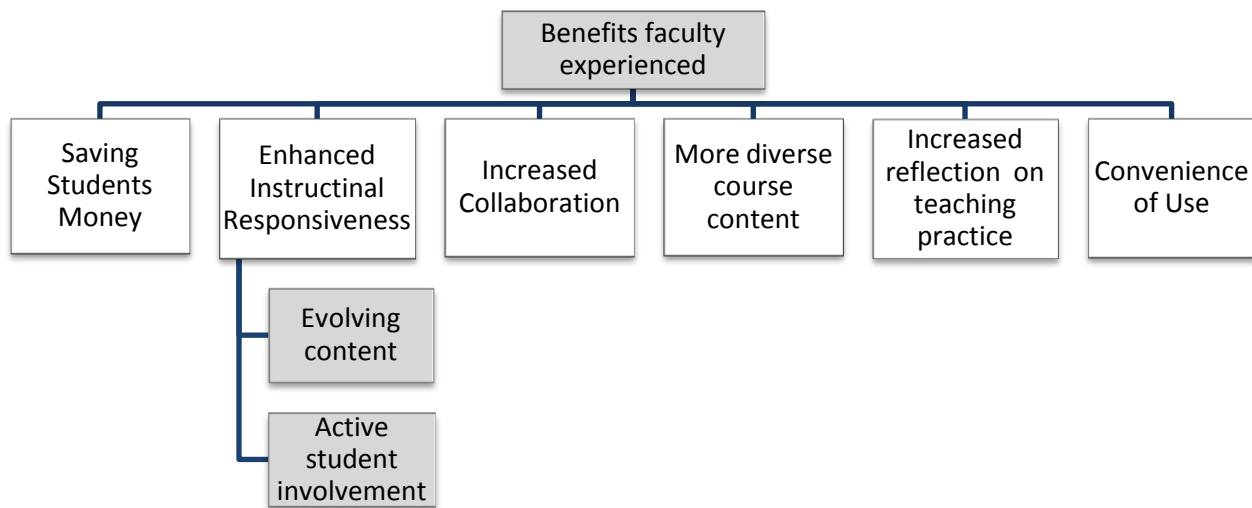
and connection to one another.

```
                    ┌──────────────────┐
                    │ Benefits faculty │
                    │   experienced    │
                    └──────────────────┘
```

Saving Students Money | Enhanced Instructional Responsiveness | Increased Collaboration | More diverse course content | Increased reflection on teaching practice | Convenience of Use

Evolving content

Active student involvement

Figure 1. Benefits faculty experienced in implementing OER in their classrooms.

Saving students money

The most frequently cited benefit that faculty identified with using OER was that of saving students money relative to the cost of commercial textbooks. Many faculty reported that their students expressed gratitude and satisfaction about cost savings.

I'm not the only instructor out there that's absolutely fed up and disenchanted with our textbook publishing system. I think the prices that publishers charge for their textbooks are exorbitant, and it pains me to see students pay these fees for textbooks that really aren't worth the paper they're printed on in many cases. So to have an open resource that's basically free eliminates that burden for students, and that to me—for any instructor who cares about the financial solvency of their students' lives, this is a huge benefit. I'm literally saving my students thousands of dollars in putting these materials out there and by having materials that other people have written like the Chemical Safety Board reports. My students don't buy a single textbook. That's the big advantage that all students have reported

The faculty's attitudes concerning students' financial well-being was perceived to help them in building connection with their students.

16

Offering the course with strictly OER materials really altered the class discussion on the first day. Most students land in my class because it's required for their major, not because they're excited about public speaking. By starting my class with a discussion about the choice to use OER rather than expensive textbooks, the students could see right away the commitment I have to their success

As such, these faculty considered "being able to help students out financially" the most important benefit that they experienced by using OER.

Enhanced instructional responsiveness.[3]

Several faculty asserted that "being able to update the content as needed" is one of the most critical benefits they have experienced in their use of OER. They emphasized that the ability to modify, update and revise OER brings two significant benefits in the classroom: (1) the presence of more current and evolving course content, and (2) active student involvement in the creation of content.

Evolving course content. Many of the faculty interviewed said that since they have different types of students each quarter what worked in the preceding year might not work in the current one. OER helped faculty adapt quickly to these differences, adjusting course content to adapt to the needs of any group of students.

What I like about my lifespan text is that I get to update all the time – it's fresh. I'm fully sold on it because of that. I can integrate other things, I can modify, I can make it more contemporary. I really like that my course is full of up-to-date and relevant information.

The responsive nature of OER also enabled faculty to add real-life examples to their curriculum. Many faculty said that they use the latest events or real data from local sources to make their curriculum more applicable to students' current employment situations.

---

[3] We define instructional responsiveness as ability to respond to emerging instructional situations as they occurred.

In my intro to human services class, the modules are looking at career opportunities. Well, we have a dynamite active link on our campus for career exploration which links them to local, state, and national jobs. So when you say something as ambiguous as human services, that's quite a job already, to clarify what that means. And starting the students on an actual, real life hunt is invaluable. And, being able to actually use resources that we have has been outstanding. I don't know that I would have done that in the same way if it hadn't been for OER

Active student involvement. Many faculty emphasized that the responsive nature of OER led their students to be more actively engaged with the specific content of the curriculum. These faculty often invited students to be editors of the course materials and updated the course content based on feedback they received from students.

I've got a roomful of editors basically and the feedback is direct and it's immediate. If I have students come up to me today and say, "Hey, Tony, this section you wrote in the book really doesn't make sense; here might be a different way of putting it," I can go back tonight, edit it, upload the changes, and it's fixed tomorrow

Through this active involvement in revising content in their specific learning contexts students grew to understand the nature and potential benefit of OER and even participated in creating new OER.

I have received a huge number of excellent OER resources from the students. They will e-mail and tell me, "Were you aware that John Hopkins University has an open resource for nurses?" Or "there is this institute in Australia that puts on incredibly good videos on medical topics, you should check them out." I wouldn't have known that if someone wouldn't have sent me an e-mail. So students really participate. They're involved in the process.

In sum, OER helps faculty to be more responsive in their use of course content, enabling them to keep their content current and evolving. They also help faculty increase

18

student engagement in their classes and in some cases create a collaborative environment for improving course materials.

Increased collaboration.

Some faculty said that by using OER they experienced wider and more active collaborations with fellow educators. Several faculty first heard of the term OER at a local teaching conference and began communicating with presenters. Some faculty who made a presentation about their OER initiatives were approached by educators outside the Washington CTC system for further collaboration. They networked nationally and globally with fellow educators who voluntarily offered help and contributed to the materials:

> *The thing kind of has taken off—it's got a life of its own now. There's enough people on the internet who've found it and who contact me with ideas or suggestions, so I get a fair amount of input from readers across the world for the book. I'm taking input from people across the globe. And it's been really, really helpful. I've got a number of colleagues across the nation who have sent photographs, have edited paragraphs and sentences for me, have pointed out typographical errors.*

In these cases, OER use led faculty to feel more connected to a larger OER community and encouraged them to continuously look further for better quality of the materials.

More diverse course content.

Many identified the potential for creating diverse course content in OER as a critical benefit. They emphasized that OER helped them implement various types of learning materials from some educational sources that they otherwise would not have been aware of. Finding these new sources of content can give faculty more flexibility to combine different elements into a new whole.

> *Specifically, OER allows me to expand beyond the textbook. It allows me to also use the best possible resources because they do exist and they're open education*

19

resources. It also opens – it gives me the flexibility to change textbooks if I need to in the future and to do away with the purchased textbook in the future, and that is a significant benefit. It also allows students to learn the same material from very different points of view without having to invest money in these different points of view – different diagrams, different perspectives. It also allows me to show videos in class which are open education resources. They're offered by major universities. I'll give you an example. It's very hard to beat University of California at San Francisco to present medical material, and this material is free online. It's an open education resource, so it expands – being a teacher in a very small college, it expands my horizon and the horizon of my students. Now they have access to very, very high-quality material

For some faculty OER has opened the door to a wide range of new resources and being able to access these resources has enhanced students' learning experiences.

Increased reflection on teaching practice.

Several faculty mentioned how OER helped them reflect on their current practices and encouraged them to experiment with different teaching styles. They mentioned that to make OER work they needed to change their practice in fundamental ways, often   adapting that practice to styles more consonant and compatible with what is necessary and possible with OER.

It's a philosophical shift, moving from the text as authority to that responsiveness to where your students are, as well as what you really need them to be able to do. The ownership of knowledge, the creation of knowledge, and the sharing of that is a huge shift in that the focus is less on the answers, getting everything, checking it off on a box, but that it reinforces the continuous assessment and improvement

Of note, the flipped classroom model was mentioned most frequently as the teaching method faculty implemented with OER. The flipped classroom model, which inverts

20

traditional teaching methods, delivers instruction online before the actual class and moves homework activities into the classroom. Faculty believe that flipped-classroom styles of teaching and learning are compatible with the use of OER.

Convenience of use.

Several faculty interviewed expressed relief that with the adoption of OER they no longer experienced the challenges caused by adopting commercial textbooks. It appears that some faculty had experienced a range of issues with their commercial textbooks, such as textbooks not arriving in time for the start of the class, students coming to the class without the textbook (because they could not afford it), students having older editions of the textbook (because they could not afford the newest edition), or difficulty caused by complications of the bookstores' ordering systems.

> *We have a bookstore that is not a chain. We don't have a Barnes and Noble bookstore; Our school bookstore just had to go to the departments and say, "Unless you commit to a textbook for three quarters or for the life of the edition, we cannot buy it for you," because what's happening is we stock them, as many students as you have, and then they don't buy them. Then after a certain point in the quarter, the bookstore has to eat that cost, and they can no longer do it. And sometimes because of some complications, our school bookstore just won't buy certain things. So if an instructor assigns it and the bookstore doesn't buy it, the student will call here and will say, "Can you order it for us?" and we're like, "Why don't you talk to your own bookstore?" and they're like, "Well, they told us they won't do it. They won't order it."*

In this context, OER is seen as improving the convenience and availability of course content by giving faculty increased control over how and when course materials are distributed.
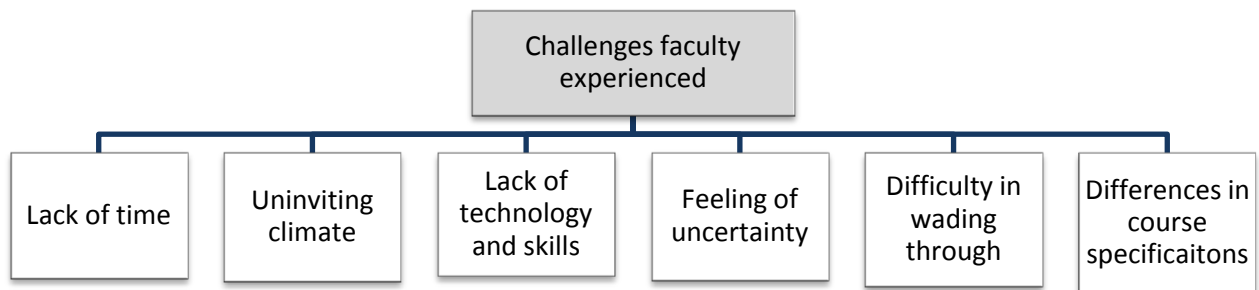
Challenges of Using OER

Figure 2. Challenges faculty experienced in implementing OER in their classrooms.

Lack of time.

Lack of time to find and modify materials was the most frequently mentioned challenge in implementing OER among faculty. This was a consistent theme with faculty at all levels of experience and in all styles of use with OER. Those faculty who are at the beginning stages wanted to have extra time to review the available OER. Faculty who have implemented OER as a supplement wished to have a block of time to convert their courses to OER-based courses. Faculty who were actively using OER as a primary resource of their courses at the time of the interviews also wanted to have extra time to repackage their courses so that they can share them with the world.

Many faculty used sabbatical years or release time to restructure their courses using OER. Even some the most enthusiastic OER advocates stated that they were planning to focus on OER integration during their upcoming sabbatical leaves. However, the adjunct faculty who comprised 65 percent of all faculty in the Washington CTC system do not typically receive release time or sabbaticals to work on OER implementations.

> *For the average, overloaded faculty member who's got way more courses than they*
> *can handle and they can barely make it from one end of the day to the other, there's*
> *just no time for them. Especially as an adjunct, you don't get any release time,*
> *there's no sabbatical, unless you're in the right place at the right time when there's*

22

funding or a grant is available, sometimes it's a matter of answering the e-mail first

to get on the committee. You just really don't have that investment in your courses

Lack of time for course redesign in current college employment contexts emerged clearly in our study as a primary barrier to performing the often time-intensive work of finding, adapting and creating OER.

Uninviting climate.

Several faculty expressed concern that their OER implementation would not be welcomed in their department or college. This was an important concern especially for adjunct faculty who were not participants in their department's textbook selection process. The department or college did not necessarily prevent faculty from implementing OER, but the implementation of a standard textbook selected by a department textbook committee leaves less room for alternatives. This has the effect of seeming to discourage the use of OER from the department/college level. One result of this is that some adjunct faculty who use OER in their course at one college may be asked to use a standard, department-selected commercial textbook for the same course at another college.

Now, since I am teaching as an adjunct faculty in a few community colleges in the

XXX[4] area, basically I use the resources that the college itself decides to. So for

instance, the two classes I'm teaching at XXX College, the books are standard books,

which I don't think are necessarily much better or actually any better than

corresponding free resources, but that's what the college chooses. So I go with it. But

at YYY College, we are using—I'm teaching the online Precalculus, and we are using

the open textbooks from the OCL project

While Washington provides policy support and endorsement the use of OER, that endorsement does not always influence the work practices and policies at individual colleges

---

[4] The name of the colleges and location were marked XXX to protect anonymity of study participants.

and departments. This can create confusion and challenges "on the ground" for faculty who would otherwise choose OER.

Lack of technology and skills.

Several faculty interviewed reported that some of their students struggled with technology issues while using OER. Many community and technical college students are struggling financially and are often ill-equipped with the necessary technologies to read materials online. While the use of OER provides a potentially cost-effective solution for students than the commercial textbook, gaps in technology and internet access can prevent students from accessing these benefits. One group of students found to experience discomfort with OER's technological requirements are returning adults who received their previous education in a traditional classrooms with commercial standard textbooks.

> *I think that I've seen the most resistance to OER from the nontraditional, older students who come back to school for a second career, unless their first career was in electronics or in IT. They are the one who really do not like OER because it's – they're not comfortable with the internet, they're not comfortable with very different resources. They like the safety of using always the same textbook, and as it's being in print is more reliable than the internet. The idea of oh, if it's electronic, it's not a high quality. We all know that it really depends on the site, and we do spend a lot of time teaching what's credible, what's not credible on the internet because it's not a yes or no situation*

Faculty reported that some community college students experienced some level of discomfort with using OER due to lack of access to computers and the internet, along with discomfort with learning from web resources. While this is a common challenge with many educational technologies, faculty report that it remains a specific obstacle to some of the students' experiences with OER.

Feeling of uncertainty.

In our discussions with faculty several expressed concern that while OER provides pedagogical freedom for faculty by giving them more control over course development it can also increase feelings of uncertainty about the quality and completeness of the content. Several faculty explained that they were initially "surprised" or "scared" about implementing OER because they were often not as obviously structured and complete as commercial standard textbooks.

Some faculty noted that their students also experienced anxiety with the increased flexibility and fluidity of OER-based classes. This was mentioned most by faculty who had completely disassociated their classes from the commercial textbook format.

> *I do know that, anecdotally, students have appreciated the lack of cost. But there is that conceptual shift that students need to go through too, in that when you use a lot of OER and really use it, rather than just replace something else, that there's the personal responsibility, anxiety, that then both with the freedom, that freedom is scary. And there's no teacher to blame if you don't like your topic*

Although several faculty and their students experienced this feeling of uncertainty due to the open and fluid nature of OER it appeared that the issues were mostly resolved after an initial implementation stage. Faculty would develop strategies or provide additional support for a smooth transition to OER.

> *The first quarter that I taught the class with OER, it was definitely a little tough because there were so many hyperlinks in the textbook that oftentimes the students – they would find things that I didn't even know existed because I didn't have time to read every single hyperlink that was available in the text. Unlike a standard textbook where you pick the pages and you are completely aware of all of the content, there were a lot of surprises for me first two quarters with OER. Then I started to see*

patterns of what students would click on, and so then I was more prepared for it and

things got much smoother.

Overall, OER implementation was found to have caused feelings of uncertainty for both faculty and students. While all innovation creates some level of anxiety during the initial stages of adoption, OER integration requires a paradigm shift in the relationships of the knowledge consumer and creator. For a smooth transition these need to be addressed intentionally during implementation and on an ongoing basis as the course materials evolve.

Difficulty in wading through the information.

In our interviews, several faculty stated that they experience some initial difficulties "wading through" the available OER to find what they needed. They were generally able to locate websites that list OER repositories, but those websites often provided insufficient guidance and information about the resources listed. Specifically, they expressed the need for more categorized search functions with guidance and richer descriptions of materials to shorten the time necessary to identify suitable materials.

Differences in course specifications.

Several faculty talked about the difficulty of finding OER for their disciplines that meets their needs and expectations. They described finding OER courses with the same title as their own course but differed from their own courses on technical grounds such as objectives, scale, scope, level, depth and emphasis. This challenge was mentioned most often by faculty seeking to use, with minimal adaptation, pre-developed OER course packages for their entire courses.

It's truly finding materials with the specific content that I want. In any class, on any

topic, especially when you get to the college level, the specificity of what each

instructor is looking for is so much more narrow and particular and individualized

that I think it's really hard to find something online that somebody else is using that

you look at and think, "Oh, that's great." Whatever I find, it does too much of this

26

and too little of that, or it addresses something in too – without enough depth or with

too much depth, and I just think that when you get to the college level, especially with

more – maybe with more experienced teachers that have been developing their own

curriculum for 20 years or more, it's hard to find something that's already developed

that actually fits

As a result, many faculty decided to develop their own materials using various elements of the OER they found instead of adopting an entire course package. Most faculty stated a preference for OER they can build upon or utilize to enhance resources they already have in hand rather than replacing their content entirely with a course developed by someone else.
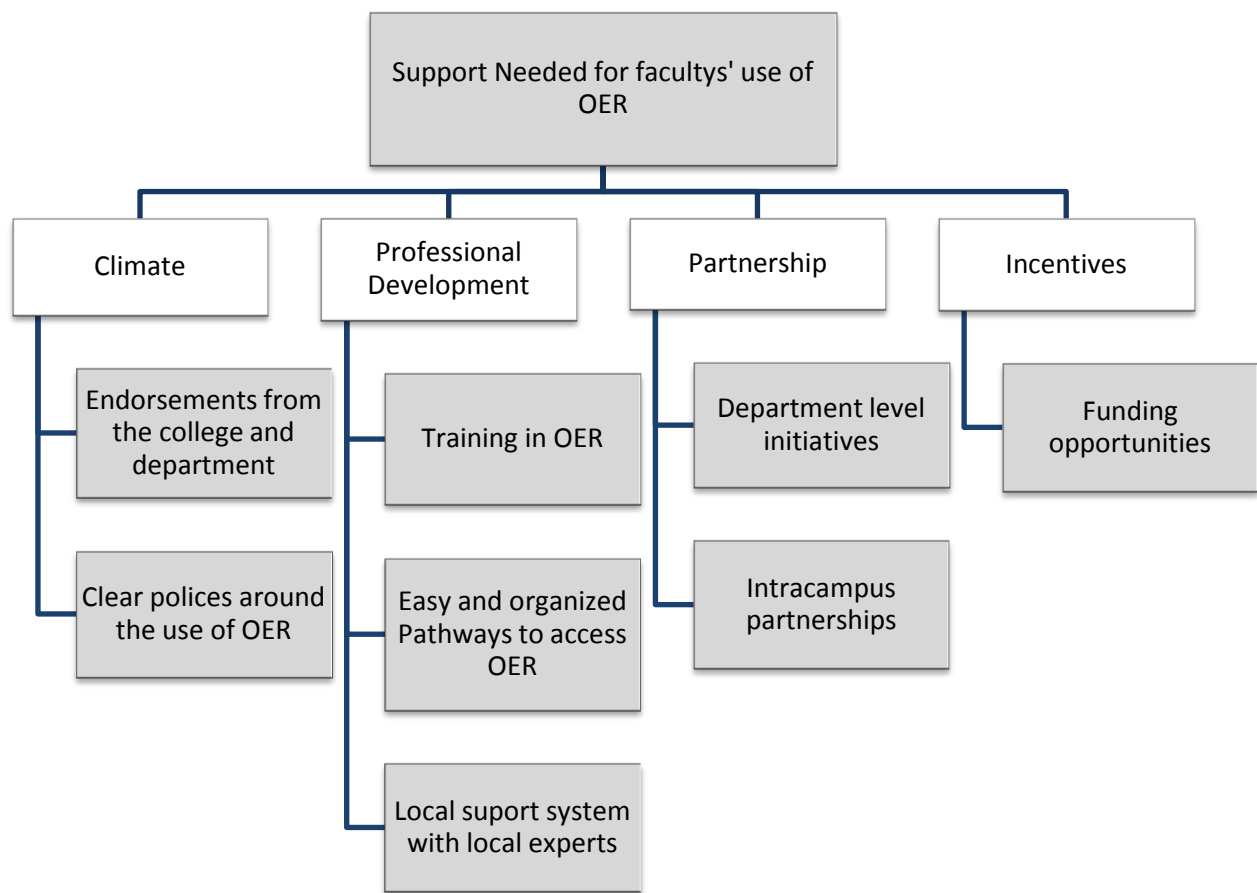
Support Needed

Figure 3. Types of support needed for faculty to implement OER in their classroom.

Through our interviews we identified nine types of support that could help faculty to incorporate OER into their teaching – or make it more likely that they will undertake to do so. They are: *endorsement from the college and department; clear policy direction around the use of OER; training on specific techniques and practices of OER use; easy and organized pathways to access OER; local support system characterized by local experts, department level policy, collaboration and professional development, intercampus partnership, and funding opportunities.* We have grouped the 8 elements into four areas: climate, professional development, partnership, and incentives.

Climate.

Several faculty stressed that setting up an encouraging climate for the use of OER is essential for both implementing OER and sustaining the effort. Faculty discussed this from the perspectives of (1) endorsement from their college and the department, and (2) clear policies around the use of OER.

Endorsement from the college and the department. It appears that endorsements from the college or the department in the concept and use of OER have a strong influence in individual faculty's OER implementation. Many participants mentioned that the reason they became involved was that administrators encouraged them to try:

> *The first I'd ever heard of it was when my dean brought it up to me. I work on our military site, and with all of the recent cutbacks, the federal spending, we're looking at ways to save our students' money, basically. Because our enrollment numbers have been going down and a lot of it's been because of cost of education, so we're trying to figure out how to cut costs. So my dean and I decided to try OER*

Administrators' knowledge and support for OER – or its opposite – had direct impact on individual faculty members' perception of OER. Administrative support plays a key role in the extent of OER implementation among the faculty.

My first encounter with OER really started with an excellent class offered at Lake Washington Institute of Technology by Ed Sargent, who was Dean of Library at the time. And he is a very strong believer in open education resources, and he offered this online class for instructors. He really communicated enthusiasm

Given the contingent nature of their employment and their relative lack of responsibility for department-level decisions about course materials, for adjunct faculty a culture of OER facilitation in their department was absolutely essential to their decision to implement OER.

Clear policies around the use of OER. Several faculty suggested the need for policies that support and sanction the use of OER. They discussed the need for policies to clarify confusion regarding copyright issues around the status of faculty-created works created using institutional resources. They also suggested a policy that marks OER-based courses in the course registration system so that students can easily identify their OER-based choices. Some interviewees suggested a policy of including open textbooks when their libraries selected relevant resources.

Professional development.

When asked what types of professional development are needed for faculty to effectively implement OER based curricula a majority of faculty interviewed talked about the need for (1) proper training in the use of OER, and (2) simple and clear pathways to access high quality OER materials.

Training in OER. Faculty interviewed described the need for proper training to effectively integrate OER into their classrooms. Training topics that were requested most often included (1) basic training that defines what OER are, as well as how to find and cite them, (2) course design training on specifically OER-based course development processes, (3) accessibility and UDL (Universal Design for Learning) focused training sessions on building more accessible and flexible learning environments with OER, and (4) basic

29

copyright and fair use training. Among these topics the need for (1) basic ground level training that teach what OER are, as well as how to find and cite them was mentioned most frequently.

> *Training we need--It's just how to use them and how to do it properly. For the content I create, of course, have references. Everything is APA-formatted and I have references, but I have a section that I call "Attributions" that I kinda have put together like an APA reference list that's got the item, name, file location, from whom, and what the license is, and a link to the license. But it's like, "Is that exactly the way to do it?" If there was a training that teaches "this is how you will cite your sources and list your attributions," that would be a very nice thing to know, because right now, I'm just winging it*

Another frequently cited training need was (2) course design training with step-by-step guidance in building a class with OER, using recognized instructional design principles. Faculty interested in this type of training stressed that building a course with OER is more than collecting numerous OER that are available. They believe that it requires a complete restructuring of the entire class and they feel the need to have training on how to build an OER-based course that is pedagogically effective.

Accessibility and UDL (Universal Design for Learning) focused training on building more accessible and flexible learning environment with OER was mentioned several times as well. Faculty explained that they naturally came across the topics of accessibility and UDL while implementing OER as these concepts fall along the lines of making education more accessible to everyone.

> *Accessibility is the key word that comes out of my whole involvement with open educational resources. I think all along the way, the message – the philosophy behind opening up educational resources was –All those things seem to be facets of the same*

thing. In other words, it wasn't just about having a textbook be inexpensive. It was

about kind of the philosophy of educating, really

Easy and organized pathways to access OER. Faculty stressed the need for web resources that provide easy and organized access to OER. Faculty experienced significant difficulty using currently available OER as a result of a lack of guidance and organization of the materials.

So one thing is organizing. I mean, find a way to make it easier to—better said, find

a way to make it easier for your average faculty, who is overworked—we are talking

community college instructors, and they have very little spare time. So somehow

make it easier for them to wade through the material

Overall, we found that faculty desired to have a one-stop referral mechanism with pre-selected resources, curated with critical information about OER, including all the available resources at their disposal. The faculty mentioned the need to know unique traits of each OER repository, to avoid having to check every possible resource.

If some way of organizing the information online about what's available and what

the various offerings, you know, in what way they differ, what they offer. That would

really help. People do have complaints that there's so much stuff out there that just

going through it would take so much time that they will not do it

As such, the faculty need a well-structured OER portal, with filtering functions, quality assurance, and an easily accessible summary of each resource.

Local support system with local experts. Many faculty discussed the need for a local support system with local expert(s). They preferred to have a local OER service unit on campus and a go-to person who can help in finding, using, and designing a course with OER. While there are numerous nationally renowned OER websites that provide resources, faculty found it equally important to have access to on-campus experts available during the implementation process to provide immediate and contextualized support. The potential or

existing local OER experts and resources that faculty identified include: early adopters in the department, OER-trained librarians, and OER-specific instructional design support and consultation.

In several Washington colleges librarians have become as the OER experts on campus. They have served as OER advocates, offering college-wide workshops and consultation to assist faculty in identifying OER in their disciplines. While librarians' roles in OER adoption vary from campus to campus, many faculty viewed them as potential OER leaders on campus. Instructional designers were also mentioned as important sources of support in faculty OER implementation efforts.

Oh, it would be great to have the support of an instructional designer to make the classes that we have as engaging as some of the things that the publishers put out, and to have somebody really able to help incorporate these—and often it's not a lack of resources; it's that there's too many resources—actually help build them into our classes. For example, I have a—we have a fabulous librarian, and she sends the information about every 15 minutes of things that might be relevant, and they are. But to research them and put them into links in the class and maybe to design an activity around those incredible assignments, that's where the challenge is

Overwhelmingly for faculty the presence of local and accessible networks of expertise and support are seen as essential to any large scale, sustainable OER implementation..

Partnerships.

We found in addition that faculty believed that organized partnership among various campus stakeholder groups was essential to successful OER implementation efforts. They identified two major partnerships that require particular attention and support. They were (1) department level initiatives, and (2) intracampus partnerships.

Department level initiatives. Many faculty asserted the need for department level initiatives in using OER. They noticed that most OER adoption happens at the individual level, rather than as a result of department initiatives or policies. While these individual projects were satisfying, the faculty noted that without a proper partnership with the department it may be difficult to sustain or expand the individual faculty's use of OER.

> *It seems like a lot of these things are very individualized, which means that random individuals are creating OER materials, but that doesn't necessarily represent the interest of the departments that they're a part of. We have 65 adjunct faculty, so we have 65 part-time faculty, and I could imagine somebody coming in and saying, "Hey, we'd like you guys to develop some OER resources," and I can imagine five or ten people developing OER resources for our English composition classes that don't reflect what we want people to do in our English composition classes. So I think the key is to kind of screen and vet and have things function at a departmental level as much as an individual level. Things can get kind of chaotic if everyone's developing their own OER materials and then things start to branch off in different directions*

Many faculty pointed out that most state- or college-wide OER initiatives focused on supporting individual faculty in implementing OER rather than encouraging a systematic department-wide transition.

> *Both from the state and the college, there's an effort to get individuals involved in projects, and the individuals involved in projects are not necessarily representing the departments that would have to implement them. There's just a real disconnect there*

In sum, our findings in this area suggest that in order to effectively promote and support the use of OER among faculty, department- or college-wide initiatives should be aligned to support individual OER adoption efforts.

Intracampus partnerships. The faculty discussed the need to form intracampus partnerships among various stakeholders. Several of them experienced the benefit of collaborating with other groups on campus to better promote the use of OER.

And in the spring, we're going to join up with our Associated Student Board and work with the students 'cause the students are working on campus to try to help one another with either used textbooks, and they are very interested in what we're doing, and the problem with working with the students is that we have a new group of students every year and so it's hard to get traction in for a long-term project with the students, but getting their input of what they are doing and trying to support them has been really helpful

Several faculty considered an effective partnership with the bookstore as necessary for OER efforts on campus.

We've met with our bookstore because we don't want to come across as antagonistic of our bookstore, but we just want them to know that we're very concerned about the rising cost of textbooks, and so that's where we are right now. And I've had a lot of informal conversations with them. So we're kind of getting everybody in the mix. You know, if I'm not adopting texts anymore; how is that affecting our bookstore? And can they maybe provide the copies that the students would want at cost of printing? And then how does that affect our copy department, you know, as far as the workload

In sum, the faculty advocated for the necessity of fostering working partnerships with various departments and other stakeholders on campus in facilitating the successful implementation of OER.

Incentives.

When asked the type of support that will help faculty implement OER and sustain the effort, many mentioned the need for extrinsic incentives, such as stipends or other funding opportunities.

Funding opportunities. Many faculty strongly expressed the need for OER initiatives that provide faculty with financial benefit or relief time to focus on OER development. While many faculty are intrinsically motivated to start implementing OER, grant projects can help them to complete the work and sustain the effort.

> *I was also operating under a grant. I would've done it for free. But this grant helped*
>
> *me finish the job. It could have taken a lot longer without it*

They explained that conversion to OER often requires the restructuring of entire courses, such as implementing a new teaching method that is more compatible with OER. The faculty suggested that even a small stipend represents a tremendous encouragement.

Recommendations

Recommendation for the Policy Makers

The results of our study indicate that clear policies are needed to support and sanction the use of OER on college campuses. The use of OER is primarily connected to copyright issues, which are often confusing and poorly communicated on campuses. Effective principles and procedures that can guide OER decisions will not only encourage faculty to implement OER but also sustain their efforts in the long run. We recommend that policy makers consider initiating or influencing the formation of policies in the following areas:

Policies on copyright ownership.

Many colleges have copyright ownership policies that spell out faculty rights for work created through the use of significant college resources such as equipment and staff. We argue that this policy be revisited to explore the possibility of allowing faculty to openly license their work. We recommend that if faculty members create their work using their college's resources, then they should retain the copyright for their own work. In addition, the colleges would retain a non-exclusive royalty-free license to use that work for educational, promotional, and public relations purposes.

Policy on individual faculty's use of OER.

This study revealed that endorsements from the college or department in the use of OER have a strong influence on individual faculty's OER implementation efforts. Every college should have a policy that sanctions the individual faculty's implementation of OER, since the use of OER can sometimes conflict with the college's or department's choice of course materials. This can be especially important to adjunct faculty. In such cases, the faculty's choice to use open materials should be approved at both the college *and* department levels, given appropriate quality and scope of the content for the courses.

Policy on the registration system.

Every college should have a policy to identify OER-based courses in the course registration system, both to assist student decision-making and to help in the collection and reporting of data about OER impact. The results of this study show that students clearly appreciate open or inexpensive course materials. They are in favor of not being required to purchase commercial textbooks, and experience the opportunity to participate in the development of the course materials that OER can offer. We advocate the development of policies that explicitly identify OER-based courses during the registration process that students will be in a better position to better manage their experience of – and possibly express their preference for – OER based learning environments.

Recommendation for College Administrators

The purpose of this study is to investigate (1) how and to what extent OER are being used in the college classroom, (2) to identify advantages and disadvantages associated with the use of OER, and (3) to identify types of support needed to help faculty implement OER. The study identified significant patterns of faculty preference and need in these three areas and we have identified four conceptual models based on these results.

College administrators who wish to advocate OER or provide supporting professional development for faculty's implementation of OER on campus can use the models developed

in this study as a framework. The current status of OER use (table 1) illustrates the different ways of implementing OER. The advantages of using OER (figure 1) will help administrators understand various advantages for faculty. The challenges identified (figure 2) will provide an insight on the difficulty or hardships faculty have faced or may face in using OER. And finally, the list of needed support elements (figure 3) provides a comprehensive picture of how to begin to prioritize support needs for faculty's OER implementation.

Recommendation for Researchers

Studies on individual college's OER implementation.

In our interviews we noticed that some colleges had unique college-wide OER initiatives that contributed to building momentum for OER adoption. Their environments were found to be different, but they seemed to share certain features or characteristics that facilitated success.

We recommend a cross-case study to investigate and compare the critical success factors of each college's OER initiative. Data can be collected through a triangulation of methods, including analyzing web documents, interviewing faculty at their respective institutions, and observing activities occurring in the community. This study could produce meaningful data to help identify common success factors across communities. Such data will also provide different and more in-depth insights on what makes OER adoptions successful.

Study on OER status in other higher education institutions.

This study was designed to investigate the current status of OER use Washington's 34 community and technical colleges. The results of this research is unique to the colleges' settings and do not represent the status of other higher education communities such as four-year universities and graduate schools.

We believe this to be a lack in current research literature and recommend a study that examines faculty's OER use and perceptions in four-year universities and graduate schools. Data can be collected through inductive qualitative studies or quantitative surveys. This

37

research can provide meaningful data to compare different practices between different types of institutions in higher education.

References

Allen, I. E., & Seaman, J. (2014). *Opening the Curriculum: Open Educational Resources in U.S. Higher Education*.

American Association of Community Colleges. (2014). Students at Community Colleges, from http://www.aacc.nche.edu/AboutCC/Trends

College Board. (2014). Trends in College Pricing.

deMarrais, K. (2004). Qualitative interview studies: Learning through experience. In K. deMarrais & S. D. Lapan (Eds.), *Foundations for research: Methods of inquiry in education and the social sciences* (pp. 51-68). Mahwah, New Jersey: Lawrence Erlbaum Associates.

Farrow, R. (2014). OER Impact: Collaboration, Evidence, Synthesis. The OER Research Hub (OERRH): The Open University

Patton, M. Q. (2001). *Qualitative research & evaluation methods* (3 ed.). Thousand Oaks, CA: SAGE Publications.

The National Center for Public Policy and Higher Education. (2011). Affordability and Transfer: Critical to Increasing Baccalaureate Degree Completion. *Policy Alert, June*.