IMPLEMENTING A FRAMEWORK FOR REDUCING TEXTBOOK COSTS BY UTILIZING OER AND OTHER TEXTBOOK ALTERNATIVES IN ONLINE COURSE DEVELOPMENT

by

Stephen Buchanan

An educational leadership portfolio submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Education in Educational Leadership

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Stephen Buchanan

Approved: _____
Chrystalla Mouza, Ed.D.
Director of the School of Education

Approved: _____
Gary T. Henry, Ph.D.
Dean of the College of Education and Human Development

Approved: _____
Douglas J. Doren, Ph.D.
Interim Vice Provost for Graduate and Professional Education and Dean of the Graduate College

I certify that I have read this education leadership portfolio and that in my opinion it meets the academic and professional standard required by the University as an education leadership portfolio for the degree of Doctor of Education.

Signed: _____

Fred T. Hofstetter, Ph.D.
Professor in charge of education leadership portfolio

I certify that I have read this education leadership portfolio and that in my opinion it meets the academic and professional standard required by the University as an education leadership portfolio for the degree of Doctor of Education.

Signed: _____

Douglas A. Archbald, Ph.D.
Member of education leadership portfolio committee

I certify that I have read this education leadership portfolio and that in my opinion it meets the academic and professional standard required by the University as an education leadership portfolio for the degree of Doctor of Education.

Signed: _____

Chrystalla Mouza, Ed.D.
Member of education leadership portfolio committee

I certify that I have read this education leadership portfolio and that in my opinion it meets the academic and professional standard required by the University as an education leadership portfolio for the degree of Doctor of Education.

Signed: _____

Matthew H. Davis, Ed.D.
Member of education leadership portfolio committee

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ABSTRACT

Costs associated with instructional materials in higher education have steadily increased over the past 10 years, negatively impacting the ability of students to pay for the course materials they need (Allen & Seaman, 2016; U.S. Bureau of Labor Statistics, 2016). Promising research is emerging about the effectiveness of using open educational resources (OER) and other low or no-cost instructional materials to reduce costs without compromising learning outcomes (Fischer, Hilton, Robinson, & Wiley, 2015; Grewe & Davis, 2017; Hilton, 2016). This education leadership portfolio (ELP) provides a framework for developing online courses using OER and other no-cost resources to help reduce textbook costs for students. From a production perspective, the framework was piloted by developing an online undergraduate nursing course using a free textbook, publicly accessible videos, industry documentation, academic journals, and a library guide that was created by the institution's library. From a process perspective, the pilot expanded collaboration between department chairs, instructional designers, subject matter experts (SMEs), and the institution's library. Evaluation of the pilot consisted of three analyses: 1) measuring student perceptions about their experience with course design, instructional resources, engagement, and workload; 2) comparing final grades and grades on a summative term paper between a non-OER and OER version of the course; and 3) interviewing instructors about their experiences delivering the course. Results indicated that students had a positive experience in terms of engagement with their classmates, instructional materials, and course design. Experience with workload in the course was perceived less favorably. There was no significant difference in student final grades or

grades on a term paper between the non-OER and OER course. Faculty perceptions mirrored other studies where there was limited awareness about OER, some concerns about quality and sustainability, and concerns about student and instructor interactions with OER content.

Chapter 1

INTRODUCTION

This education leadership portfolio (ELP) presents the implementation of a framework for developing online courses utilizing open educational resources (OER) and other no-cost resources to address the high cost of commercial textbooks in online course development. The framework was implemented at a four-year university in the mid-Atlantic region of the United States. The framework was a response to an institutional initiative to reduce textbook costs for students by reducing reliance on commercial textbooks. An online, undergraduate nursing course served as a pilot for the framework and consisted of improving existing approaches to online course development by addressing the problem of commercial textbook costs through collaborative efforts between instructional designers, program chairs, subject matter experts, and the institution's library. Improving the online course development process established a process by which online course development better aligned with institutional goals while refining student-centered approaches to online learning.

Organizational Context

The university is a private, not-for-profit institution chartered by the State of Delaware in 1967 that offers degrees at the associate through doctoral levels and is accredited by the Middle States Commission on Higher Education (Institutional Data, 2018). The institution has a substantial online presence throughout the country as well as students who attend remotely from abroad. Online enrollments comprise at least 44% of the institution's enrollments (Institutional Data, 2018). Student demographics trend

toward working adults who attend part-time; however, there is a growing traditional-aged student population who attend full-time (Institutional Data, 2018).

Curricula focus on career-oriented degrees among seven colleges, while also striving to provide programs relevant to emerging markets (Institutional Data, 2018). Thus, the institution's mission focuses on providing relevant curricula in a student-centered educational environment. Supporting the mission, the institution's vision is to provide open-access and innovative educational opportunities to the students it serves (Institutional Data, 2018). The goals of providing educational opportunities for all students, along with providing a high level of attention to students' needs, reflect the general culture of student-centered practices among staff and faculty at the institution.

The institution has two primary units that service students: Administrative Affairs and Academic Affairs. Administrative Affairs houses all student services departments. Academic Affairs houses the institution's six colleges: Arts and Sciences, Business, Education, Health Professions, Social and Behavioral Sciences, and Technology. Leadership within the colleges consists of a dean and program chairs who oversee the individual programs within each college. A small number of full-time faculty teach within each college, and about 1,400 adjunct faculty teach courses across the colleges, comprising the majority of online instructors at the institution (Institutional Data, 2018). All faculty are required to complete training for the learning management system (LMS), and all faculty who teach online are required to complete an online training program. The institution also offers professional development in LMS and online teaching in an ongoing training program administered by the Center for Teaching Excellence (Institutional Data, 2018).

Organizational Role

My position is the instructional design manager (IDM), where I lead the instructional design team. The team is housed within the Online Learning Department under the larger umbrella of the College of Online and Experiential Learning (COEL). As a unit, we are responsible for the design, development, delivery, evaluation, and maintenance of all online courses offered at the institution. As the institution offers over 130 online programs that consist of over 800 online courses, my work is fundamentally collaborative. I work with program chairs, instructional designers, adjunct faculty, and subject matter experts (SMEs) to design and develop online course content. I work directly with the LMS administrator to deliver online content via our learning management system (LMS) each semester, and the instructional design team designs, develops, and maintains all online content. I am also responsible for establishing departmental policy, directing our approaches to instructional design within the LMS, collaborating with the Educational Technology Department, and ensuring that the design team has access to professional development opportunities to remain current with technology, instructional design best practices, and LMS functions.

Given my responsibilities, I was in a unique position to assist the institution with its commercial textbook-free initiative. In the past, the primary interactions in online course development were between the SMEs and the instructional designers. Generally, this interaction involved adapting instructional materials and approaches from the face-to-face to the online environment – usually including using textbooks as the main source of instructional materials. Within the past two years, some program chairs requested the use of OER or other textbook alternatives for their courses. As these requests increased,

and as the institution moved toward a commercial textbook-free model for some programs, the need existed to 1) revise the instructional design model used for course development, and 2) begin working directly with the university library to procure and curate OER and other low or no-cost resources for use in online course development. Thus, the goals of this effort were to develop a framework for adapting our current instructional design model to include:

- Implementing a needs analysis process.
- Improving communication in initial planning meetings.
- Utilizing library resources to procure free instructional resources for students.
- Facilitating technical requirements for OER integration with the LMS.
- Effectively incorporating OER and other commercial textbook alternatives into online course design.
- Evaluating both adjunct faculty and student experiences with instructional resources and the general online learning experience.

Institutional Demographics

Published institutional data compiled in January of 2018 (Table 1) indicated that students who identified as female represented about two-thirds of the student population, and males comprised the remaining one-third of the population. Of these students, the majority resided in Delaware, with the remaining domestic population residing mostly in the mid-Atlantic region (Institutional Data, 2018). International students represented about 10% of the overall population (Institutional Data, 2018). Ethnicity data indicated that 48% of students identified as white, 25% identified as Black or African American,

and 11% identified as Asian. Data about age indicated that most students were between 18 and 39 years old, with 50% of the students falling between the ages of 25 and 39.

Table 1

Demographic Data by Enrollment Segment

Enrollment Segment	**N**	**Percent**
Gender		
Female	12,979	63%
Male	7,501	37%
Ethnicity		
American Indian or Alaska Native	275	1%
Asian	2,281	11%
Black or African American	5,028	25%
Hispanic	529	3%
Native Hawaiian/other Pac. Islander	48	.20%
White	9,749	48%
Unknown	2,570	13%
Age		
<=24	5,380	26%
25-29	5,105	25%
30-39	5,217	25%
40-49	3,110	15%
50+	1,659	8%
Undisclosed	9	.40%
State of residency		
Delaware	12,125	59%
Maryland	1,593	8%
New Jersey	3,785	18%
Pennsylvania	1,600	8%
Other	1,377	7%

Table 2 depicts student enrollments and the cost of attending the institution in tuition alone (i.e., tuition numbers did not include course materials, housing, or other costs) for the 2016-2017 academic year (Institutional Data, 2018). Most students were

undergraduate and part-time. For students attending online, at least 44% took at least one online class; the remaining students attended face-to-face only (Institutional Data, 2018).

Table 2

Enrollments by Location and Tuition by Level

Location	Enrollment %
Online	44
New Castle	15
Graduate Center	16
All Other	25
Level	**Tuition**
Undergraduate	$8,712
Graduate	$8,388
Doctoral	$11,106

The data in Tables 1 and 2 illustrate an institution that serves a regional, largely domestic student population. Most students are non-traditional, working-age adults between the ages of 25 and 39, but there are a significant number of traditional-age students (26%) between the ages of 18 and 24, 76% of students work full-time and at least 10% work part-time (Institutional Data, 2018). Data regarding income and non-academic expenditures are not available; however, retention data indicate that billing holds account for 44% of undergraduates who did not persist in their degrees and left the institution (Institutional Data, 2018), suggesting that cost is a factor in retaining students.

Definition of Open Educational Resource

Definitions for OER vary, and the breadth of resources fall into categories long-used in educational settings, both before the proliferation of online learning and in modern online environments. The overarching criteria for OER were defined in 2002 by the William and Flora Hewlett Foundation (2019) as, "…teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have

been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions." Smith and Casserly (2006) defined OER in terms of sharing resources as a *public good*. Perhaps the most detailed definition was what Wiley (2014) referred to as the 5 Rs: retain, reuse, revise, remix, and redistribute. Retain refers to ownership and control of content; reuse refers to freely using the resources; the revise component allows for adapting or modifying the resources; remixing allows for combining resources to use in various contexts; and redistribution concerns the ability to share resources. Resources can include textbooks, documents, lesson plans, simulations, videos, and even entire courses (e.g., MITs Open Courseware) (Hilton III et al., 2010; Walz, 2018).

There is a distinction between OER and other free educational resources. That is, OER are generally free, but not all free resources are OER. The distinction lies in licensing, where OER are licensed under a Creative Commons license that stipulates the conditions under which a resource can be used (OER Commons, 2019). Free resources fall within the public domain or under the Fair Use legal doctrine that permits use of copyrighted materials for the purpose of, "…criticism, comment, news reporting, teaching, scholarship, and research" (U.S. Copyright Office, 2019, par 1). Thus, a course that utilizes OER necessarily uses Creative Commons-licensed resources. In the context of this ELP, the framework pilot course (discussed below) used a mix of OER, and public domain and library resources, all at no cost to students.

Framework Pilot

A central component of this ELP was piloting the development of an online nursing course to test the framework from a procedural standpoint and to a meet

textbook-free institutional initiative (see Appendix A). The goal of the pilot was to build consensus within the Online Learning Department about how the framework would contribute to the institution's textbook-free initiative while providing an organized approach to actualizing an effective approach to online course design that would benefit academic program development efforts.

The pilot consisted of identifying a high-enrollment, undergraduate, online course that relied on a commercial textbook where a program chair was interested in developing a new course around existing objectives and assessments but with free instructional resources. The solution for instructional resources was to utilize the institution's library to 1) work with the textbook publisher to centralize free access for students to an e-text version of the book, 2) include industry-related materials from library databases and OER, 3) provide all resources at no cost to students, and 4) evaluate student and adjunct faculty perceptions and student performance.

ELP Organization

The following chapters and artifacts (presented as appendices) of this portfolio detail the problem addressed, improvement strategies, results of improvement efforts, reflections on improvement efforts, and reflections on leadership development. The chapters work in concert with artifacts that were created throughout the improvement process where the central problem was approached through improving online course development and evaluation processes. Artifacts document the inception of the online course development pilot, detail the relevant literature that informed the framework, outline online course development and evaluation strategies, and report the results of the

online course development pilot. Below is a brief description of each artifact and the role it plays in this ELP.

Description of Artifacts

1. Appendix A: Operational Plan for Pilot Course

   This document was created during the initial phase of the improvement plan and served as a component of the Online Learning Department's three-year strategic plan where implementing textbook-free solutions aligned with both institutional and departmental needs. The operational plan detailed the rationale for the pilot, stakeholders, roles, and how the pilot would be conducted.

2. Appendix B: Review of Relevant Literature

   Prior to conducting the pilot and developing survey prompts, a review of relevant literature was conducted that focused on the history and current perceptions about OER use in online courses, case studies of implementing OER and other no-cost instructional resources into online courses, regional and national efforts to reduce student costs by utilizing OER, and the role of university libraries in implementing commercial textbook-free initiatives in higher education institutions.

3. Appendix C: Needs Analysis for Course Development Planning

   The needs analysis served as a preliminary step in examining what would be needed to begin development of the pilot course. A rationale for the course, course description, outcomes and objectives, accreditation standards, and payment for development were collected to inform how the instructional designer,

department chair, and subject matter expert (SME) would approach course design, development, implementation, and evaluation.

4. Appendix D: Online Course Development Planning

   Utilizing the backward design model (Wiggins & McTighe, 2011), the Online Course Development Planning established a course rationale, identified the desired results for the course, detailed the formative and summative assessments that demonstrate understanding of the subject matter, detailed student learning experiences, and aligned instructional resources with objectives and assessments.

5. Appendix E: Online Course Development Rubric

   The Online Course Development Rubric is an ever-evolving evaluation tool used by the instructional design team during the development process. Criteria were drawn from institutional knowledge and practices along with criteria specific to general user experience with technology, effectiveness of educational technology used in a course, alignment of objectives and assessments, applicability of learning experiences, student engagement, evaluation methods, and the utilization of relevant instructional resources.

6. Appendix F: Student Perceptions Survey Analysis

   This survey collected data about student perceptions of their experience with the design and resources used in the pilot course. The survey represents an evaluative piece of the overall framework and served as a component of the framework pilot. Survey prompts aligned with the Online Course Development Rubric.

7. Appendix G: Student Performance Evaluation Analysis

   This survey compared student performance between the pilot course that used textbook alternatives and the original version of the course that primarily utilized a purchased textbook and limited external resources. Performance was measured by final grades in the courses and grades on a summative research paper.

8. Appendix H: Adjunct Faculty Interview Analysis

   Adjunct faculty who taught the pilot course were interviewed about their experience teaching the course and perceptions about the design of the course, focusing on the instructional resources, student workload, instructor workload, quality of resources, and the perceived impact on student performance.

9. Appendix I: Department Chair Questionnaire

   The questionnaire was an outgrowth of the pilot and targeted program chairs to gauge interest in moving programs and/or specific courses to the textbook-free model.

10. Appendix J: Education Leadership Portfolio Proposal

11. Appendix K: Institutional Review Board Documentation

Chapter 2

PROBLEM ADDRESSED

Online course development at the institution relied too heavily on commercial textbooks in online courses. Thus, a systematic way to implement OER and other textbook alternatives into the online course development process was needed to facilitate the reduction of instructional material costs.

Higher education tuition continues to increase, as do costs associated with commercial textbooks, imposing an added financial burden on students (College Board, 2018). Since 2006, college tuition and fees have increased 63% in the United States (U.S. Bureau of Labor Statistics, 2016). Commercial textbook costs also increased during this period (National Center for Education Statistics, 2018). According to The College Board (2018), the average college budgets for undergraduates across public and private institutions for books and supplies represented significant expenditures (e.g., $1,250 for private, nonprofit, four-year institutions).

While textbook costs have generally increased over time, the National Association of College Stores (NACS, 2018) reported that the 2017-18 academic year marked the first year in a decade in which overall spending on course materials decreased. The NACS (2018) also reported that 20% of the students they surveyed downloaded free course materials, perhaps contributing to the current decrease in costs. Nevertheless, a cost gap persisted between what students paid for their overall education and what they could pay based on emerging low or no-cost alternatives to high-priced commercial textbooks. Reducing some of the financial burden on students by offering alternatives to commercial textbooks represented a way in which the institution could

actualize its mission to offer affordable, student-centered education. One key way to bridge this cost gap in the online environment was to implement the use of OER and other instructional materials into the online course development process.

According to internal departmental documentation (2018), as of the summer 2018 semester, there were over 800 online course offerings. Of those courses, about 10% did not use commercial textbooks. This number is a best guess, as previously the department did not track which courses used textbooks and which ones did not. As the movement toward OER and other free resources gained momentum at the institution, some program chairs offered their courses textbook-free or planned to offer them textbook-free in the coming academic year. For example, the program chair for the undergraduate degree in Human Resources Management estimated that students would save over $1,200 if commercial textbooks were eliminated in the curriculum (personal communication, 2018). Prior to this framework, there was no system in place to support these efforts from a course development perspective.

Thus, the problem was two-fold. First, the need to lower educational costs for students was a nationally-recognized issue in higher education that also impacted students at the institution. Working more closely with stakeholders during the online course development process provided a way to mitigate these costs. Second, implementing an online course development framework specifically for utilizing alternatives to commercial textbooks provided an avenue for program chairs to offer programs that would save students money.

Chapter 3

IMPROVEMENT STRATEGIES

Process Revisions

Improvement strategies consisted of building consensus among the leadership and stakeholders in the development process that there was need for the department to undertake a revision of current practices and implementing the following components into the course development process:

1. Conducting a needs analysis prior to course development that improved communication and established roles for chairs, SMEs, instructional designers, and educational technologists.
2. Involve the university's library in procuring resources.
3. Effectively designing, developing, and implementing online courses using OER and other instructional resources.
4. Improving internal online course evaluation by updating the Course Evaluation Rubric.
5. Improving online course evaluation by surveying students, analyzing outcomes, and interviewing adjunct faculty about their experiences teaching the courses.

Online Course Development Process

ADDIE (analysis, design, development, implementation, and evaluation) was the core model on which the online course development process relied (Elkins & Pinder, 2015; Hodell, 2016). In the context of developing an online course, analysis involved collecting information and data about the targeted online course, determining needed resources, and formulating instructional strategies; design focused on constructing a

rationale, developing goals and objectives, and other pre-development activities; development focused on creating and organizing content, technology integration, and revising content; implementation involved delivering content to students; and, finally, the evaluation phase evaluated the effectiveness of the course (Hodell, 2016).

While the ADDIE model provided a structural component to online course development (Table 3) since the inception of the Online Learning Department in 2007 (Institutional Data, 2018), the model is inherently linear and did not account for some of the complexities of communication and interaction in the online development process. These limitations necessitated adjustments to how the model was used in course development. Table 3 illustrates the components of the original process, where the instructional designer and SME did not participate in the analysis phase. Figure 1 shows the directional flow of the original model, illustrating the phases as discrete instances on a linear path.

Table 3

Original Course Development Process

Component	Description	Stakeholders
Analyze	Assessing student/program needs, developing objectives/program outcomes, course description and rationale, selecting course materials.	Program Chair, Academic Council, Curriculum Committee
Design	Course sequencing, alignment, teaching strategies, evaluating student performance, technology implementation	ID and SME
Develop	Developing course materials, procuring instructional resources, adding content to LMS	ID and SME
Implement	Deliver content to course sections	ID and IDM
Evaluate	Redevelopment based on course age, textbook changes, and ad hoc feedback	IDM and Program Chair

Note. The previous process limited collaboration between the analyze phase and the remaining phases of the process, where a gap existed primarily between the program chair, ID, and SME.

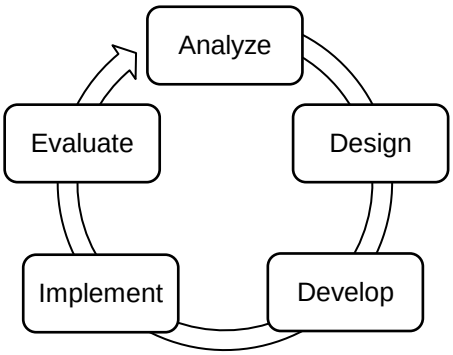

Figure 1. Previous ADDIE process. The flow from one phase to the next represents a linear path that does not allow for recursive communication and revision

The revised development model (Table 4) demonstrates improvements to the process. Fundamental differences existed in the approaches to the initial tasks of analysis, design, and development, where these tasks were once conducted primarily by program chairs, academic council, and the curriculum committee. These tasks now include the instructional designers, SMEs, program chairs, and librarians and focus on specific programs or individual courses that may benefit from alternatives to commercial textbooks.

Table 4

Revised Course Development Process

Component	Existing Stakeholders	Revised Stakeholders
Analyze	Program Chair, Academic Council, Curriculum Committee	Expanded analysis: formalized needs analysis with Program Chair, SME, ID, Library
Design	ID and SME	Program Chair, SME, ID, Library
Develop	ID and SME	ID, SME, Program Chair
Implement	ID and IDM	ID, IDM
Evaluate	IDM and Program Chair	IDM, SME, Program Chair (Library if needed)

Note. The revised process facilitates better collaboration between the Analyze phase and the remaining phases of the process.

The revised analysis phase benefited from improved collaboration with stakeholders where program chairs, an instructional designer, SMEs, educational technologists, and librarians established specific needs and a vision for the course. The design phase, too, benefited from the revision where the instructional designer and SME worked more closely on organizing and designing the learning materials and experiences in course development. For the development phase, the instructional designer worked exclusively with developing the content within the LMS. This was another departure from the original approach in that SMEs were no longer tasked with adding content to the LMS. Further, adjunct faculty and student feedback were part of the evaluation process. Adjunct faculty and student surveys assessed their perceptions of course design, student

engagement with the instructional resources, use of technology, and workload. These improvements positively affected the process flow (Figure 2) and allowed for a more integrated and recursive approach to communication and revision.

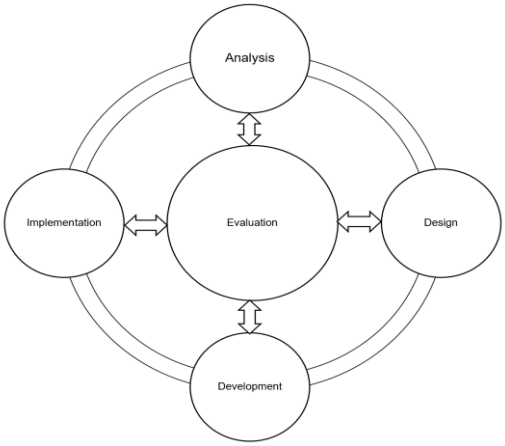

Figure 2. Revised ADDIE Process. Flow of the revised online course planning utilizing the ADDIE model with key changes made to the initial tasks, analysis, design, and development components.

Rationale

The rationale for the revised framework addressed two components. First, the ADDIE model informed much of the structural and project management components of the framework. Previously, the analysis component was completed mostly by program chairs who developed certain aspects of their curricula (e.g., identifying learner needs, goals, and objectives) prior to the course development process, leaving further analysis to SMEs and instructional designers. Under the revised development framework, stakeholders worked collaboratively on the design and development of content, including both course planning, and acquiring OER.

Second, technology and cognition theory informed the design and development components of the framework, thereby adding a layer of research-based practice to course design. Specifically, constructivist approaches to learning informed the overall learning environment and the effective use of educational technologies supported the constructivist approach by utilizing the LMS and other technologies as constructive rather than purely instructive tools (Cheung & Vogel, 2013). The use of OER and other commercial textbook alternatives further supported this framework by broadening the scope of educational tools beyond traditional textbooks, thereby providing students with potentially more effective learning experiences via game-based learning, adaptive learning tools, and customizable open-source resources (Chow & Croxton, 2017; Dobler, 2015; Dominici & Palumbo, 2013; Liu, McKelroy, Corliss, & Carrigan, 2017; Online Learning Consortium, 2016).

Chapter 4

IMPROVEMENT STRATEGY RESULTS

Overview

Results of the evaluative components of the framework were promising. The student survey yielded useful results about how students perceived the overall course design, instructional resources, interaction, and workload. Results of the outcomes analysis had parity with the other studies detailed in the literature in that there were no statistically significant differences between outcomes in the previous version of the nursing course compared with the pilot version of the course. Finally, the adjunct faculty interviews produced actionable information about organizing resources in online courses and being conscious of the number of resources used as additional OER courses are developed in the future.

Student Perceptions Survey Analysis

The results of the survey (Appendix F) provided a valuable metric for examining student perceptions about their experience with course design and resource components in the pilot course. Students indicated that they had a positive experience in terms of engagement with their classmates, instructor, and technology used in the course. However, experience with workload in the course was perceived less favorably than experience with the overall design of the course, suggesting an effective course design, but perhaps the perception that the course contained too many assignments. The importance of all other dimensions of the survey notwithstanding, student perceptions about their experience with the instructional materials (alignment with content, ease of access, and number or resources) were favorable.

Because this was the first time the survey was administered, there were no comparative data. However, when the course is updated in the future, the survey can be administered again to gauge any changes in student perceptions. The survey will also prove valuable in evaluating future courses developed within the framework, and it will allow for department chairs, adjunct faculty, and instructional designers to open a discussion about any problem areas that exist in newly developed courses that do not use commercial textbooks. This potential for ongoing communication and collaboration supports the efforts of the online course design framework and further supports collecting data about student experiences in online courses as an evaluative tool within the course development process.

Student Outcomes Analysis

Two research questions were addressed to compare outcomes of previously offered online sections of the nursing course and Fall 2018 online sections of the pilot course (Appendix G). The analysis examined final course grades and grades on an outcomes assessment (OA) term paper assignment.

Research question 1: Is there a statistically significant difference in final course grades between students who took a version of the course that used a commercial textbook and students who took a version that used OER?

There was no significant difference in final grades between students in the Fall 2017, non-OER course ($M=95.0$, $SD=4.94$) and the Fall 2018 OER course ($M=94.85$, $SD=5.0$), $t(281) = 1.22$, $p = .223$. Therefore, the null hypothesis that there was no difference in OA scores based on the type of educational resources was retained.

Research question 2: Is there a statistically significant difference in OA grades between students who took a version of the course that used a commercial textbook and students who took a version that used OER and other no-cost instructional resources?

There was no significant difference in OA grades between students in the Fall 2017, non-OER course (M=94.2, SD=6.5) and the Fall 2018 OER course (M=95, SD=5.2), $t(281) = -1.18$, $p = .239$. Therefore, the null hypothesis that there was no difference in OA scores based on the type of educational resources was retained.

Adjunct Faculty Interview Analysis

The purpose of conducting adjunct faculty interviews was to examine perceptions in an online nursing course that utilized OER and no-cost instructional resources rather than a commercial textbook purchased by students. The interview questions investigated perceptions about using no-cost instructional resources in an online class, specifically addressing perceptions about instructional resources used, student workload, instructor workload, quality of resources, and impact on student performance. The interview questions aligned with both the Online Course Development Evaluation Rubric (Appendix E) and were informed by key faculty perceptions and concerns present in current research detailed in the Review of Relevant Literature (Appendix B).

Participants indicated that their awareness of OER or other traditional textbook alternatives was limited prior to introducing the concept of open resources in the interview. Responses varied regarding the impact that the instructional resources had on students' workload. Participant 1 viewed the impact positively, while Participant 2 indicated that the resources were a source of confusion, and Participant 3 noted that, "…there doesn't seem to be a good alternative to the students getting that information

[from the textbook] whereas before they were almost eight chapters in the book that we had." Participants noted some impact on their workload, where Participant 2 expressed concern about the number of resources they had to review, and Participant 3 saw an increase in questions from students about the course content. Aside from one instance of an instructor noticing an alignment issue with the resources relative to the term paper, the other participants did not report any issues with resource quality. Responses to the impact on student performance varied. Of note was Participant 2's response: "…students are so used to having an actual textbook that going back and forth [between resources] caused a little anxiety." Responses to the issue of sustainability of the resources, both Participants 1 and 3 noted the need to continually update the resources due to changing subject matter while Participant 2 did not see any issues. Regarding thoughts about students paying for textbooks versus using free resources, Participants 1 and 2 noted that eliminating the cost of the textbook was beneficial to students. However, Participant 3 indicated a neutral position, noting that, "I think that but the expectation I think from students is that they are going to have to buy a book from a course you know that is typically what the expectation is…I guess I'm kind of neutral on it." Responses to the open-ended question yielded three different comments concerning students being able to access a password-protected textbook resource, a desire to continue with the new model and expand it into other classes in the program, and concern about access to all resources throughout the course for the duration of the course so that students can backtrack and revisit resources if needed. It's important to note the last response related to how some instructors do not release all weeks of a course at the same time and some close weeks (and hence access to resources) as the course progresses.

Chapter 5

REFLECTIONS ON IMPROVEMENT EFFORTS

Pilot Results

The results of piloting the framework and ultimately receiving approval for moving forward with implementing the framework were indicators of the overall success of the framework. The pilot demonstrated the effectiveness of improving existing processes while also demonstrating how the Online Learning Department can contribute to institutional goals. Central to the success of the improvement effort were expanding avenues for communication and closing communication gaps between academic program development and instructional design. Specifically, reorganizing the analysis phase of the online course development process proved to be a boon to both the commercial textbook-free initiative and the general online course development process. Further, results from the student analyses indicated that students had a positive experience with course design and instructional materials, and that their performance was not significantly affected. These results reflect current literature about student performance in OER courses. Similarly, adjunct faculty perceptions about their experience in teaching the pilot course aligned generally with faculty perceptions noted in the literature.

Recommendations

While the overall improvement strategies and pilot course yielded useful information and a functional framework for moving forward, some areas that need further consideration emerged. The recommendations below focus on process improvements, prioritizing OER program development, library resources considerations, and faculty and professional development.

Process Improvements

Scaling the framework may prove problematic without adjustments to the development process, specifically in the evaluation phase. Project management and data collection for one pilot course was manageable. However, as more programs and courses move toward OER, a system needs to be in place for managing the rollout of programs and data storage. One solution is to use the institution's current project management software to help manage the workflow, information, reporting, and collaboration involved in the development process. At present, the instructional design team relies on spreadsheets housed in Google Drive to track development progress, splintering some of the main requirements for course development into spreadsheet maintenance, email communication, and rubric evaluation reporting (Appendix E) in separate locations. Consolidating these components of development into one application could reduce the need for multiple applications, with the addition of automating progress reports, communicating with stakeholders, administering surveys, and storing survey data for the evaluation component of the process (see Appendices F and G). Further, because most instructors who teach for the institution are adjuncts, availability for one-on-one interviews may be limited as evidenced in the number of participants in the adjunct faculty interviews (Appendix H), suggesting that utilizing an online survey for future courses rather than personal interviews would yield more actionable data that could be incorporated into the recommended application above.

Prioritizing OER Program Development

Improving awareness about OER along with the institutional initiative to explore commercial textbook alternatives, prioritizing and accommodating need may be

problematic in the future. According to Seaman and Seaman (2017), faculty awareness of OER has increased since 2015. The results of the study conducted by Jaschik and Leaderman (2018), show substantial faculty support in using OER. If program chairs at the institution reflect these trends, (see Appendix I), the amount of data collected, along with organizing whole program development schemas may prove daunting without adequate staff and executive-level support at the institution. Thus, it is recommended that prioritizing the rollout of new OER programs follow a similar structure as the pilot course, where development priority is given to high-enrollment programs that use commercial texts, new programs slated to be developed as textbook-free or no-cost instructional resources and select high-enrollment core courses that would benefit from a redesign using OER. Prioritizing rollout of OER programs and courses also allows for developing long-range plans for OER program development.

Library Resource Considerations

Katz (2018) noted the increased role university libraries play in facilitating OER adoption. Coupled with faculty perceptions about the difficulty in finding OER and issues with availability and the time involved in finding materials (McKenzie, 2017; Seaman & Seaman, 2017; Lieberman, 2018), the use of library resources is key in facilitating OER adoption, particularly as it relates to online course developoment. Temple Unversity and the University of Massachusetts Amherst have both incentivised OER development via stipends through their libraries (Bell, 2014; Umass Amherst Libraries, 2019). These models intersect with the current development model at the instution in that stipends are offered for course develoment through the Online Learning Department (with or without OER), and the pilot course incorporated the library into the development process.

Furthering this relationship in future OER development efforts is recommended for moving forward with the framework, with the caveat that library resources (e.g., research librarian availabiliy) will inform the production timeline for online courses.

Professional Development

Existing literature details some of the barriers to OER adoption, most notably difficulty in finding materials and a perceived lack of discipline-specific resource (Seaman & Seaman, 2017). Faculty interviews during the pilot course, too, revealed issues around awareness and the volume or resources used (Appendix H). Given what we know about some of the barriers to OER adoption, professional development for faculty could both reduce barriers and improve access and utilization of OER. A professional development curriculum exists at the institution through the Center for Teaching Excellence (CTE), the primary body that oversees faculty development. University libraries play an important role regarding faculty access and utilization of OER (Bell, 2014; Griffiths, Mislevy, Wang, Shear, Mitchell, Bloom, Staisloff, & Desrochers, 2017; Umass Amherst Libraries, 2019), and thus represent many opportunities for professional development in utilizing OER. Given the current relationship between the Online Learning Department and the university's library, along with an existing training curriculum for faculty at the institution, there is an opportunity to work through the institution's Center for Teaching Excellence (CTE) training program to offer OER-specific training modules to interested program chairs and faculty. A partnership between these stakeholders would allow for training tailored to online course development utilizing OER and other no-cost resources.

Chapter 6

REFLECTIONS ON LEADERSHIP DEVELOPMENT

Development as a Scholar

This portfolio contributed to my professional growth as a scholar, problem solver, and change agent at my institution. In the fast-paced environment of a growing department, there is often little time to fully explore relevant literature and collect data when managing projects. Employing scholarly research in practice improved my overall approach to affecting institutional change and actualizing the institution's mission to focus on student success. In the past 10 years, I have seen online course offerings improve from relatively flat learning experiences for students to more robust, technology-rich, and engaging learning environments. This is particularly true for the past five years and is due in part to improved access to, and availability of, instructional resources both internally and externally. Increased access to open and free resources aligns well with the trajectory of online courses at the institution, and the movement toward providing students with quality instructional materials in an educational environment with ever-increasing costs positions my department and the institution to better serve our students. As more scholarship emerges about these changes, the opportunity exists to learn and contribute to new studies, and to utilize the available body of research to inform my leadership at the institution.

Development of Skills as a Problem Solver

The overall improvement goal addressed in this ELP was an exercise in organizational problem-solving. In constructing the framework and in service to finding a solution to the rising costs of commercial textbooks in the institution's online courses, I

further developed my data collection and analysis skills, particularly in the context of supporting initiatives that rely on data-informed decision making and solving production problems within my department. While data for this project were limited in terms of sample sizes, I was able to establish within the framework an evaluative component on which data about student and faculty experience and student outcomes will build in the coming years, thereby addressing the problem of process structure and evaluation of outcomes.

Development of Skills as a Partner

Implementing this improvement strategy allowed me to participate directly in an institutional improvement initiative and contribute to the Online Learning Department's strategic plan. As noted above, the online learning at the institution accounts for a substantial amount of enrollment and seats. Implementing this framework represented an opportunity to highlight my leadership in an area of the institution that directly impacts its growth. I broadened my knowledge base regarding the process of academic program development, and improved interdepartmental communication and collaboration between the academic colleges and the library. This sets in place the next step, which is to operationalize the framework (Appendix I) and facilitate an organized and methodical transition away from commercial textbooks to a more open environment of educational resources.

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Appendix A

COEL STRATEGIC PLAN COMPONENT: TEXTBOOK-FREE ONLINE COURSE DEVELOPMENT

Overview

This strategic plan component details a framework for developing online courses that utilize open educational resources (OER) and/or other low or no-cost alternatives to commercial textbooks. The framework is based on the results of a pilot conducted with an online nursing course and consists of modifying existing approaches to online course development by working more closely with stakeholders throughout the development process.

Commercial textbook costs represent a burden to students as costs have steadily increased over the last ten years (National Center for Education Statistics, 2018). According to The College Board (2018), the average college budget for undergraduates across public and private institutions for books and supplies represents substantial expenditures, with estimates near $1,250 for private, nonprofit four-year institutions.

Costs associated with instructional materials in higher education have steadily increased over the past 10 years, negatively impacting many students' ability to pay for the course materials they need (Allen & Seaman, 2016; U.S. Bureau of Labor Statistics, 2016). Promising research is emerging about the effectiveness of using open educational resources (OER) and other low or no-cost instructional materials to reduce costs and maintain or improve learning outcomes (Fischer, Hilton, Robinson, & Wiley, 2015; Grewe & Davis, 2017; Hilton, 2016).

As the institution continues to expand in the online learning space, these cost-saving options for students inform the online course development process. Thus, implementing textbook-free solutions in online courses is a priority for both the institution and the Instructional Design Team. This plan provides a framework that allows the design team to facilitate the implementation of OER and/or low or no-cost instructional resources into select online courses as part of the regular online course development cycle.

Participants

- Instructional Design Manager (IDM) provides research to support effective implementation of instructional resources, manages the course development lifecycle, acts as liaison between stakeholders, and provides general project management.
- Department Chairs identify courses they would like to develop or redevelop, hire a subject matter expert (SME) for content development, review content throughout the development process, and approve final online course.
- SMEs provide expertise in their subject area and work with department chairs, instructional designers, and library personnel to identify and utilize appropriate instructional resources in the course planning and development process.
- Instructional Designers (IDs) work closely with all stakeholders throughout the planning and development process to ensure the alignment of course objectives, assessments, and resources.

- Librarians work in cooperation with Online Learning, department chairs, and SMEs in support of the University's initiative to reduce the costs of instructional materials.

Responsibilities

- Advocate for the adoption of OER and other low or no-cost solutions.
- Assist SMEs with locating, evaluating, developing, and sharing instructional materials, and incorporating library-licensed content to support course objectives.
- Collaborate with Chairs/SMEs and Online Learning to implement and communicate benefits/impact of textbook-free options.
- Assist in the development and application of policies related to copyright, open licensing, and attribution.

Implementation Plan

Existing online course development infrastructure provides the foundation for implementing the framework. Beginning in the Spring 2020 semester, select courses and/or programs will be identified to develop without using commercial textbooks. These courses can be new developments or redevelopments. Criteria for selecting courses is as follows:

- Department chair interest in adopting/evaluating OER for their courses or programs based on results of a survey to be conducted in Fall 2019 (Appendix I).
- Courses due for redevelopment (where applicable).
- Gen Ed or Core Course – Course required across multiple programs to benefit a larger population of students.
- Introductory or Basic Course – more likely to locate OER material.

- Courses using an expensive textbook or courses using less than 50% of the course material from the textbook.
- Courses using custom textbooks (evaluate availability of open source and/or library licensed content for substitution).

Table 5

Pilot timeline

Component	Timeline	Stakeholders
Course Identification	Prior to scheduling development	Chair, SME, IDM
Planning/Needs Assessment	Prior to start of development cycle	Chair, SME, IDM, Librarian
Content planning/development	Development cycle	SME, ID, Librarian
Analysis of adjunct faculty and student data	First available block or semester after course is offered	Chair, IDM, Adjunct Faculty
Course revisions	Post analysis	SME, Chair, IDM
Create online course template	Post revisions	ID

Evaluation

Student Perception Survey

Survey data will be collected and analyzed as the final evaluation phase of development. The surveys will provide both quantitative and qualitative data. However, because the surveys are voluntary, sample sizes are generally small. Nevertheless, they provide important data for department chairs and the design team about how both adjunct faculty and students perceived their experience in an online course. Reports from the surveys include descriptive statistics about the survey question responses accompanied by the responses to the open-ended questions.

Student Outcomes Analysis

Recent studies highlighted an interest in a better understanding of how OER impact student performance. For example, in their study of OER efficacy in an eight-week history class, Grewe and Davis (2017) of Northern Virginia Community College suggested that OER versus non-OER sections had a moderately positive correlation ($r = .41$) on academic achievement. Likewise, Colvard, Watson, & Park (2018) reported that their OER versus non-OER study resulted in statistically significant increases in grades of A and A- in courses at the University of Georgia. While these studies did not necessarily fully support the efficacy of OER, they contributed to the growing body of knowledge about how OER may positively affect student learning.

A pre/post grade comparison will be conducted as part of the evaluation process that will address student performance in courses that are redeveloped using the textbook-free model where grades can be compared between courses that utilized commercial texts and the redeveloped courses that utilized OER or other textbook-free solutions. The results will provide useful information about how to proceed in future courses. If there is no significant difference in student performance, students retain the same performance while saving money on course materials. If performance significantly improves, the case for not using commercial textbooks strengthens. If performance declines, revisiting the instructional materials used or perhaps rethinking the use of the textbook will be warranted.

Adjunct Faculty Interview Analysis

Adjunct faculty will be interviewed about their perceptions in an online nursing course that utilizes OER and no-cost instructional resources rather than a commercial

textbook purchased by students. The interview questions investigate perceptions about using no-cost instructional resources in an online class, specifically addressing perceptions about: instructional resources used, student workload, instructor workload, quality of resources, and impact on student performance. The interview questions align with both the Online Course Development Rubric and are informed by key adjunct faculty perceptions and concerns present in current research about adopting textbook-free resources in online courses.

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Appendix B

REVIEW OF RELEVANT LITERATURE

Introduction

Costs associated with instructional materials in higher education have steadily increased over the past ten years, negatively impacting many students' ability to pay for the course materials they need (Allen & Seaman, 2016; U.S.Bureau of Labor Statistics, 2016). Promising research is emerging about the effectiveness of using open educational resources (OER) and other low or no-cost instructional materials to reduce costs and maintain or improve learning outcomes (Fischer, Hilton, Robinson, & Wiley, 2015; Grewe & Davis, 2017; Hilton, 2016). As institutions move to implement textbook-free models, developing online courses that utilize these resources becomes an important component of the movement away from high-cost, commercial textbooks. Thus, key challenges emerge in pursuing commercial textbook alternatives include existing perceptions about free or open resources, providing sustainable, relevant resources that can replace the use of commercial textbooks, and implementing textbook-free models into the instructional design process for online programs, and, ultimately, improving student retention (Griffiths, Mislevy, Wang, Shear, Mitchell, Bloom, Staisloff, & Desrochers, (2017).

The Education Textbook Market

The medium of textbooks as a widely published educational tool arose out of the increase in educational institutions and demand for educational resources in the early part of the nineteenth century (Watt, 2007). In conjunction with advances in the printing press, this burgeoning market for textbooks saw an increase in production along with an

initial consolidation of published textbooks into a monopoly; however, competition and demand soon led to diversification in textbook publishing (Watt, 2007). Presently, of the hundreds of textbook publishers in the United States, five represent the major portion of the textbook market share (Annand & Jensen, 2017). And while the number of publishers expanded since the 19th century, thereby creating more competition, the market has contracted in terms of the key publishing houses who service the higher education market (Annand & Jensen, 2017).

History of Open Educational Resources

To a degree, the term open educational resource is an outgrowth of what Wayne Hodgins termed "learning objects" in 1994 (Walz, 2018). As the use and creation of learning objects began to grow across the educational landscape in the 1990s, some of the distinct characteristics of what would become OER emerged. Learning objects provided the learning community with the potential for sharable instructional materials that could conform to a standards-based mechanism for creating, reusing, and sharing (Walz, 2018). Further development of this idea of sharable instructional materials provided the foundation for the Creative Commons (CC). This organization was founded in 2001 and was one of the first well-funded organizations that provided an infrastructure to engage in a sharing economy for digital learning resources (Creative Commons, 2018). However, the term was officially designated in 2002 by UNESCO, and the organization has since become a curator of OER (Panke & Seufert, 2013). As CC developed, other organizations also began exploring open materials. Notably, by 2002 MIT had published their first 50 open courses and published 500 by the next year (MIT, 2018; Walz, 2018). What

followed shortly after the turn of the millenium and continues today is an increase in the production of these open resources (Hilton III, Wiley, Stein, & Johnson, 2010).

Definition of Open Educational Resource

Definitions for OER vary, and the breadth of resources fall into categories long-used in educational settings, both before the proliferation of online learning and in modern online environments. The overarching criteria for OER were defined in 2002 by the William and Flora Hewlett Foundation (2019) as, "…teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions." Smith and Casserly (2006) defined OER in terms of sharing resources as a *public good*. Perhaps the most detailed definition was what Wiley (2014) referred to as the 5 Rs: retain, reuse, revise, remix, and redistribute. Retain refers to ownership and control of content; reuse refers to freely using the resources; the revise component allows for adapting or modifying the resources; remixing allows for combining resources to use in various contexts; and redistribution concerns the ability to share resources. Resources can include textbooks, documents, lesson plans, simulations, videos, and even entire courses (e.g., MITs Open Courseware) (Hilton III et al., 2010; Walz, 2018).

Faculty Perspective

Information about faculty perceptions of OER is still emerging, and many universities are examining faculty perceptions in their forays into contributing to and using OER. Anderson, Gaines, Leachman, and Williamson (2017) cited multiple studies that noted faculty concerns about issues with copyright, quality, and sustainability among

other challenges to utilizing these resources. In their own study at Washington State and the University of Idaho, Anderson et al. (2017) found that most respondents indicated that while faculty had little experience with OER, the ones who did reported that quality issues varied among the resources that they used. Prevalent in the results; however, were the indicators that many faculty were not aware of OER. Moreover, Seaman and Seaman (2017) reported that of 2,700 faculty they surveyed, roughly 30% indicated that they were aware of OER. Of that 30%; however, only 10% indicated that they were very aware. More recently, at least one survey conducted by *Inside Higher Education* showed not only an increase in awareness, but also support for increasing the use of OER (Lederman, 2018). Overall, the awareness gap seems to be shrinking slightly, perhaps due to an increased awareness of the cost problem with textbooks in higher education and the need to mitigate these costs for students (Allan & Seaman, 2016; Harley, D, Lawrence, Krzys Accord, & Dixson, 2010; U.S. Bureau of Labor Statistics, 2016).

Student Perspectives

Faculty perceptions do not exist in a vacuum. Faculty who utilize OER have a direct impact on students and their perceptions. That is, the ways in which faculty use OER and other textbook alternatives in the classroom affect student perceptions, where ease of use and context within the curriculum influence student perceptions about the utility of the resources (Hu, Li, Li, & Huang, 2015). Hu et al. (2015) also noted that their study may have a unique cultural component given that it was conducted in China. Nevertheless, students indicated they had a generally positive experience using OER (Hu et al., 2015). Similar results were found in the United States (Rowell, 2015), where students viewed the use of OER in their coursework as positive. However, it is important

to note that the magnitude of the strength of these positive views was small (Rowell, 2015).

Colvard, Watson, and Park (2018) noted in their study at the University of Georgia that student performance improved with the use of open source e-texts. Student performance also improved across demographics, where both white and non-white student grades improved with the use of OER, with non-white students exhibiting the greatest improvement in grades (Colvard et al., 2018). This improvement was also present in part-time and full-time students (Colvard et al., 2018), which is an important consideration for commuter institutions that have substantial part-time enrollments. More prevalent in the literature; however, was that while some institutions had seen positive outcomes with respect to using OER and student performance, much of the improvements were either not significant or remained the same as with using commercial textbooks (Grewe and Davis, 2017; Fischer et al., 2015). However, parity between performance in OER versus non-OER represents a positive outcome when considering that students may perform at the same level but spend less money on instructional materials.

Role of University Libraries

University libraries are increasingly playing a role in the OER ecosystem, mitigating some of the barriers to OER use and adoption by curating and even incentivizing the creation of OER (Katz, 2018); thereby addressing some of the concerns about availability and quality. Results from a Babson Research Group study showed that 50% of faculty noted the difficulty in finding materials and 47% noted the lack of availability of materials in their disciplines (McKenzie, 2017; Seaman & Seaman, 2017)

and issues with time constraints finding materials (Lieberman, 2018). This perceived (and perhaps real) difficulty in finding resources represents an opportunity for collaborative efforts with university libraries as more institutions seek commercial textbook alternatives. The Temple University Library implemented an alternative textbook program that incentivized faculty to opt for alternative resources in lieu of commercial textbooks (Bell, 2014). The University of Massachusetts Amherst library provided varying levels of grants for adopting OER or other textbook alternatives along with resources for creating new OER (Umass Amherst Libraries, 2019). Both institutions addressed the concerns evident in the literature by offering incentives along with buy-in to a larger cause that addresses student-centered issues with quality, access, and affordability (Bell, 2014; Umass Amherst Libraries, 2019). Further supporting university libraries' roles in easing the transition away from commercial textbooks, there is a growing body of institutions that have implemented OER/no-cost instructional resource solutions to assist faculty and instructional design teams with transitioning away from commercial resources (Griffiths, et al., 2017).

Sustainability of Resources

From a practical perspective, OER sustainability is a concern that affects students, faculty, and those who produce OER. Student experiences are inextricably tied to resource choices made by faculty. Students interact with the content provided by faculty and updating and ensuring relevance is the responsibility of the faculty who use the resources. Creating and managing OER poses additional considerations for faculty when selecting and using resources (Allan & Seaman, 2016; Annand & Jensen, 2017). From an OER creation perspective, two key challenges exist: 1) OER production limitations, and

2) the sustainability of sharing the product (Wiley, 2007). This product-oriented view of OER is where cost, time, and maintaining the products present possible barriers to sustainability. Thus, the production of OER requires sound business models and infrastructure that support efforts in creating sustainable resources for them to be a viable solution (de Langen & Bitter-Rijkema, 2012), and university libraries are in the position to provide the needed infrastructure and maintain resources to address the sustainability problem.

Instructional Design and OER

Research on the role of instructional designers in developing OER courses is limited (Merkel & Cohen, 2015; Wright, 2018) compared to some of the large-scale studies that focus on faculty adoption of OER. Some smaller-scale studies are emerging, however, that examine the role of instructional designers in designing online courses that utilize OER and other no-cost resources. Findings reveal some overlap with faculty perceptions, but also some instructional design-specific characteristics related to their role in developing online courses.

Piña and Moran (2018) conducted a study at Sullivan University that examined the effects of OER on students, faculty, and instructional designers. Focusing on the latter, the researchers noted some promising results for instructional design and implementing OER into online courses. The researchers found that instructional designers viewed working with OER improved working relationships with SMEs, reinforced the efficacy of backward design, improved quality of resources, and improved the overall course design process (Piña & Moran, 2018).

In a Florida State study (Wright, 2018), the researcher conducted a case study of stakeholder perceptions in OER adoption. Responses from interviews with four instructional designers yielded similar responses to those of faculty in larger studies in terms of concerns about time commitment in finding OER and the availability or resources. The study also shed light on perceptions about how the lack of training on using OER impacts the design process, specifically as it relates to SMEs. Conversely, Wright (2018) noted some advantages of using OER perceived by instructional designers: better output, the ability to better tailor resources to courses, cost savings to students, and the importance of a partnership with the library.

In their study of corporate instructional designer use of OER, Merkel and Cohen (2015) examined resource repositories used by instructional designers in developing training. The researchers distinguished between what they labeled little repositories (YouTube, Google Images, Wikipedia, TED, and Flicker) and big repositories (higher quality, curated institutional repositories) in terms of what instructional designers used. They also identified the preferred type of resources used by instructional designers as they adhere to Wiley's 5 Rs. Their findings showed that the designers relied more heavily on little repositories in designing training, and a preference was toward using OER that could be revised and remixed.

The above studies underscore the importance of the instructional designer both in the design process and as a bridge with SMEs to implement OER. The studies also indicate that instructional designers share much of the same concerns that faculty have about using OER (time constraints in finding resources and the importance of quality). These similar concerns also highlight the value of instructional designers working with

institutional libraries to procure, vet, and curate OER, making the process of course development necessarily collaborative.

Student Retention

Comprehensive research about the relationship between retention and textbook costs is emerging. However, recent research published by Senack, Donoghue, O'Connor Grant, and Steen (2016) indicated that of 2,000 students surveyed nationally, two-thirds of those students forwent textbooks for their classes due to costs, and 50% indicated that costs affected the number of courses that they could take. Further, 87% of faculty surveyed by the Babson Research Group (Allan & Seaman, 2016) indicated that textbook costs were an important consideration in choosing course materials, supporting the notion that textbook costs affect decisions for faculty as well as students. Thus, given the institution's mission to provide students with a relevant, student-driven education, and its mission of open-access and innovative educational opportunities, implementing OER and other low or no-cost solutions into online courses in lieu of commercial textbooks provided an avenue to support students by reducing the cost of attaining their degrees.

Summary

As more research emerges about the usefulness and need for OER and other commercial textbook alternatives in higher education, the pathway to adopting more robust OER in curricula should become clearer. Presently, OER continue to suffer from some perceived and real limitations, and perception plays a major role in how students, educators, and institutions will continue to adopt OER. Given issues with availability and sustainability and pressure from traditional educational resource publishers (Blumenstyk, 2017), complexities surrounding adoption could persist. Nevertheless, improvements in

technology and accessibility, coupled with institutional buy-in and incentivizing OER efforts, utilizing OER and other no-cost resources is potentially valuable for faculty and students (Wright & Reeves, 2019).

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Appendix C

ONLINE COURSE DEVELOPMENT NEEDS ANALYSIS FORM

Purpose

The Needs Analysis Form (Table 6) contains the information required to begin developing an online course. The information below should be the product of conversations with all stakeholders involved in the development process as detailed in each section of the document. Ultimately, the form will be completed by an instructional designer.

Overview of the Development Process

The online course development process consists of five phases that align with the ADDIE model of instructional design: analysis, design, development, implementation, and evaluation. This document constitutes the analysis phase, where you will work with other stakeholders to assess learner and project needs. The remaining development phases will unfold as the online course development project progresses.

Assumptions

- Course syllabus is complete
- Department chair has hired SME
- SME has completed the Hybrid and Online Training course
- Course will be offered in the upcoming semester
- Any third-party software has been approved by the LMS Administrator

Table 6

Needs Analysis Form

Section 1: Completed by Chair and Instructional Designer	
Course	Nur 313: Nurse as Decision Maker
Chair	Current Program Chair
College	Health Professions
SME	Current Program Chair
Section 2: Completed by program chair	
Course Description (from syllabus)	This course focuses on the application of ethical thinking to contemporary nursing practice. The major ethical theories are examined, and the issue of ethical standards is addressed. The relationship of ethics to technology, legal issues, and economics is explored.
Program alignment	Course serves as designated outcomes assessment course.
Section 3: Completed by program chair	
Course Objectives	With successful completion of this course, the student will be able to: 1. Discuss the major ethical theories. 2. Apply ethical standards to nursing practice. Examine one's role as a nurse in ethical decision making. 3. Evidence critical thinking skills in class discussion, written work, online assignments, and oral/visual/voice-enhanced presentations.
Topics	• Social, Philosophical, and Other Historical Forces Influencing the Development of Nursing • Ethical Theory • Ethical Principles • Values Clarification • Values Development • Ethical Decision Making • Practice Issues Related to Technology • Practice Issues Related to Patient Self-Determination • Legal Issues • Professional Relationship Issues • Scholarship Issues • Ethics and Professional Nursing

	• Global Consciousness in the Twenty-First Century • Health Policy Issues • Economic Issues • Social Issues • Gender Issues • Transcultural and Spiritual Issues • Empowerment for Nurses • Facilitation Patient Empowerment • Utilize information from textbook and other previous resources to complete your final assignments
Accreditation Standards (if applicable)	N/A
Instructional Strategies	Collaborative learning via discussions and a group project, meta-cognitive activities (journaling), inquiry-based learning (researching relevant topics), practical application (research paper)
Instructional Resources Needed	E-texts, journal articles, videos, multimedia, industry-related documentation
Section 4: Completed by instructional design manager	
Development Stipend	TBD
Start/Completion Dates	September 2018
Instructional Designer	Stephen Buchanan
Librarian	TBD
Educational Technology Services	LMS training, Kaltura video training

Appendix D

ONLINE COURSE PLANNING OUTLINE

Purpose

The outline below will assist you with developing a well-organized online learning course that maps the alignment and connections between:

- The **Goals/Objectives** from the generic syllabus for the course.
- The **Assessments/Assignments LMS Entries:** which are used to determine students' mastery of the objectives/outcomes/goals.
- The **Resources** students will use to successfully complete the Assessments/Assignments LMS Entries: to meet the objectives and outcomes of the course.

Course Title: NUR 313, Nurse as Decision Maker

Semester to be Offered: Fall 2018

- **Textbook/Instructional Resources**:
  Credo Online Reference Service
- Library-created LibGuides
  Journal articles
- YouTube videos
- Industry white papers, journals, and websites

Program Competencies

1. Use critical thinking as a basis for identifying health-related needs of individuals, families, and communities.
2. Synthesize knowledge from the humanities and physical, behavioral, and nursing sciences to provide nursing care to clients across the life span in a variety of health care settings.
3. Incorporate theoretical perspectives into nursing practice.
4. Demonstrate skill and commitment in the role of teacher.
5. Apply research findings to nursing practice.
6. Provide leadership for the continuing development of the nursing profession.
7. Integrate ethical, legal, and economic accountability into professional nursing practice.
8. Participate in designing nursing roles to meet societal and community health care needs.
9. Demonstrate commitment to self-directed, lifelong learning to promote personal and professional development.
10. Demonstrate effective oral and written communication.

11. Access, use, and evaluate information effectively and appropriately. Use technology to effectively locate and communicate information.

Week 1

Week one lays the foundation for ethics and its place in nursing. You will examine the history of nursing in Western cultures, noting the influence of religion and the status of women in the profession. Begin to develop knowledge of ethical theories and principles that help you develop a system for making individual ethical decisions. It is recommended that you first review the information corresponding with the Activities and Assignments below. After completing the readings and reviewing the resources, complete the assignments for the week.

Objectives/Learning Outcomes:
At the end of the week, students will know and be able to:

- Define ethics.
- Discuss major ethical theories.
- Discuss traditional models of morality used in healthcare delivery.
- Define basic ethical principles.

Activities and Assignments:

- Review of Readings and Resources
- Discussion Board: Ethical Issue Database Search
- Ethical Issue Topic Request
- Response Paper

Instructional Resources:

Instructor-created PowerPoint

- Social, Philosophical, and Other Historical Forces Influencing the Development of Nursing
- Ethical Theory
- Ethical Principles

Websites:

- The Hastings Center
- President's Council on Bioethics
- The Kennedy Center
- Office for Human Research Protection (OHRP)
- Ethical Decision Making: The following website can be used as resource to case study issues that are related to ethical dilemmas in health care. Though this site

has an area that allows you to complete for credit, this is merely a resource to peruse.

- Nursing Ethics Journal: Peer reviewed articles covering policy issues, debates, & controversies relating to ethical and legal questions faced by health care professionals with a practical approach to topics as they relate to professionals and the workplace.

Assessments/Assignments LMS Entries:

1. Week 1 Topic Request

   Throughout the course you will compose a well-rounded, comprehensive view of an ethical issue or dilemma that is of importance or interest to you. Consider all views in the issue and application to nursing practice. The final paper and presentation are due Week 7.

   This week upload your topic request for your term paper and PowerPoint presentation (you will use the same topic for both) via the link above. You can choose any topic in ethics with which you may have a dilemma. Think of general areas of education, technology, research, economics, legal issues, and historical ethical issue scenarios.

   Please review the rubric and assignment guidelines in Week 7 for more information on the term paper and PowerPoint.

   For more information about navigating the Library databases, access the Library Support Guide (Links to an external site.).

2. Week 1 Think About It Assignment

   Consider the questions below. You will then write a 1 to 2-page response paper outlining your thoughts. Please use APA format if you are citing sources. Upload your response by Sunday at 11:59 pm.

   Who has the right to make ethical decisions?

   Ethical decision making is not the sole domain of the physician. Nurses along with a patient care interdisciplinary team may be better prepared and have more opportunities to discuss moral problems with patients and families.

   - Can you describe an instance in which the physician assumed the authority to make an ethical decision, denying nurses (and perhaps the patient and family) participation in the decision-making process?
   - What are your thoughts on involving an interdisciplinary team? Does this team approach improve patient and family outcomes?
   - If you feel you have an important contribution to make in a particular circumstance, and your opinion is not considered, how do you react?
   - How do you think nurses can overcome the strong heritage of subjugation?

Week 2

Introduction:

Week two describes theories related to moral development and values clarification; you will examine the process of ethical decision making, the influence of technology and the rights and choice related to decision making and its application to clinical situations. I encourage you to become aware of your own values and examine your own level of moral development in light of the theories presented. This self-reflection enhances your sensitivity to the perspectives, decision-making abilities, and tendencies of other people. Review the Readings and Resources for Week 2. When finished, complete the weekly assignments.

Objectives/Learning Outcomes:

At the end of the week, students will be able to know and be able to:

- Define and differentiate personal values, societal values, professional values, organizational values, and moral values.
- Describe values conflict and its implications for nursing care.
- Describe the role of emotions in ethical decision making.
- Examine the process of ethical decision making. Identify one's role as a nurse in ethical decision making.

Activities and Assignments:

- Review of Readings and Resources
- Discussion Board: Current Events
- Journal: Ethical Issue in Practice
- Discussion Board #2: Henrietta Lacks

Instructional Resources

Instructor-created PowerPoint

- Legal Issues
- Professional Relationship Issues
- Scholarship Issues
- Gender Issues

Videos

- Bill Colby and the Right to Die: https://www.youtube.com/watch?v=nxF5ZoR7FTw
- End of Life Dilemmas: https://www.pbs.org/wnet/religionandethics/2009/01/23/january-23-2009-end-of-life-dilemmas/2029/

Academic Journal Articles

- Winland-Brown, J., Lachman, V., & Swanson, E. (2015). The new 'code of ethics for nurses with interpretive statements' (2015): Practical clinical application, part i. (ethics, law, and policy) (report). *Medsurg Nursing, 24*(4), 268.
- Lachman, V., Swanson, E., & Winland-Brown, J. (2015). The new 'code of ethics for nurses with interpretative statements' (2015): Practical clinical application, part ii. *Medsurg Nursing : Official Journal of the Academy of Medical-Surgical Nurses, 24*(5), 363-6.

Assessments/Assignments LMS Entries:

1. Week 2: Current Events Discussion
   Students that selected Week 2 will post their article/video to the Discussion Board forum by Wednesday of this week (these students will "Create a New Thread"). Students that are not posting an article/video this week will not "Create a New Thread". Instead you will review the articles/videos that have been posted and "Reply" to at least three classmates by Sunday.

2. Week 2 Discussion Forum #2
   Before participating in this week's discussion, watch the videos below about Henrietta Lacks. It is also helpful to review the websites listed below the video. After exploring these resources, answer the questions in Parts A and B for your initial discussion post.
3. Research Article Approval
   In Week 5 you will complete a Fact Sheet based on a Nursing Research article of your choice. The article must be found in a peer-reviewed nursing journal related to the ethical concepts in this course (This article must appear in a Nursing journal, i.e., AJN, Nursing Ethics, any specialty nursing journal). It must be original research, not an abstract or synopsis.

4. Week 2 Journal
   This is the first in a series of Journal entries on a single topic, meaning that whatever ethical issue you decide to write about here is the same one that will continue through subsequent journals.

5. Briefly, but clearly, describe an ethical issue you have encountered in your practice. Consider a specific age group, a specific technology, an administrative issue, distribution of service issues.

Week 3

Introduction:

Week three takes you on a journey of decision making. Each person makes decisions as part of everyday life. Some decisions are routine, others call for more deliberation. Nurses constantly make decisions involving patient care management, institutional policy, and/or moral/ethical problems. These chapters discuss moral problems and provide a guide for ethical decision making

Objectives/Learning Outcomes:

- Identify the differences between legal and ethical nursing practice.
- Discuss ethical and legal implications of selected health care technologies.
- Resolve dilemmas related to the nurses' role as the patient advocate.

Activities and Assignments:

- Review the Readings and Resources
- Week 3 Discussion Board: Current Events
- Week 3 Discussion Board #2: Fallacies of Reasoning Worksheet
- Week 3 Journal 2: Ethical Issue in Practice--Stakeholders

Resources:

Instructor-created PowerPoint

- Legal Issues
- Professional Relationship Issues
- Scholarship Issues
- Gender Issues

Assessments/Assignments LMS Entries:

1. Week 3: Current Events Discussion
   Students that selected Week 3 will post their article/video to the Discussion Board forum by Wednesday of this week (these students will "Create a New Thread"). Students that are not posting an article/video this week will not "Create a New Thread". Instead you will review the articles/videos that have been posted and "Reply" to at least three classmates by Sunday.

2. Week 3 Discussion Forum #2
   After having completed the Fallacies of Reasoning Activity post your results to discussion board and review the results of your classmates. Respond to at least two of your classmates' postings. Discuss other scenarios/situations where you have witnessed faulty reasoning in your clinical practice. How can you

resolve/deal with these types of issues? Also, what strategies have you used in the past and what do you plan to do in the future?

3. Week 3 Journal
   Consider the ethical dilemma you chronicled in your Week 1 Journal. Identify all who have a part in the decision-making process. Consider the patient, family, nurses, physicians, and others who may be involved or impacted. Discuss each participant's rights, authority, legal responsibility, and ethical responsibility.

Week 4

Introduction:

Week four examines various issues affecting the profession of nursing. Contemplate nurses' responsibilities related to ethical, legal, professional, and practice issues. These issues are examined considering ethics and contemporary nursing through an examination of the Nursing Code of Ethics.

Objectives/Learning Outcomes:

- Discuss differences between legal and ethical nursing practice.
- Relate codes of ethics (ANA Code of Ethics, ICN Code for Nurses) to professional status.
- Discuss the nurse's role as client/patient advocate.

Activities and Assignments:

- Review Resources
- Week 4 Discussion Board: Current Events
- HIPAA Video Review
- Week 4 Journal 3: ANA code of ethics
- Continue working on your Ethical Issues Paper and Presentation (due Week 7)

Resources:

Instructor-created PowerPoint

- Development, interpretation, and application for the Code of Ethics Provisions 1-9.

Websites

- ANA Code of Ethics: https://www.nursingworld.org/practice-policy/nursing-excellence/ethics/code-of-ethics-for-nurses/
- What is a HIPAA Violation Anyway?: https://www.americansentinel.edu/blog/
- Examples of HIPAA Violations: https://examples.yourdictionary.com/examples-of-hipaa-violations.html

Video

- Ethics and Ebola Webinar: https://www.youtube.com/watch?v=A_Mh_NZ6IM0

Assessments/Assignments LMS Entries:

1. Week 4: Current Events
   Students that selected Week 4 will post their article/video to the Discussion Board forum by Wednesday of this week (these students will "Create a New Thread"). Students that are not posting an article/video this week will not "Create a New Thread". Instead you will review the articles/videos that have been posted and "Reply" to at least three classmates by Sunday.

2. Week 4 Journal
   After reviewing the ANA code of ethics, consider its application to your ethical dilemma. Does the code assist you in your role as a patient advocate? Why or why not?

Week 5

Introduction:

Week five recognizes each person as part of an interrelated global population affected by many forces. You explore issues that require global consciousness. As nurses, we practice, and live, in an ever-changing local, national, and global health care system. You are encouraged to participate in decisions and health care policy related to issues that influence health care delivery and outcomes worldwide.

Objectives/Learning Outcomes:

- Describe the role and ethical responsibility of the nurse in addressing local, national, and global ethical policy and economic issues.
- Describe the role of ethics in policy making.
- Discuss basic questions related to the distribution of healthcare resources.

Activities and Assignments:

- Review the Readings and Resources
- Week 5 Discussion Board: Current Events
- Week 5 Response Paper
- Week 5 Research Article Fact Sheet
- Review upcoming Group Assignment expectations
- Continue working on your Ethical Issues Paper and Presentation (due Week 7)

Resources:

Instructor-created PowerPoint

- Health Care changes and Challenges
- Issues Related to Health Policy
- Economic Issues

Websites

- American Nurses Association: https://www.nursingworld.org/ana/
- Canadian Nurses Association: https://www.cna-aiic.ca/en
- International Council for Nurses: https://www.icn.ch/

Assessments/Assignments LMS Entries:

1. Week 5 Research Article Fact Sheet
   Choose an original research article found in a peer-reviewed nursing journal related to the ethical concepts in this course (This article must appear in a Nursing journal, i.e., AJN, Nursing Ethics, any specialty nursing journal). It must be original research, not an abstract or synopsis.

2. Group Assignment (Due Week 6)

   For this assignment, you will have the opportunity to select one of 5 movies (Blood Work, First Do no Harm, Awakenings, My Sister's Keeper, or John Q). Your group will consist of other classmates that select the same movie. Each group will watch the movie that was selected and create a PowerPoint to address the following questions:
   - As a group describe your immediate feelings about the film.
   - Are you comfortable with the ending? Why?
   - Identify the ethical issues for one of the main characters of the film.
   - Identify the legal rights for one main characters of the film.
   - Give specific examples of HIPAA violations in this film that relate to current readings and resources.

Week 6

Introduction:

Week six continues to address global issues which impinge practice. Undoubtedly, health is a by-product of the relationship between person and environment. Social issues, such as poverty, homelessness, intimate partner violence, aging, and racism affect health in a negative fashion. Limited choices and inappropriate treatment options plague these

vulnerable populations. Issues of comparable worth relative to gender are of concern. Sexism, harassment, and discrimination may be under-recognized. Becoming aware of issues and dealing with realities. Attentiveness to spiritual and cultural aspects of care with patients. Self-awareness of our own values, beliefs, and expressions. Nurses are required to exercise integrity, accountability, and courage. We are also charged with empowering our patients to discern their needs and make decisions about their lives and health.

Objectives/Learning Outcomes:

- Discuss approaches to fostering empowerment with patients.
- Identify relationships and potential conflicts that nurses face practicing in a multi-cultural society.

Activities and Assignments:

- Review the Readings and Resources
- Journal: Ethical Issues Reflection
- Group Assignment
- Continue working on your Ethical Issues Paper and Presentation (due Week 7)

Resources:

Instructor-created PowerPoint

- Social Issues
- Transcultural and Spiritual Issues
- Empowerment for Nurses
- Facilitation Patient Empowerment

Assessments/Assignments LMS Entries:

1. Week 6 Discussion: Group Assignment
   After watching your respective movie, as a group create a PowerPoint to address the following questions:

   - As a group describe your immediate feelings about the film.
   - Are you comfortable with the ending? Why?
   - Identify the ethical issues for one of the main characters of the film.
   - Identify the legal rights for one main characters of the film.

   Give specific examples of HIPAA violations in this film that relate to current readings and resources.

2. Week 6 Journal

   Consider the issue you selected in Journal One. Think about the course activities, discussions, and readings. Confirm your original stance or modify your stance. Defend your position using what you have learned. Support your work with information from the readings, resources, and class discussions.

Week 7

Introduction:

Week seven is the culmination of all that has been shared and discussed over the last seven weeks

Objectives/Learning Outcomes:

- Articulate knowledge of ethical theories, principals, and decision making as applied to contemporary nursing practice.
- Demonstrate application of the nurse's role in the ethical decision-making process.

Activities and Assignments:

- Review Resources from previous weeks
- Ethical Issue Presentation (Discussion Board)
- Ethical Issue Term Paper
- Final Exit Discussion Board

Assessments/Assignments LMS Entries:

1. Week 7 Term Paper: Ethical Issue
   Compose a well-rounded, comprehensive view of an ethical issue or dilemma that is of importance or interest to you. Please review the assignment rubric and guidelines for assistance in crafting your paper. Consider all views in the issue and application to nursing practice. See Term Paper Guidelines Document.

2. Final Exit Discussion Board

   In the Discussion Board Introduction, you identified one of the course objectives you believed would enhance your role as a Professional Nurse. For the exit discussion board, share with your fellow classmates if you believe you met the selected objective and how meeting this objective will in the future or has helped develop your professional role.

3. Week 7: Ethical Issue Presentation
   You will upload your presentation, presenting key content of your term paper to the Discussion Board by Wednesday at 11:59 pm for your classmates to view. This presentation should fully summarize all areas of your term paper and be enhanced with voice. Please review all of your classmates' presentations. You are not required to comment on your classmates' projects.

Appendix E

ONLINE COURSE DEVELOPMENT EVALUATION RUBRIC

The Online Course Development Evaluation Rubric (Table 7) serves as an evaluative instrument of the online course development process (i.e., the "E" in the ADDIE model). The rubric was compiled and informed by institutional needs, industry best practices **(**Baldwin, Ching, & Hsu, 2018), recommendations from the Canvas Community network (Instructure, 2018), and the California Community Colleges' Online Education Initiative (2018) rubric available through Creative Commons. The rubric is used to evaluate newly developed or redeveloped online courses based on the criteria detailed below before being implemented in the Canvas LMS and offered to students. To maintain relevance and applicability to evaluating online courses during the development process, the rubric is updated as needed. As the instructional design team continues to broaden their knowledge base, and as new approaches to best practices emerge, the rubric is a dynamic document that changes over time and with the input of the design team. Generally, new information from research or conference proceedings inform the changes. Compliance, too, informs updates. For example, as online programs continue to grow, adherence to the Americans with Disabilities Act (ADA) compliance is paramount (Educause, 2017), thus an accessibility criterion was added to the rubric to reflect current issues in online course design.

Table 7

Online Course Development Rubric

Course Organization	**Complete**
Course menu: maintains standard order and contains required menu items.	Complete
Weekly assignment content areas: contain a substantive introduction, list of objectives from the generic syllabus, and brief list of assignments for the week.	Complete
Discussion Board: contains Ask the Class, Expectations, and discussion prompts for each week that there is a discussion.	Complete
Navigation and Presentation	
Navigation: intuitive, minimal clicks and folders, material flows logically.	Complete
Self-identifying naming conventions: names for all content items (hyperlinks, assignment names, etc.) reflect the name of the item referenced.	Complete
Videos: presented in standard formats, function correctly, transcripts are provided if available, and there is a clear connection to the course material.	Incomplete
Use of Technology	
LMS Tools: effective and logical use of assignment, discussion, and quizzing tools.	Complete
Assignment and/or instruction documents: utilize standard format (.doc, .docx) for editing purposes.	Complete
Use of Applications, Software, and other Technology Tools: enhances student engagement, and reduces labor-intensive actions needed to access learning materials.	Complete
Tutorials: accompany technologies used in the course (where applicable).	NA
Syllabus	
Course Objectives: verbatim from the generic syllabus and includes any supplemental objectives added by the SME.	Complete
Technology Requirements: clearly outlined with links to required software/applications (if applicable).	Complete
Teaching Methods: clearly outlined and described for students.	Complete
Evaluation Procedures: clearly outlined and described for students.	Complete
Grading Structure: accurate, consistent, based on the University's 100-point grading system, and aligns with rubrics.	Complete
Course Objectives	
Weekly Introductions: include course objectives verbatim from the syllabus.	Complete
Weekly Assignments and Assessments: clearly align with objectives.	Complete
Additional Goals and Objectives: reflect the desired course outcomes and are measurable.	Complete
Assignments and Assessments	

Relevant Assignments and Assessments: clearly relate to subject matter, course objectives, and context of the material.	Complete
Varied Assignments and Assessments: provide students with opportunities to practice and apply concepts and skills in a variety of ways.	Complete
Expectations: clearly communicated due dates, point values, and grading criteria.	Complete
Instructions for Assessments/Assignments/Activities: clear, accurate, succinct, and show relationship to objectives and/or relevant topics.	Complete
Assignments and Assessments: clearly align with course objectives, employ critical thinking (higher levels of Bloom's Taxonomy), and allow students to demonstrate mastery of objectives in real-world contexts.	Complete
Discussions	
Alignment: discussion questions align with course objectives and/or facilitate student engagement.	Complete
Guidelines/Expectations: explain required levels of participation (when to post, number of responses), and define required quality of communications.	Complete
Relevant, Open Questioning: discussion questions relate directly to subject/topics and allow students to present original responses.	Complete
Active Engagement: discussion board promotes active engagement among learners.	Complete
Resources	
Utilize video, text, multimedia, and interactive media where applicable.	Complete
Alignment: resources clearly align with course objectives and learning outcomes.	Complete
Number of Resources: targeted, required resources are manageable for time on task in 7- or 15-week class.	Complete
Descriptions: clearly describe purpose and provide navigation instruction to students	Complete
Legal: follow copyright and fair use requirements	Complete
Appearance: look professional and function correctly (e.g., text is legible/videos work correctly)	Complete
APA Citations and References: used for any quoted, paraphrased, or otherwise borrowed text, ideas, graphics, videos, or other materials used in the course	Complete
Accessibility	
Heading Styles: used as navigation aids throughout course modules, heading levels correctly ordered.	Complete
Hyperlinks: all linked material utilize hyperlinks with self-identifying titles rather than URLs.	Complete
Lists: all lists use bullets or numbering.	Complete
Tables/Figures: allow for easy recognition from screen readers, tables/figures have alternative text to identify them.	Complete

Text Formatting: Arial or Verdana 12-point font used throughout course, except where heading size supersedes main body of text. Text does not contain highlights or excessive use of color. Images: properly cited and contain alt text.	Complete
LMS Accessibility Checker: used on each module/page of content, and in the creating of spreadsheets, charts, and presentation slides.	Complete
Rubrics and Grading Criteria	
Availability: rubrics are available for and attached to all discussions, written assignments, and projects, and are tailored to the assignments they evaluate.	Complete
Point Values: values match point values on the syllabus and assignment	Complete
Levels of Achievement: reflect the university's grading scale.	Complete
Expectations of Quality: clearly communicated for all criteria.	Complete
Engagement	
Collaborative Assignments/Projects: employed where applicable.	Complete
Communication: clear pathways for student-to-student and student-to-instructor communication.	Complete
Group Assignments: clearly encourage teamwork and cooperative learning.	Complete
Engagement Time: 40 hours per 3-credits of engagement in all course material/activities.	Complete

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Appendix F

STUDENT PERCEPTIONS SURVEY ANALYSIS

Introduction

The purpose of this survey was to collect data about student perceptions of their experience with the design of an online nursing course that utilized OER and other instructional resources in lieu of a traditional textbook. The survey is an evaluative piece of the overall framework and served as a component of the framework pilot. Survey prompts aligned with criteria based on the Online Learning Department's Online Course Evaluation Rubric (Appendix D) and dimensions based on previous studies about student perceptions (Appendix A). Dimensions measured included: perceptions about engagement, effectiveness of instructional resources, alignment of objectives and assessments, and student workload.

Methodology

Seven online sections of the course were offered in Fall 2018 with a total enrollment of 163 students. Students were informed that participation in the survey was voluntary and anonymous. Ninety-four students participated in the survey (N = 94) with a response rate of 57.6%. Participation in the survey was voluntary and anonymous and the survey was administered during the final week of class. The survey instrument was administered online via a Wufoo form and consisted of 10 Likert-scale prompts (strongly agree = 4; agree = 3, disagree = 2, strongly disagree = 1). Links to surveys were distributed via a link to the survey form within the online sections. Survey data were collected two weeks after the surveys were distributed to students by exporting the data from Wufoo into an Excel spreadsheet. Moore's (1993) established dimensions for effective online courses informed the dimensions and prompts for the survey: learner-to-student, learner-to-instructor, and learner-to-content.

Table 8

Responses to Student Perceptions Survey

Prompt	Dimension	Mean	Std. Deviation
I was able to easily interact with other students in my class.	Engagement	3.52	.651
I was able to easily communicate with my instructor	Engagement	3.60	.645
Instructional technology used in this course (e.g., any software, applications, simulations, etc.) facilitated learning the material.	Engagement	3.40	.693
Instructional materials in the course (research articles, external websites, videos, etc.) helped me learn the subject.	Instructional Resources	3.43	.680
Instructional materials used in the course were related to the assignments.	Objective/Assessment Alignment	3.48	.651
Instructional materials used in this course were easy to access.	Instructional Resources	3.38	.764
The number of instructional materials in this course was manageable.	Instructional Resources	3.45	.666
The workload (combined readings and assignments) in this course was manageable.	Student Experience	3.24	.772
The layout of the course was easy to navigate.	Student Experience	3.36	.716

The course syllabus reflected what I experienced in the course.	Student Experience	3.50	.618

Results

Results of the survey (Table 8) indicated that, overall, students had a positive experience in the class. Prompts related to student engagement exhibited the highest mean scores, followed by objective/assessment alignment, instructional resources, and student experience. The greatest disparity in the responses was between communication with the instructor (M = 3.60) and student workload (M = 3.24), with perceptions about the course layout and navigation also showing a comparatively low mean value (M = 3.36).

Discussion

Table 8 is structured with the survey prompts in column 1, dimensions in column 2, mean score (on a 4-point scale) in column 3, and standard deviation in column 4. Students indicated that they had a positive experience in terms of engagement with their classmates, instructor, technology, and instructional content used in the course. Experience with workload in the course was perceived less favorably (M = 3.24) than experience with the overall design of the course (M = 3.36), suggesting an effective course design, but perhaps the perception that the course contained too many assignments. To the latter point, the course, required for the major, contained a heavy workload relative to some other courses, which could have influenced responses. Students also indicated a generally positive experience with the content of the syllabus (M = 3.5) in that it reflected what they experienced in the course. Student perceptions

about their experience with the instructional materials were generally positive: alignment with content (M = 3.48), ease of access (M = 3.38), and number of resources (M = 3.45).

Because this was the first time the survey was administered, there were no comparative data. For future course updates, the survey can be administered again to gauge any changes in student perceptions. The survey will also prove valuable in evaluating future courses developed within the framework, and it will allow for department chairs, adjunct faculty, and instructional designers to open a discussion about any problem areas that exist in newly developed courses that do not use commercial textbooks. This potential for ongoing communication and collaboration supports the efforts of the online course design framework and further supports collecting data about student experiences in online courses as an evaluative tool within the course development process.

Appendix G

STUDENT OUTCOMES ANALYSIS

Introduction

Recent studies highlighted an interest in a better understanding of how OER impact student outcomes. Fischer, Hilton, Robinson, and Wiley (2015) conducted a study of 16,000 students across ten U.S. institutions that examined student grades in OER versus non-OER courses. Their findings indicated that about two-thirds of students showed no significant difference in grades between OER and non-OER courses. In their study of OER efficacy in an eight-week history class, Grewe and Davis (2017) of Northern Virginia Community College suggested that OER versus non-OER sections had a moderately positive correlation ($r = .41$) on academic achievement. Similarly, Colvard, Watson, & Park (2018) reported that their OER versus non-OER study resulted in statistically significant increases in grades of A and A- in courses at the University of Georgia. While these studies did not necessarily fully support the efficacy of OER, they contributed to the growing body of knowledge about how OER and other no-cost instructional resources may affect student performance. As part of the online course development process, comparing OER and non-OER offerings provided an evaluative component that helps inform the efficacy of newly developed online courses that utilize OER.

This anlaysis was conducted to determine if there were significant differences in student outcomes between an online nursing course that used a traditional textbook model as the primary instructional resource compared to the same course (framework pilot course) that used OER and other no-cost resources. Data were collected from multiple

online sections that were offered in a seven-week online format during the Fall semesters of 2017 and 2018. Fall 2017 sections used a commercial textbook as the primary instructional resource. Fall 2018 sections utilized OER and other no-cost instructional resources (e.g., library resources, YouTube videos, and industry-related documents). Final course grades and grades on a summative course research paper (referred to as an outcomes assessment, or OA) were examined to compare grades. The analysis addressed two research questions and provided information about differences in outcomes between non-OER and OER sections.

Research question 1: Is there a statistically significant difference in final course grades between students who took a version of the course that used a commercial textbook and students who took a version that used OER?

Research question 2: Is there a statistically significant difference in OA grades between students who took a version of the course that used a commercial textbook and students who took a version that used OER and other no-cost instructional resources?

Research Method

Data were collected from the university's student information system. Two analyses were conducted, both of which used the independent samples t-test to compare results between OER and non-OER courses. The first analysis compared grades between the Fall 2017 non-OER and the Fall 2018 OER courses. The second analysis compared scores on a final term paper (Outcomes Assessment [OA]) between the Fall 2017 non-OER and the Fall of 2018 OER courses.

Sample

All students in the sample were Bachelor of Science in nursing majors who met

the course prerequisite of an introductory Nursing as Professional course. Table 9 details the sample sizes for each semester.

Table 9

Descriptive Statistics of Participants

Measurement	Semester	N	M	Std. Deviation
Final Grade	Fall 2017	134	95.50	4.940
	Fall 2018	149	94.85	5.004
OA Grade	Fall 2017	134	94.16	6.452
	Fall 2018	149	94.89	5.158

Results

Hypothesis 1: There is no difference in final grades between students who use the commercial textbook and students who use OER and other no-cost instructional resources.

There was no significant difference in final grades between students in the Fall 2017, non-OER course (M = 95.6, SD = 4.9) and the Fall 2018 OER course (M=94.8, SD=5.0), t (281) = 1.22, p = .223. Therefore, the null hypothesis that there was no difference in final grades based on the type of educational resources was retained.

Hypothesis 2: There is no difference in earned outcome assessment scores between students who use the commercial textbook and students who use OER and other no-cost instructional resources?

There was no significant difference in OA grades between students in the Fall 2017, non-OER course (M=94.2, SD=6.5) and the Fall 2018 OER course (M=95, SD=5.2), t (281) = -1.18, p = .239. Therefore, the null hypothesis that there was no difference in OA scores based on the type of educational resources was retained.

Discussion

The purpose of this analysis was to compare outcomes (grades) of a non-OER and OER course, with the guiding assumption that there would be no difference in outcomes. Comparative final course grades slightly decreased between the Fall 2017 non-OER (M = 95.50) and the Fall 2018 OER courses (M = 94.85). Conversely, there was a slight increase in OA grades from Fall 2017 (M = 94.16) and Fall 2018 (M = 94.89). The results of this analysis generally aligned with the literature in that there was no significant difference in outcomes. However, finding no significant difference in outcomes is encouraging in that students maintained their performance levels while saving money on instructional resources.

While the results are encouraging, limitations exist. Because multiple sections of the course were offered, data were collected from seven different instructors. Teaching styles, approaches to grading, student course load, and student workload, represent some of the external variables that could affect student grades on both the overall course grade and on the OA. Student backgrounds were also not considered. Some students may have had a broader depth of knowledge or experience with the subject matter than others. Other factors such as time spent engaging with course content was not measured. The analysis was also conducted for only one course, so results are not generalizable. However, as new OER courses are revised and developed at the institution, the body of data will grow, leading perhaps to a broader understanding of OER efficacy in online classes.

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Appendix H

ADJUNCT FACULTY INTERVIEW ANALYSIS

The purpose of conducting adjunct faculty interviews was to examine perceptions in an online nursing course that utilized OER and no-cost instructional resources rather than a commercial textbook purchased by students. The interview questions investigated perceptions about using no-cost instructional resources in an online class, specifically addressing perceptions about: instructional resources used, student workload, instructor workload, quality of resources, and impact on student performance. The interview questions aligned with both the Online Course Development Evaluation Rubric (Appendix E) and were informed by key faculty perceptions and concerns present in current research detailed in the Review of Relevant Literature (Appendix B) (Anderson, Gaines, Leachman, & Williamson, 2017; Blumenstyk, 2017; Colvard, Watson, & Park, 2018; Grewe & Davis, 2017; Hilton, 2016; Online Learning Consortium, 2016).

Definitions

- Awareness: the degree to which adjunct faculty are aware of OER and other textbook alternatives in terms of where to find them and how to use them in lieu of a commercial textbook (Allen & Seaman, 2016).
- Student workload: time-on-task hours spent reading, interacting with resources, and completing assignments (Online Learning Consortium, 2016).
- Adjunct faculty workload: timed-on-task reviewing resources, responding to student questions, evaluating student assignments (Mandernach & Holbeck, 2016).

- Student performance: grades on assignments and outcomes assessments (Institutional Data, 2018).
- Resource quality: peer-reviewed, reputable, pedagogically sound, accurate, and licenced (Crissinger, 2019).

Sample

Seven adjunct faculty instructors who taught NUR 313 in the Fall 2018 semester were invited to participate in an interview about their experience teaching the revised course. Three instructors agreed to participate; one instructor declined; the remaining three instructors did not respond to the invitation. The instructors were industry experts who work in the field in which they teach.

Anonymity

Indentifying information about the instructors and the institution were removed from the analysis and the ELP to protect confidentiality.

Methodology

Interviews were structured, experience-based (Fraenkel, Wallen, & Hyun, 2014), and conducted during the Spring 2019 semester. Interviews were conducted using Zoom, where participants' responses were recorded and then transcribed using the Scribie online transcription service.

Interview Questions

1. Discuss your level of awareness about OER or other alternatives to traditional textbooks.
2. Describe how the number of instructional resources used in NUR 313 affected the workload for students.

3. Describe how the number of instructional resources used in NUR 313 affected your workload as an instructor.
4. Describe the quality of the resources that were used in the course.
5. How do you think the non-textbook instructional resources impacted student performance?
6. What are some issues that you see regarding the sustainability of the resources used in the course?
7. What are some of your thoughts about students paying for textbooks versus offering them a no-cost alternative in their coursework?
8. What additional comments do you have about the instructional resources used in NUR 313?

Results

Table 10 depicts synthesized responses from the interview participants based on the themes on which the questions were constructed. Participants indicated that their awareness of OER or other traditional textbook alternatives was limited prior to the interview. Responses varied regarding the impact that the instructional resources had on students' workload. Participant 1 viewed the impact positively while Participant 2 indicated the resources were a source of confusion. Participant 3 noted that "…there doesn't seem to be a good alternative to the students getting that information [from the textbook] whereas before they were almost eight chapters in the book that we had." Participants noted some impact on their workload where Participant 2 expressed concern about the number of resources they had to review, and Participant 3 saw an increase in questions from students about the course content. Aside from one instance of an

instructor noticing an alignment issue with the resources relative to the term paper, the other participants did not report any issues with resource quality. Responses to the impact on student performance varied. Of note was Participant 2's response: "…students are so used to having an actual textbook that going back and forth [between resources] caused a little anxiety." In response to the issue of sustainability of the resources, both Participants 1 and 3 noted the need to continually update the resources due to changing subject matter while Participant 2 did not see any issues. Regarding thoughts about students paying for textbooks versus using free resources, Participants 1 and 2 noted that eliminating the cost of the textbook was beneficial to students. However, Participant 3 indicated a neutral position, noting that, "I think that but the expectation I think from students is that they are going to have to buy a book from a course you know that is typically what the expectation is…I guess I'm kind of neutral on it." Responses to the open-ended question yielded three different comments: 1) issues with students being able to access a password-protected textbook resource, 2) a desire to continue with the new model and expand it into other classes in the program, and 3) relating to content availability, concern about access to all resources throughout the course for the duration of the course so that students can backtrack and revisit resources if needed. It's important to note the last response related to how some instructors do not release all weeks of a course at the same time, and some close weeks (and hence access to resources) as the course progresses.

Table 10

Interview Questions, Themes, and Responses by Participants

Interview Question	Theme	Participant Responses
Discuss your level of awareness about OER or other alternatives	Awareness	1. Was not aware until interview. 2. Slightly aware. 3. Unaware.

to traditional textbooks.		
Describe how the number of instructional resources used in NUR 313 affected your workload as an instructor.	Instructional resources impact on instructor workload	1. Minimal impact. 2. Too many resources - increased workload in terms of time spent reading and getting familiar with the resources. 3. Received more email about resources and course content compared to teaching the book with only a text.
Describe the quality of the resources that were used in the course.	Quality	1. Quality of resources improved course content. 2. No issues with quality – reiterated issue with quantity. 3. Noticed misalignment between resources and term paper.
How do you think the non-textbook instructional resources impacted student performance?	Impact on student performance	1. Improved – students referenced resources in discussions. 2. Perceived potential to impact performance due to navigating resources. 3. Did not see a difference.
What are some issues that you see regarding the sustainability of the resources used in the course?	Sustainability	1. Need to keep resources up-to-date as the subject matter changes. 2. Did not perceive issues with sustainability. 3. Continually updating resources based on changing laws.
What are some of your thoughts about students paying for textbooks versus offering them a no-cost alternative in their coursework?	Cost versus no-cost resources	1. Lower cost benefits students. 2. Improved cost benefit over paying for textbook. 3. Neutral on issue.
What additional comments do you have about the instructional resources used in NUR 313?	Open-ended question	1. Password to access e-text was problematic. 2. Continue with current model and expand into other classes. 3. Need for students to have access to all resources throughout the course rather than one week at a time.

Discussion

Results of current research suggest mixed faculty perceptions about OER regarding awareness, support for the use of OER, and concerns about academic freedom, quality control, and the amount of work needed to maintain OER (Seaman & Seaman, 2017; Jaschik & Leaderman, 2018). Awareness of OER is low among faculty, and while the sample size for this analysis was small and not generalizable, it nevertheless reflected findings in the literature. The impact on student and faculty workload, quality, student performance, sustainability, and cost also mirrored current research in that perceptions were mixed. However, perceptions about quality were generally positive, as were perceptions about the value of lowering costs for students.

Some limitations existed in the analysis. While the course structure, resources, and assessments were the same for each online section, variation may have existed in teaching style, teaching philosophy, approaches to grading, and teaching load that could have influenced responses. Limitations also existed with availability of participants. As the faculty are adjunct, they teach part-time. Of the three that were interviewed, all indicated that availability for the interviews was limited, which could have been a factor in the four faculty who did not participate. To improve participation and data collection in the future, at least two alternatives exist. First, interviews could be face-to-face rather than remote. The issue of participants finding time could still be an issue, but the depth of responses could be improved (Novick, 2008). Second, embedding a quantitative survey in courses in lieu of conducting interviews could increase participation, albeit at the expense of the potential depth of responses in face-to-face interviews. Regardless of the

limitations of the analysis, the results were promising in that they reflected other surveys about faculty perceptions, indicating that focusing on areas of concern (e.g., awareness, quality, and workload) in future OER development leaves open the possibility to allay some of the faculty concerns.

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Appendix I

DEPARTMENT CHAIR QUESTIONNAIRE

The Online Learning Department is seeking input from Department Chairs about developing online programs and/or online courses that utilize alternatives to commercial textbooks (open educational resources, low or no-cost e-texts, and Library resources). Please fill out the form below to help us gauge your interest in this effort and work with you to reduce textbook costs for students in your online programs and classes.

1. What program(s) do you chair?

2. Are you interested in exploring commercial textbook-free options for the program that you chair?
    - Yes
    - Not at this time
    - Maybe – I would like to discuss options

3. If you selected "Not at this time" above, please tell us why you are not interested - feel free to ask any questions or share concerns.

    Note: if you answered "Yes", you can skip to the next section.

4. Are you interested in exploring textbook-free options for a program, a specific course, or both?
    - Program
    - Course
    - Both

5. Please list the program and/or course(s) that you would like to develop or redevelop without a commercial textbook.

6. Please tell us the semester in which you would like to begin using textbook alternatives.
    - Spring 2020
    - Summer 2020
    - Fall 2020

7. Below, please add any additional comments or questions that you have.

Appendix J

EDUCATION LEADERSHIP PORTFOLIO PROPOSAL

IMPLEMENTING A FRAMEWORK FOR REDUCING TEXTBOOK COSTS BY UTILIZING OER AND OTHER TEXTBOOK ALTERNATIVES IN ONLINE COURSE DEVELOPMENT

Stephen Buchanan

Education Leadership Portfolio Proposal:

EDUC 881, Winter 2019

Introduction

This Education Leadership Portfolio (ELP) presents the implementation of a framework for incorporating commercial textbook alternatives into the development of online course offerings at a mid-Atlantic university. The framework was designed as a multi-unit collaboration where the instructional design manager (IDM) who oversees the instructional design team (IDT) worked with the College of Health Professions and the university's library to develop online courses that utilized OER or other low or no-cost instructional materials instead of commercial textbooks. The IDT is in a unique position to facilitate the use of commercial textbook alternatives in online offerings as it is a centralized unit that oversees the design, development, and delivery of all online offerings at the institution.

Further, interest in and use of OER in higher education institutions continues to increase, and many institutions seek to address the rising costs of instructional materials to lessen the financial burden on students (Allen & Seaman, 2016b; McKenzie, 2017).

The use of OER is of interest to the institution, as it aligns with key components of institutional priorities that focus on increasing enrollment, strengthening academic offerings, and improving retention (Institutional Data, 2018).

Definition of OER

As detailed in the Review of Relevant Literature section (Artifact 1), and as defined by Atkins, Brown, and Hammond (2017), "OER are teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use or re-purposing by others" (p. 4). Atkins, et al. (2017) identify some types of OER as, "full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge" (p. 4). The United Nations Educational, Scientific and Cultural Organization ([UNESCO], 2018) defines OER as follows:

> Open Educational Resources (OER) are teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions (para 4).

These types of resources are in the public domain or licensed such that users are permitted to retain, reuse, revise, remix, and redistribute the resources (Wiley, 2014).

For the purposes of this ELP, the term OER is used to describe instructional materials that generally meet the above criteria. However, other instructional materials that may not meet narrow definitions for OER were utilized in implementing the framework including: library database resources, instructor-created video content, YouTube videos, and subject-related websites. As utilizing OER in course development

continues, other resources may be used such as library-procured materials paid for by the institution but offered to students at no cost.

Organizational Context

Mission and Vision

The university is a private, not-for-profit institution chartered by the State of Delaware in 1967 that offers associate, bachelor, master, and doctoral degrees (Institutional Data, 2018). The institution has campuses in Delaware, New Jersey, and Maryland, with a substantial online presence throughout the country as well as students who attend remotely from abroad. Notably, online enrollments comprise at least 44% percent of the institution's enrollments (Institutional Data, 2018). Student demographics trend toward working adults who attend part-time; however, there is a growing traditional-aged population who attend full-time (Institutional Data, 2018).

The institution's curricula focus mainly on career-oriented degrees among seven colleges while also striving to provide programs relevant to emerging markets. Thus, the institution's mission focuses on providing relevant curricula in a student-centered educational environment. Supporting the mission, the institution's vision is to provide open-access and innovative educational opportunities to the students it serves (Institutional Data 2018). The goals of providing educational opportunities for all students, along with providing a high level of attention to students' needs, reflects the general culture of student-centered practices among staff and faculty at the institution.

Demographics

University data (Table 11), compiled in January of 2018 (Institutional Data, 2018), indicate that students who identified as female represented about two-thirds of the

student population, where males comprised the remaining one-third of the population. Of these students, the majority resided in Delaware, with the remaining domestic population residing mostly in the mid-Atlantic region. International students represented about 10% of the overall population (Institutional Data, 2018). Regarding ethnicity, 48% of students identified as white, 25% identified as Black or African American, and 11% identified as Asian. Data about age indicated that most students were between 18 and 39 years old with 50% of the students falling between the ages of 25 and 39.

Table 11 from Institutional Data (2018) depicted student enrollments and the cost of attending the institution in tuition alone (i.e., tuition numbers do not include course materials, housing, or other costs). For the 2016-2017 academic year, most students were undergraduate and part-time. For students attending online, 44% took at least one online class; the remaining students attended face-to-face only (Institutional Data, 2018).

Table 11

Enrollments by Location and Tuition by Level

Enrollment Segment	N	Percent
Gender		
Female	12,979	63%
Male	7,501	37%
Ethnicity		
American Indian or Alaska Native	275	1%
Asian	2,281	11%
Black or African American	5,028	25%
Hispanic	529	3%
Native Hawaiian/other Pac. Islander	48	.20%
White	9,749	48%
Unknown	2,570	13%
Age		
<=24	5,380	26%
25-29	5,105	25%
30-39	5,217	25%
40-49	3,110	15%

50+	1,659	8%
Undisclosed	9	.40%
State of residency		
Delaware	12,125	59%
Maryland	1,593	8%
New Jersey	3,785	18%
Pennsylvania	1,600	8%
Other	1,377	7%

Summary

Overall, the data in Tables 11 and 12 depict an institution that serves a regional, largely domestic student population. The majority of students were non-traditional, working-age adults between the ages of 25 and 39, but there was a significant number of traditional-age students (26%) between the ages of 18 and 24. 76% of students worked full-time, and at least 10% worked part-time (Institutional Data, 2018). Data regarding income and non-academic expenditures were not available; however, retention data indicated that billing holds accounts for 44% of undergraduates who do not persist in their degrees and leave the institution (Institutional Data 2018), which suggests that cost is a factor in retaining students.

Comprehensive research about the relationship between retention and textbook costs is emerging. However, recent research published by Senack, Donoghue, O'Connor Grant, and Steen (2016) indicated that of 2,000 students surveyed nationally, two-thirds of those students forwent textbooks for their classes due to costs, and 50% indicated that costs affected the number of courses that they could take. Further, 87% of faculty surveyed by the Babson Research Group indicated that textbook costs were an important consideration in choosing course materials, supporting the notion that textbook costs affect decisions for faculty as well as students (Allen & Seaman, 2016b). Thus, given the

institution's mission to provide students with a relevant, student-driven education, and its mission of open-access and innovative educational opportunities, implementing OER and other low or no-cost solutions into online courses in lieu of commercial textbooks provides an avenue to support students by reducing the cost of attaining their degrees.

Problem Statement

Online course development at the institution relies too heavily on commercial textbooks. A systematic way to implement OER or other textbook alternatives into online course development is needed to facilitate the reduction of instructional material costs in online courses. As higher education tuition increases, costs associated with commercial textbooks impose an added financial burden on students. Since 2006, college tuition and fees have increased 63% in the United States (U.S. Bureau of Labor Statistics, 2016). Commercial textbook costs have also increased during this period (National Center for Education Statistics, 2018). According to The College Board (2018), the average college budgets for undergraduates across public and private institutions books and supplies represent significant expenditures (e.g., $1,250 for private, nonprofit four-year institutions).

However, while textbook costs have generally increased over time, the National Association of College Stores (NACS) (2018) reported that the 2017-18 academic year marked the first year in a decade in which overall spending on course materials decreased. The NACS (2018) also reported that 20% of the students they surveyed downloaded free course materials, perhaps contributing to the current decrease in costs. Nevertheless, a cost gap persists between what students pay for their overall education and what they could pay based on emerging low or no-cost alternatives to high-priced

commercial textbooks. Reducing some of the financial burden on students by offering alternatives to commercial textbooks represents a way in which the institution can actualize its mission to offer affordable, student-centered education. One key way to bridge this cost gap in the online environment is to implement the use of OER and other instructional materials into the online course development process.

According to internal Online Learning departmental documentation, as of the summer 2018 semester, there were over 800 online course offerings. Of those courses, there were about 10% that did not use commercial textbooks. This number is a best guess, as previously the IDT did not officially track which courses used textbooks and which ones did not. As the movement toward OER and other resources has gained momentum at the institution, some department chairs have chosen to offer their courses textbook-free or plan to offer them textbook-free in the coming academic year. For example, the department chair for the undergraduate degree in Human Resources Management estimated that students would save over $1,200 if commercial textbooks were eliminated in the curriculum (Institutional Data, 2018). However, there is no system in place currently to support these efforts from a course development perspective.

Thus, the problem is two-fold. First, the need to lower educational costs for students is a nationally-recognized issue in higher education that also impacts students at the institution. Working more closely with stakeholders during the online course development process is a way to mitigate these costs. Second, implementing an online course development framework specifically for utilizing OER provides an avenue for department chairs to eliminate commercial textbooks.

Improvement Goal

Currently, there is a robust online course development process in place that is managed by the IDT. However, traditionally, much of course development relied on publisher resources that added additional costs for students beyond tuition. The initial phases of the development process lacked a cohesive, collaborative effort to involve all stakeholders in assessing needs and discussing purpose and vision for the online courses as they relate to subject matter and overall fit within curricula. Therefore, the goal of this framework is to utilize the existing instructional design model to pilot an enhanced, collaborative effort between stakeholders in the development process and ultimately produce online courses that utilize OER and reduce costs for students. The sections below detail the current development process, the rationale for the new framework, stakeholders and their roles, resource considerations, and an implementation timeline.

Online Course Development Process

The core framework on which the development process relies is the ADDIE model, an acronym for analysis, design, development, implementation, and evaluation (Elkins & Pinder, 2015; Hodell, 2016). The analysis phase involves collecting information and data about the targeted online course, determining needed resources, and formulating instructional strategies (Hodell, 2016). Traditionally, the design phase involves constructing a rationale, developing objectives, and other pre-development activities (Hodell, 2016). Workflow at the institution places these tasks more in the analysis phase, leaving the design phase for course planning with goals, objectives, and rationales already completed. The development phase consists of the instructional designers working with subject matter experts to develop course materials (Hodell,

2016). During this phase, the instructional designers work with subject matter experts to align goals and objectives, assessments, and instructional resources. Implementation is where the completed course is delivered to students. It is at this stage that the IDT distributes content from the newly developed courses into online sections. Hodel (2016) noted that the evaluation phase is misplaced in the acronym in that evaluation takes place throughout the development process. This is true for the current approach to course development as well as each phase follows a linear path toward implementation. However, evaluation is implicit in each development phase and continues beyond the development cycle, necessitating an update in approach to process.

Tables 12 and 13 illustrate the original and revised development models. Key differences are in the approaches to initial tasks, analysis, design, and development represent an improved development flow (Figures 3 and 4). Where the initial tasks were once conducted primarily by the senior director, they now include the instructional design manager and focus on specific programs or individual courses that may benefit from replacing commercial textbooks with OER. The revised analysis phase benefits from improved collaboration with stakeholders where department chairs, instructional designers, SMEs, educational technologists, and librarians work to establish specific needs and a vision for the course. The design phase, too, benefits from the revision, where the instructional designer, SME, and educational technologists work closely on organizing and designing the learning materials and experiences in course development. For the development phase, the instructional designer works exclusively with developing the content within the LMS. This is another departure from the original approach in that SMEs are not tasked with adding content to the LMS. Further, faculty and student

feedback are part of the evaluation process. Faculty are surveyed to get their input on the course design, student engagement with the instructional resources, use of technology, and workload. Students are surveyed about their experience in the courses.

Table 12

Original Course Development Process

Component	Description	Stakeholders
Analyze	Assessing student/program needs, developing objectives/program outcomes, course description and rationale, selecting course materials.	Program Chair, Academic Council, Curriculum Committee
Design	Course sequencing, alignment, teaching strategies, evaluating student performance, technology implementation	ID and SME
Develop	Developing course materials, procuring instructional resources, adding content to LMS	ID and SME
Implement	Deliver content to course sections	ID and IDM
Evaluate	Redevelopment based on course age, textbook changes, and ad hoc feedback	IDM and Program Chair

Note. The previous process limited collaboration between the analyze phase and the remaining phases of the process, where a gap existed primarily between the program chair, ID, and SME.

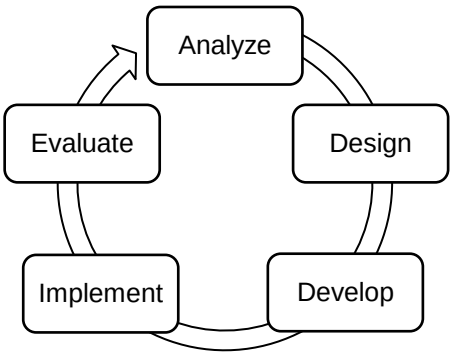

Figure 3. Previous ADDIE Process: the flow from one phase to the next represents a linear path that does not allow for recursive communication and revision

Table 13

Revised Course Development Process

Component	Existing Stakeholders	Revised Stakeholders
Analyze	Program Chair, Academic Council, Curriculum Committee	Expanded analysis: formalized needs assessment with Program Chair, SME, ID, Library
Design	ID and SME	Program Chair, SME, ID, Library
Develop	ID and SME	ID, SME, Program Chair
Implement	ID and IDM	ID, IDM
Evaluate	IDM and Program Chair	IDM, SME, Program Chair (Library if needed)

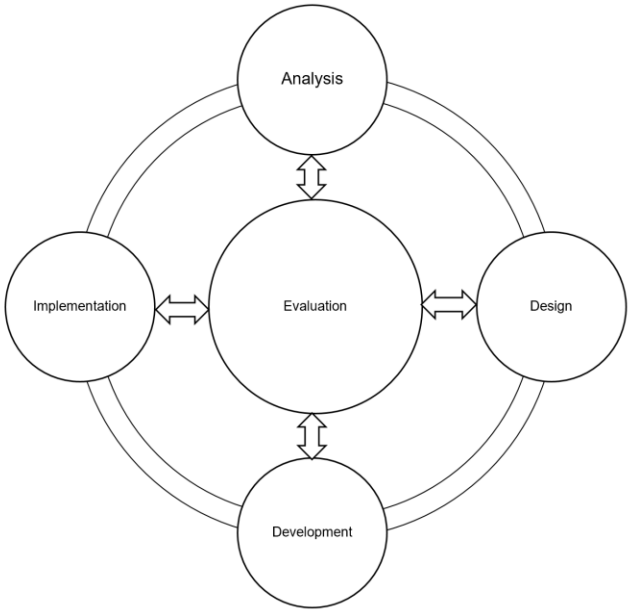

Figure 4. Diagram of Revised Process. online course planning utilizing the ADDIE model with key changes made to the initial tasks, analysis, design, and development components.

Rationale

The rationale for this framework has two components that address a gap between how online courses have been developed in the past and how they can be developed moving forward. First, the ADDIE instructional design model informs much of the structural and project management components of the framework. Previously, the analysis component was completed mostly by program chairs where they developed certain aspects of their curricula (e.g., identifying learner needs, goals, and objectives) prior to the course development process, leaving further analysis to SMEs and instructional designers. Under the revised development framework, stakeholders worked collaboratively on the design and development of content, including both course planning, acquiring OER.

Second, technology and cognition theory inform the design and development components of the framework, thereby adding a layer of research-based practice to course design. Specifically, constructivist approaches to learning inform the overall learning environment, and the effective use of educational technologies supports the constructivist approach by utilizing the LMS and other technologies as constructive rather than purely instructive tools (Cheung & Vogel, 2013). OER can further support this framework by broadening the scope of educational tools beyond traditional textbooks, thereby providing students with potentially more effective learning experiences via game-based learning, adaptive learning tools, and customizable open-source resources (Chow & Croxton, 2017; Dobler, 2015; Dominici & Palumbo, 2013; Liu, McKelroy, Corliss, & Carrigan, 2017; Online Learning Consortium, 2016).

Stakeholders

The instructional designer manager works with all stakeholders throughout the planning and development process by organizing meetings, assigning IDs, aligning course content, ensuring accessibility of course materials, editing course content, facilitating the use of effective technologies, and overseeing the overall design, development, and delivery of the courses.

Subject Matter Experts

Subject matter experts provide expertise in their subject area, and work with department chairs, instructional designers, and library personnel to identify and utilize appropriate OER materials in the course planning and development process.

Program Chairs

Program chairs identify a course(s) they would like to develop or redevelop using OER, hire SMEs for content development, review content throughout development, and approve final online course(s).

Librarians

Librarians work closely with Department Chairs, SMEs, and instructional designers during the planning phase of course development, assisting with the identification of effective OER that align with course objectives and assessments, and create library guides (Lib Guides) for curating OER.

Required Resources

Resources for this project fall within the budgeted development cycle in the Online Learning Department. Additional considerations for other stakeholders relate to time commitment from department chairs to meet regularly throughout the process, and time and labor for Library personnel to meet in the beginning of the process and research OER.

Planning and Implementation Timeline

Planning began in the summer semester of 2018 (Table 14) when stakeholders within the Online Learning Department discussed how to approach the pilot and identified potential courses that would benefit from utilizing OER. A course within the College of Health Professions (NUR 313: Nurse as Decision Maker) was chosen because about 500 students take the course annually, which provides a large sample size in terms of evaluating student performance. I then worked with the Nursing Chair, who was also the SME, and librarians to establish course goals, outline objectives and assessments,

discuss textbook alternatives, and revise the end-of-course faculty and student evaluation surveys. Courses were then developed over the summer of 2018 and offered in the fall of 2018. Surveys were incorporated into the course design as activities to be completed in Week 7 of the sections. Data analysis, course revisions, and a follow-up meeting to discuss successful areas of the pilot and areas for improvement take place after the pilot is complete. Findings of the pilot will be presented to the Academic Council. After any final recommendations are made, the Instructional Design Policy and Procedures Manual will be updated.

Table 14

Pilot timeline and stakeholders.

Pilot Component	Date	Stakeholders
Initial departmental planning meeting	May 2018	Online Learning Department: AVP, Senior Director, IDM
Planning/Needs Assessment	June 2018	Chair, SME, IDM, Librarians
Content planning/development	July – August 2018	SME, ID, Librarian
Initial course offerings	Fall 2018	Chair, SME, IDM
Analysis of faculty and student data	January 2019	Chair, IDM
Course revisions	January 2019	SME, Chair, IDM
Follow-up Meeting	January 2019	Chair, SME, IDM, Librarians
Share findings with Academic Council	February 2019	IDM/Library representative

Organizational Role

For the past six years, I have been the instructional design manager within the Online Learning Department where I lead a team of eight instructional designers. As a unit, we are responsible for the design, development, delivery, evaluation, and maintenance of all online courses offered at the institution. As the institution offers over 130 online programs that consist of over 800 online courses, my work is fundamentally collaborative. I work with department chairs, instructional designers, faculty, and SMEs to design and develop online course content. I work directly with our IT department to deliver content via our learning management system (LMS) each semester, and the design team works to develop and maintain online content. I am also responsible for establishing departmental policy, directing our approaches to instructional design within the LMS, collaborating with the Educational Technology Department, and ensuring that the design team has professional development opportunities to remain current with technology, instructional design best practices, and LMS functions.

Given my responsibilities, I am in a unique position to assist the institution with its OER initiative. In the past, the primary interactions in online course development were between the SMEs and the instructional designers. Generally, this interaction involved adapting instructional materials and approaches from the face-to-face to online environment – usually including using textbooks as the main source of instructional materials. Within the past two years, some program chairs have requested the use of OER for their courses. As these requests increase, and as the institution moves toward a more OER-centered model for some programs, the need exists to 1) revise the instructional design model used for course development, and 2) begin working directly with the

university library to procure and curate OER and other low or no-cost resources for use in online course development. Thus, my responsibility in this effort was to develop a framework for adapting our current instructional design model to include:

- A more robust needs assessment process.
- A more collaborative approach in initial planning meetings.
- Direct involvement with the Library.
- Facilitating any technical requirements for OER integration with the LMS.
- Reviewing data security issues with IT.
- Effectively incorporating OER into online course design.
- Evaluating both faculty and student experiences with OER content and the general online learning experience.

This portfolio will contribute to my professional growth in two key ways. First, it will serve to document the process of how my department adapts to the often fast-paced change that occurs in the online learning environment. In the past 10 years, I have seen online course offerings advance from relatively flat learning experiences for students to more robust, technology-rich, and engaging learning environments. This is particularly true for the past five years and is due in part to improved access to and availability of instructional technologies. Second, it allows me to participate directly in an institutional improvement initiative. Fortunately, the culture of the institution allows for rapid change to meet market and learner needs. Contributing to this change represents an opportunity to highlight my leadership in an area of the institution that directly impacts its growth.

Table 15

Artifact Table

#	Artifact	Audience	Description
1	Operational Plan for Pilot Course	AVP, Senior Director, IDT	Component of 3-year strategic plan for Online Learning. Details the rationale for the pilot, stakeholders, roles, and how the pilot will be conducted.
2	Review of Relevant Literature	Online Learning Department	Conduct a review of relevant literature to focus on the history and current perceptions about OER use in online courses, case studies of implementing OER and other no-cost instructional resources into online courses.
3	Needs Analysis for Course Development Planning	Chairs, SME, Library, instructional designer	Preliminary step in examining needs for the development of the pilot course, including: rationale for the course, course description, outcomes and objectives, accreditation standards, and payment for development.
4	Online Course Development Planning	Chairs, SME, instructional designer	Identify the desired results for the course, formative and summative assessments that demonstrate understanding of the subject matter, detailed student learning experiences, and alignment of instructional resources with objectives and assessments.
5	Online Course Development Rubric	Chairs, IDM, SME	Evaluation tool drawn from institutional knowledge and practices, along with criteria specific to general user experience with technology, effectiveness of educational technology used in a course, alignment of objectives and assessments, applicability of learning experiences, student engagement, evaluation methods, and the utilization of relevant instructional resources.

6	Student Perceptions Survey	Chairs, IDM, SME	Collect data about student perceptions of their experience with the design and resources used in the pilot course. The survey represents an evaluative piece of the overall framework and served as a component of the framework pilot. Survey prompts aligned with the Online Course Development Rubric.
7	Student Performance Evaluation	Chairs, IDM	Compare student performance between the pilot course that used textbook alternatives and the original version of the course that primarily utilized a purchased textbook and limited external resources
8	Adjunct Faculty Interviews	Chairs, IDM	Interview adjunct faculty about their experience teaching the course and perceptions about the design of the course, focusing on the instructional resources, student workload, instructor workload, quality of resources, and the perceived impact on student performance.
9	Exploratory Department Chair Questionnaire	Chairs, IDM	Survey to gauge department chair interest in developing commercial textbook-free online programs and courses.
10	Human Subjects Form	ELP Committee	IRB approval forms.
11	ELP Proposal	ELP Committee	Revised ELP proposal document.

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Appendix K

INSTITUTIONAL REVIEW BOARD DOCUMENTATION

CITI PROGRAM

Completion Date 20-Apr-2018
Expiration Date 19-Apr-2021
Record ID 25479408

This is to certify that:

Stephen Buchanan

Has completed the following CITI Program course:

Course In The Protection Human Subjects (Curriculum Group)
Human Subjects Protections - Social-Behavioral-Educational Focus - All UD Researchers/Faculty/Staff (Course Learner Group)
1 - Basic Course (Stage)

Under requirements set by:

University of Delaware

Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w32e51e91-974c-4ab3-878c-badf26a67cc0-25479408

RESEARCH OFFICE

210 Hullihen Hall
University of Delaware
Newark, Delaware 19716-1551
Ph: 302/831-2136
Fax: 302/831-2828

DATE:	April 1, 2019
TO:	Stephen Buchanan
FROM:	University of Delaware IRB
STUDY TITLE:	[1222786-2] Implementing a framework for Reducing Textbook Costs in Online Course Development
SUBMISSION TYPE:	New Project
ACTION:	DETERMINATION OF EXEMPT STATUS
DECISION DATE:	April 1, 2019
REVIEW CATEGORY:	Exemption category # *(2,4)*

Thank you for your submission of New Project materials for this research study. The University of Delaware IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will put a copy of this correspondence on file in our office. Please remember to notify us if you make any substantial changes to the project.

If you have any questions, please contact Nicole Farnese-McFarlane at (302) 831-1119 or nicolefm@udel.edu. Please include your study title and reference number in all correspondence with this office.

HUMAN SUBJECTS REVIEW COMMITTEE (HSRC) HSRC-13

PROTOCOL REVIEW

This section is to be completed by the HSR Committee Person.

Principal Investigator: Stephen Buchanan

Date Submitted: 02/22/2019

The protocol and attachments were reviewed:

The proposed research is approved as:

☒ Exempt ☒ Expedited ☐ Full Committee ☐ Provisional (see External Research section)

The proposed research was approved pending the following changes:

☐ See attached letter

☐ Resubmit changes to the HSRC chairperson

The proposed research was disapproved:

☐ See attached letter for more information.

HSRC Chair
or Representative

Angela Herman, DNP, RN
Printed Name

Signature Date 02/26/2019

HSRC Chair
or Representative

Ruth T. Norman
Printed Name

Signature * Date 2/27/19

* Conditional until University of Delaware IRB signs off