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Knowledge And Access: An Investigation Into Course Material Models At The Collegiate Level

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Knowledge and Access: An Investigation into Course Material Models at the Collegiate Level

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Abstract

For over 1,000 years, physical textbooks have been the primary course material tool utilized to facilitate knowledge transfer from the instructor to the student population. In current times, multiple barriers to success have emerged for the modern student of higher education, including affordability, accessibility, and quality. In addition, student engagement with the course material can be a critical factor for student achievement. Taylor & Parsons (2011) indicated that student engagement levels in the classroom are linked with overall success in the course. Within higher education, faculty and academic administrators are at the front lines, attempting to reduce and eliminate these obstacles so that their students achieve success in the classroom and across their overall academic experience. With many potential student success barriers linked to course material, there is a need to further examine the relationship between faculty, staff, the institution and the available course material delivery models. The purpose of this study was to examine the experiences of faculty and staff, related to selection of course material models and implications for relevant student success barriers, at a specific institution of higher education located in the Midwestern region of the United States. The researcher identified six participants that described their previous and current experience, as they relate to the study, through the qualitative interview protocol. Four major themes emerged, reflecting the experiences of the faculty and staff who participated in the research process. The themes included: a) course material affordability, b) course material accessibility, c) academic freedom

and instructor autonomy, and d) student engagement. These findings are significant in understanding the potential barriers to student success, as they relate to course material models at the research site, how faculty and staff currently address existing challenges, and future steps to consider at the institution. The existing challenges include affordability of course materials and associated tools, accessibility options for the diverse student body at the research site, and the course material evaluation and selection process. After conducting research utilizing the qualitative, semi-structured interview protocol, the recommendations for future research include conducting subsequent studies to capture the experience and perspectives of additional employees and a comparative analysis between this research site and another site with similar identified characteristics.

Keywords: Inclusive Access, OER, Consumables

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Chapter 1

Introduction

Higher education leaders in the United States and worldwide must constantly be cognizant of and address barriers to student success. Student success barriers can come in various forms, such as lack of financial resources, inadequate transportation, limited course offerings, insufficient education and training prior to admission, just to name a few. It is imperative that institutional leaders are aware of and create strategies to help address any shortcomings and provide solutions for the students. Student success barriers can lead to falling matriculation rates, increased “drop rates”, poorer student performance and lower overall attendance, and ultimately, poor performance in the workplace after graduation. These metrics, in general, are “Key Performance Indicators” (KPIs) that the higher education institution in this study adheres to when measuring institutional performance.

The institution that is the site for this research study is the state’s smallest public, 2-year community college with an annual enrollment of 1600 students. The college currently maintains two campus locations referred to as the “Main” and “West” campus locations. The institution currently employs over 110 employees. The school’s annual budget is \$17 million, and it is currently ranked in the top 25 of community colleges nationally by SmartAsset Inc.

The institution has established the current mission statement of the organization as follows:

The institution strives to be a community college that provides an exceptional educational experience by cultivating intellect, encouraging creativity, and enhancing character in a student and community centered environment. We serve the best interests of students and

the community by providing academic excellence while promoting cultural enrichment and economic development (Institution A, 2020).

The institution immediately serves the local community but benefits the entire state by helping to educate and create a skilled workforce to advance the local economy and develop the knowledge base, assisting the local community and state in regard to progression and advancement. The average cost of tuition and fees for an in-state resident at a public, two-year commuter school in the United States is \$3,347 per annum (Douglas-Gabriel, 2015), whereas this institution currently charges \$3,090 per annum, excluding the potential free attendance through various scholarships and grants offered by the institution. The college also receives positive feedback for its concurrent enrollment program, which allows high school students the opportunity to earn college credits for a reduced rate, while still completing their high school diploma (McNutt, 2017). These programs help to significantly reduce the debt burden for incoming undergraduate students by allowing completion of up to two years of credits for free. Feedback from local veterinarians and hospitals, for example, have yielded positive commentary and high regard for the research site's Veterinary Tech and Allied Health programs.

As a community college, one of the central focal points of the institution is to eliminate barriers to success for students and the local community. A planning committee appointed by the Board of Trustees, established to help evaluate barriers and recommend solutions, determined that one of the major obstacles for students in the community college environment is affordability of course materials. This research proposal aimed to document the concerns currently surrounding course materials in the environment, evaluate how different concerns act as barriers to student success, and what recommendations can be made to alleviate the problems.

Statement of the Problem

Kirschner (2012) discussed the term, “Strategic Inflection Point,” which is the critical moment when an organization confronts a significant change and must quickly adapt or fail (p. 4). This theory, in a sense, can be applied to a broad base to an industry that has stagnated. The industry in question is the higher education textbook industry. For years publishers have touted online course materials as the wave of the future, but online mastery products are one-time use products, and routinely cost more than a stand-alone textbook (Straumsheim, 2017). Many faculty require the use of both online mastery tools and a textbook, so what was once just a single expense has now become exponentially more expensive. During the researcher’s work-related experience at an institution with a similar demographic the data indicated that major publishers have changed the textbook life cycle from three years to just 18-months, discontinuing the previous edition. In many disciplines, the new editions add very little new material, and instead, increase profits for the publisher by controlling the availability of inventory.

Popken (2015) indicates that textbook costs have risen every year since 1977, and this translates to a total increase of 1,041%. In the same frame of time, tuition and fees at public two-year colleges have increased 296% (NCES, 2017). Weisbaum (2016) states that it is not uncommon for the average textbook to cost more than \$200 and that the price tag of some books exceeds \$400. Tuition and Fees at the institution examined in the study are estimated to be \$1517 per semester, allowing students to quickly realize that textbook expenses may be a significant percentage of their annual attendance cost. Community college students are nearly twice as likely to use financial aid for textbooks versus students at four-year and private schools (Weisbaum, 2016), representing a potentially large barrier for students attending a public, two-year college.

One of the responses to the traditional model has been Open Educational Resources (OER), with the largest provider being OpenStax. OpenStax is a platform that was developed by Rice University with the purpose of publishing high-quality, peer-reviewed electronic textbooks completely free (Fenton, 2016). The books are available in multiple formats, although there is a small charge for the “iBooks” format. If a student desires a physical copy of the textbook, one can be ordered (Fenton, 2016), and OpenStax controls the channels that can source the books for resale, and the maximum allowable price. This consistent and broad-based model has allowed over 392,000 students across the country to access free course materials, with an average savings of \$100 per student every semester (Fenton, 2016). OpenStax’s primary source of funding is from philanthropic avenues such as the Bill and Melinda Gates Foundation (Robe, 2012), which aids in securing the outcome that the mission does not deviate at any point due to investor interest.

According to Straumsheim (2017), “Pearson said it experienced an “unprecedented” decline in the North American courseware market last year as revenues fell by 30% in the fourth quarter (p.1).” Peter Cohen, President of McGraw-Hill Education North America, stated, “In some ways, I believe that is a long-coming wake-up call for the industry” (Straumsheim, p.1, 2017). This technology is exactly the type of disruption that Diment (2015) described as necessary to create the momentum for change in an industry that is satisfied with the status quo.

In 2014, major publishers began launching what is colloquially referred to as “Inclusive Access” (IA), in the textbook industry. This new model was designed to combat the new OER model that shook up the industry and hopefully regain market share for the major publishers. IA allows students to access the same content they would expect from mainstream publishers, at a fraction of the price. The IA content is delivered to students on the first day of class via the

school's Learning Management System (LMS), and students are granted a 2-week free trial (Lorgan, 2014) in case there are any problems with their financial aid packaging, or if they are undecided on this new course material delivery model. In addition, many schools have negotiated a "low-cost" printed version of the textbook for students enrolled in courses that utilize the IA model. This ensures that there are options for a diverse array of students.

Until recently, most courses offered at the research site only offered course materials in the traditional textbook format. There are several limitations of the traditional textbook format including accessibility (cost) and student engagement. OpenStax attempts to address the accessibility concern, while Inclusive Access attempts to address both the accessibility and student engagement challenges. With the availability of the new models, research site leaders should investigate implementation of the new course material models to determine if they help the institution fulfill the immediate needs of students and faculty, as well as addressing the concerns outlined in the Strategic Plan 2024 initiative.

Purpose of the Study

In an attempt to remain progressive and instill transformative change within the college, the institution created an initial Strategic Vision Plan in 2016 that was completed in 2018. The primary focus of this plan was to establish a "Planning Committee" that would analyze and assess any needs, improvements, and visions by means of quantitative research by polling and surveys, and qualitative research by interviews and focus groups, both internal and external. These results were then transformed into a revised plan with overarching long-term strategies, initiatives, and base goals. The thought process is that attainment of various goals will help complete a specific initiative, which in turn works toward the larger vision of enacting a long-term strategy. This document is known as the Strategic Plan 2019-2024.

The institution recently released the revised Strategic Vision Plan. This plan lays the foundation for both overarching, long-term goals, as well as shorter-term, incremental goals to assist staff in reaching the long-term vision. The five broad, organizational goals are *Community Engagement, Academic Excellence, Economic Development, Cultural Diversity and Excellence and Financial Sustainability*. Within broad goals are six, targeted goals and under each targeted goal are up to ten strategies to help accomplish the targeted goal.

Based on an analysis of roles within the organization, the *Planning Committee* has assigned specific goals to individuals based on their current scope of duties. There are two goals within the strategic plan that are linked to this study. Under “Academic Excellence – Refocus on engaging the Institution A Service Area” is

Key Initiative 1: Develop and deliver distinctive and high-quality academic, entrepreneurial, fine arts, athletics, and cultural programming that makes the college a destination for students globally. Develop clear pathways to 4-year transfer and workforce readiness through college degree or certificate completion (Institution A, 2019).

One strategy that this study sought to evaluate is “Review emerging pedagogical and industry research to provide faculty and staff the ability to incorporate high-impact, experiential learning opportunities into existing programs, where appropriate” at the institution.

Within the “Enrollment/Endowment - Increase sustainable enrollment and participation at our institution” goal is “Key Initiative 5: Increase enrollment, retention and completion rates using the 2018-2019 baseline, setting specific goals. Consider anticipated results of action steps and anticipated state demographic trends, student socioeconomic factors and financial aid availability” (Institution A, 2019). At the institution one of the constant goals in the mission is to

demolish barriers to access and success and rising textbook and course materials have been deemed one of the barriers. Depending on a student's discipline and degree track, course material costs can exceed the cost of attendance, and is a major barrier to "student success."

The purposes of the study are as follows:

- To determine what factors are considered by the faculty and administration when concluding that the course material is of acceptable quality.
- To review the course material analysis and selection process for STEAM (Science, Technology, Engineering, Arts, and Mathematics) disciplines.
- To determine what programmatic changes were made as a result of the course material adoption process.

Research Questions

The information provided indicated that traditional course materials have exponentially increased in cost over the past several decades and this represents a significant barrier to success for students that lack additional resources for this expense. In addition to the affordability barrier, producers of printed textbooks as a course material have failed to adapt to the growing and fluid needs of students and faculty, as well as changing technology. This study addressed the following questions:

- What do faculty and administration believe is the role of learning tools in increasing student engagement and learning efficacy at the institution?
- Which model is preferred by faculty within the STEAM (Science, Technology, Engineering, Arts and Mathematics) curriculum at the research site?
- What was the selection process undertaken by the faculty to choose their course material model?

Conceptual Framework

There are two theories from which a lens can be applied to the research process. The first theory is the “Engagement Theory” by Kearsley and Schneiderman (1998). In the Engagement Theory, Kearsley and Schneiderman (1998) hypothesized that students must be cognitively engaged in the learning experience through interaction and activities in order to promote learning and retention of new material.

The other theory is Rogers (1962) “Diffusion of Innovation (DOI) Theory.” The basis of the DOI theory is to explain how an innovation, model or system can gain momentum, or adoption for the purpose of this research, and can spread through a specific population. Textbooks have been the primary learning tool utilized to convey knowledge, so one can view another model, such as IA or OER, as an “innovation” in the classroom.

For this study, Kearsley and Schneiderman’s (1998) “Engagement Theory” was utilized to help analyze the perceived student engagement levels, by faculty, based on different course material delivery models. The researcher also strived to determine how these engagement levels were measured and evaluated, and how this data influenced the faculty member’s decision regarding course material adoption. Rogers (1962) “Diffusion of Innovation Theory” was utilized to analyze what influence, if any, faculty members that transitioned away from traditional course material models had on the course material evaluation and selection process at the research site institution.

Assumptions, Limitations and Scope

Assumptions. There are certain factors of consideration within this study that are beyond the researcher’s control. It is assumed that all participants will be truthful when discussing their previous experience in the field, and their exposure to various course materials. It is also

assumed that all participants will provide their honest feedback when discussing the current course material delivery models at the research site. This study also presumes that all participants will currently utilize some type of course material content in the class or course of instruction.

Limitations. One of the limitations of this study is that the results will be specific to the site environment and cannot be applied to a broad base. No sweeping conclusions can be inferred, regarding the research site, from this study, due to the limited participant sample size compared to the available pool at the site. There is a reliance on participant accuracy when utilizing the qualitative interview protocol as a research tool, and this cannot always be guaranteed. In addition, time-constraints for the study limit how extensive the data gathering process can be for the qualitative portion.

Scope. In general, the focus of this study was collecting data from participants at the research site to analyze their experiences and perspectives pertaining to course material models, any related student success barriers, and the decision-making and evaluation processes that occur at the institution. Between four and ten participants were selected from the research site for qualitative, semi-structured interviews, and the researcher conducted the interviews during the period of March 2020-June 2020.

Scholarly Significance

The affordability of textbooks, the primary course material model, has been questioned throughout the years as prices have risen much quicker than tuition and inflation (Bidwell, 2014). Long (2014) reported that textbook prices have become such a burden that students routinely select their courses based on the prices of the respective course material. According to the NCES, in 2013-2014, 85% of students attending full-time at four-year-degree-granting undergraduate institutions received some form of financial aid. In the same timeframe, only 78%

of students attending full-time at two-year degree granting colleges received financial aid (NCES, 2016).

A textbook cost research report conducted by the Student PIRG states that one-third of students utilize their financial aid to cover the cost of their course materials (Senack, 2014). Senack (2014) also indicates that in a research report published by U.S. Public Interest Research Group 65% of students have decided against purchasing a textbook because it was too expensive (p.4). The barrier for students at the institution is then even greater because course material costs represent a large portion of overall attendance cost, but students have less access to financial aid to help offset the burden. It is therefore imperative to research ways to reduce attendance and matriculation barriers for current and prospective students at the institution.

Another aspect of significance is the quality dimension of course material. When students are actively engaged in the material, they tend to process it more deeply, which leads to successful retention of the material (Craik & Lockhart, 1972). According to Taylor and Parsons (2011) how colleges structure student engagement is key to student success. A current concern that American society is facing is that many students leave school incapable of or unprepared for a productive and healthy life in the “Knowledge Society” in which they will live and lead (Gabriel, 2016).

Taylor and Parsons (2011) discuss the following issue in their research study that has a heavy focus on student engagement at various levels:

Students have changed over the last twenty years; perhaps as a result of a technology-rich upbringing, they appear to have “different” needs, goals, and learning preferences than students in the past. We must better understand these youths to determine how to best

engage them in learning; yet, there is a notable lack of “student voice” or student perspectives in the literature on student engagement. (p. 6)

At the institution that is the focus of the study, over 80% of core courses utilize course materials that have some type of online learning component integrated into the course structure. Shankland (2016) states, “The tools available in the Inclusive Access model help make learning experiences more impactful and efficient for students” (p. 1). It is important then to further explore the possibilities that providing quality course materials can unlock considering both the short-term scholarly and long-term success goals associated with robust material that actively engages students.

Definitions

Consumable: A one-time use code that grants students access to additional electronic resources and tools. At the research site, a product such as “MyMathLab” or “CengageBrain” is considered a “Consumable”. “Consumables” are not included in any course material rental or loaner program and represent an additional cost to the student.

Inclusive Access (IA): Inclusive Access is a digital learning system created by mainstream textbook publishers. The system includes an e-book version of the traditional textbook combined with online mastery and learning tools at a reduced price compared to a traditional textbook bundle. Some publishers also provide data analytics tools for faculty.

OER: An acronym for Open Educational Resources, a movement platform that provides free access to course materials for college students. There are currently multiple providers in the United States.

Conclusion

The beginning of this chapter introduced the reader to the broader concerns about course material affordability in the community college system with the United States of America and elucidated the challenges and opportunities specific to the site. Traditional courses, such as those that use printed textbooks, have risen in cost to the student in an unproportionable manner compared to other metrics such as national inflation, tuition and fee increases, and cost-of-living adjustments. In addition, the added cost is not necessarily adding potential benefits to the modern student. Printed material, which has been the primary source of recording and sharing knowledge for hundreds of years, has failed to adapt to the modern student and the technology-enhanced environment in which they reside.

As discussed in the “Purpose” section of the study, the focus of this research is unique to the environment at the site. The study sought to analyze the processes utilized by faculty and college administration to determine a course material delivery model and subsequent material adoption and determine what role student engagement plays in the overall process. The research reviewed acknowledged that course material costs not only create an accessibility obstacle for students within the institution but may fail to enhance the learning experience even with the increasing price trend. New course material models are available in the United States of America, and this institution is entering into agreements with the providers to begin offering alternative opportunities to the current traditional model. This study sought to analyze the various models within the site environment, by obtaining faculty and administrative feedback for a more holistic analysis. The intent of the research was to aggregate the appropriate data and address the research questions in order to determine, to what extent, the new course material

delivery models can help satisfy the research site's strategic vision of providing students access to affordable, quality textbooks and course materials.

In the next chapter, the researcher presents a literature review that explores some course material model options available to the study site. The two primary options include OER, provided by OpenStax, and IA, pioneered by major course material publishers. Theories regarding higher education affordability and student engagement provide the conceptual framework for the research in order to appropriately guide the data collection and analyze the validity of the results in an attempt to resolve the current issues and challenges.

Chapter 2

Review of the Literature

This chapter explores the existing literature regarding curriculum design, course delivery models, the engagement and pricing barriers, existing knowledge gaps and the theories that helped frame the research for this study. Prior to the introduction of the newer course material models, most of the curricula across the disciplines at the institution utilized the traditional textbook as the baseline for the course design. Assignments for the courses were structured around a physical book, which was the adopted tool for both students and faculty in the course. Shifting the course material model may seem to be an inconsequential matter within the scale of the overall design, however, it can have significant impact for stakeholders.

By considering alternative course material models, students may have access to more affordable learning tools. Distance learning students can gain a more holistic and integrated experience via a course designed to deliver content through a completely digital platform, thus impacting the design of the curriculum. Lastly, the choice of course material can change the way a student learns. Certain course material models include learning tools that are reactive and can engage the student as they are attempting to master the material, versus the more traditional “study at home, question in class” approach that more traditionally designed courses accommodate.

Curriculum

Pouyioutas (2010) observed that student-centered learning and curriculum design are not new concepts. In fact, the author argues that this learning approach can be traced back to ancient Greece with Socrates, the founder of the academy in Athens. According to Pouyioutas (2010), Socrates’ notable dialectic method of teaching fosters critical thinking and has evolved into

various similar learning methods used in modern times. It is important to note that, according to Lopez (2019), there were two forms of education in ancient Greece: informal and formal.

Informal education was provided by an unpaid teacher while formal education was primarily for males and non-slaves. Although education was democratized in Ancient Greece by philosophers such as Socrates, Plato and Sophist, there was a marked inequity in access to education.

Therefore, the purpose of educational curriculum could be questioned, due to the limitation of the audience to only the privileged few during the classical era. This leads into a discussion of whether the same education curriculum design has been carried over into a modern era. Firstly, there is the potential that certain components of the underlying design are still geared towards the individuals that were initially the primary audience, meaning that the design has not evolved appropriately to align with the modernization of the education structure and access. This misalignment ultimately leads to the crucial potential concern regarding how inclusive the current education system, and associated learning tools, truly are, if the underlying components have not been revised alongside the changes in modern societies.

According to Moreno (2007), “Curriculum is a socio-historical construction which is expressed through general systems of knowledge characterization and hierarchy” (p. 3). Moreno (2007) continues along the same theme by suggesting that the aforementioned systems are further transformed into regulations, academic standards, and classroom learning and teaching approaches, as well as influencing teaching instruments and aids, such as textbooks. Modern curriculum design and instruction, therefore, attempts to follow the established concept of student-centered learning. Moreno (2007) indicated that, “Curriculum change and control have a radically dialectic relationship”, referencing the current vision of curriculum dynamics and the

control of change that allows educational authorities to propel the school curriculum in the desired direction.

Referring back to the inequity of the informal and formal education system in ancient Greece, the modern education systems in large portions of the world have worked to eliminate the limited access to educational opportunities. McCombs and Shaw's (1972) Agenda-Setting Theory suitably supports the current trend of modern curriculum design. Moreno (2007) discussed that, by framing curriculum design with the agenda-setting theory, it can be assumed that people who are exposed to the same media will place importance on the same topics, regardless of their personal stance on the matter. A unified approach in teaching the students similar material has been to utilize the same learning tool used around the world for hundreds of years, the textbook.

According to Wakefield (1998), "Textbooks developed out of the need to teach reading and writing to children who had learned to read and write the Latin alphabet, syllables, and even words, but who were not yet ready to read extended passages" (p. 5). Initially, textbooks were designed to support the development of literacy. Wakefield (1998) reported that, for at least one thousand years, the pedagogical goal was, "Memorization of definitions, rule or other facts, and its attainment was facilitated by recall cues such as recited questions and answers" (p. 7). It is also imperative to consider the initial environment that the early textbook was designed for. Bowen (1975, p. 408) described that early textbooks were designed for the minimum classroom, constituting a master reading to pupils with no other equipment such as writing instruments, blackboards or desks. This catechetical style of knowledge transfer had flaws, however. Due to the repetitive memorization scheme (Wakefield, 1998), the need for pedagogical knowledge was eliminated because the thought process of the textbook author and teacher were identical.

In 1821, Warren Colburn authored the first American textbook to use object teaching, known as *First lessons in arithmetic on the plan of Pestalozzi*. Through object teaching, a sense of number was developed through questions related to objects in the experience of the child. Some example questions include, “How many hands have you?” and, “How many thumbs have you on your right hand?” Wakefield (1998) discussed that although this method was popular and successful in the classroom environment, the impact was limited because, while organizations and media outlets can promote educational ideas, teachers must implement them.

Textbooks have aided teachers in solving complex problems that occur in a classroom environment. Wakefield (1998) mentioned that the modern textbook has complemented curriculum design and instruction by virtue of its design. Educational textbooks are a genre of published materials that have been created through a combination of practical use and market forces (Wakefield, 1998, p. 23). The next evolution of the textbook and the curriculum it supports, posits Wakefield (1998), will be information management, and a way to “plug in”, where the textbook is not just the sole source of information, rather, it is at the hub of several information resources.

Textbooks have been the primary tools for sharing knowledge for over a thousand years (UT Austin, 2017), and this resource has seen little evolution especially when compared to societal progress. Online books, which publishers have touted as the “wave of the future,” have failed to meet expectations as online mastery products have a single-use lifespan and are generally more expensive than a traditional book counterpart (Straumsheim, 2017). Based on career experience of the researcher in a higher education environment, the data indicated that the textbook life cycle has decreased from three years to eighteen months with very little material

change, and a potential focus on increased profits. Popken (2015) indicated that textbook costs have risen every year since 1977, and this translates to a total increase of 1,041%.

In addition to the pricing barrier discussed in the initial chapter, Dietz-Uhler and Hurn (2013) discussed the necessity of student engagement and that course materials that better engage with students, for example, correlate with a better understanding of new concepts and longer retention of knowledge. Taylor and Parsons (2011) discussed that the previous prevailing theory was that students needed to be reshaped to conform to traditional schooling principles, while the authors hypothesize that a modern and effective approach has school reform as a focal point and embraces the students. As a college administrator, the researcher introduced both the Inclusive Access and OER - OpenStax models into a previous institution's environment as a means to resolve the aforementioned cost and improve student engagement.

Online Education

According to Edelson, Gordin, & Pea, (1999), inquiry-based learning that is supported by computing and networking technologies offers dramatic, new opportunities to fortify the learning process. Integrating technology into the learning tools, according to Blumenfeld et al. (1991) can add benefits such as, "Enhancing interest and motivation, providing access to information, allowing active, manipulable representations, structuring the process with tactical and strategic support, diagnosing and correcting errors, and managing complexity and aiding production" (p. 370) As more institutions of higher education implement and launch alternative course delivery models, including virtual campuses, hybrid courses, and self-paced learning, higher education faculty and K-12 teachers have started exploring learning tools and aids that better integrate with the delivery platform as well and maintaining a student-centered learning philosophy.

Heider, Laverick and Bennett (2009) indicated that in recent years, college instructors have begun to abandon traditional approaches to instruction, which merely transfer knowledge, for newer strategies, which allow students to construct their own learning. This change in instructional strategy brought about a required change of instructional tools, as the traditional textbook is no longer satisfying the needs of the modern student (Heider, Laverick and Bennett, 2009, p.103). The answer, for many instructors, has been digital textbooks. Digital textbooks can be easily revised on a continuous basis, representing a tool that accretes power and value on an ongoing basis. The digital platform helps shape the material to better address areas of student difficulty, ultimately enhancing student learning and satisfaction more so than other available tools (Souza & Bingham, 2005-2006, p. 197). Lastly, digital course material models can seamlessly integrate into a virtual platform, creating a more cohesive and holistic experience for students participating in a non-traditional program route, such as virtual or hybrid attendance structures.

Web-based Models

The OpenStax model was introduced to the institution in 2017. Although the institution in this study does not currently have the IA model launched, many faculty members adopt a course material package that includes an online mastery component. IA can be considered an evolution of the physical textbook with online mastery, so the impact of transitioning to the full model, in terms of faculty and student learning curve, would be minimal. Currently, limited research exists regarding the IA model. There is more significant research available on the OpenStax model and the broader OER concept, however, there is a research gap in terms of comparing enactment of both of these models in a higher education environment. In addition, very little research exists regarding a valid comparison of the two in consideration of a simultaneous implementation in an

environment that is similar to the institution. Due to the limited knowledge base, the researcher decided to investigate multiple models utilizing a mixed-methods approach to determine how they fulfill the needs of the clients and organization, and the impact the models have on the issues of affordability and student interaction.

The strategies that this study focuses on are both academic quality/success through better learning opportunities and, increasing enrollment, retention and completion rates. The current graduation rate is at the national average for a similar institution, with the three-year matriculation rate sitting at 22%. Due to the importance of completing the degree track, focusing on ways to improve student success is also entwined with the purpose of the study.

The information provided indicates that traditional course materials have exponentially increased in cost over the course of decades and this expense represents a significant barrier to success for students that lack additional resources for this expense. In addition to the affordability barrier, printed textbooks as a course material have failed to adapt to the growing and fluid needs of students and faculty, as well as changing technology.

Open Educational Resources

OER is generally the most well-known alternative and emerging model based on media exposure and various conversations with faculty and students. Bliss et al. (2013) conducted a study at seven community colleges across the United States that were undergoing a large-scale OER implementation initiative. Their research results based on a variety of tools indicate that students and faculty both recognized an appreciable cost savings in the OER model compared to the traditional textbook model. In addition, both faculty and students felt that the OER course material is at least the same quality compared to the traditional textbook counterpart that they would have otherwise utilized.

According to Pena (2009), there are three OER models that are considered to have achieved the highest degree of success: M.I.T.'s OCW (OpenCourseWare) model, Utah State University's OER model, and Rice University's OpenStax OER model. It is important to note that while the M.I.T. and USU models both have corporate and private sponsors, OpenStax relies solely on volunteer and non-profit contributions, a unique model that allows it to have global material contributions versus the other models. Pena also noted that, "One surprising point why higher education would initiate an OER program is that 'if universities do not support the open sharing of research results and educational materials, traditional academic values will be increasingly marginalized by the market forces (p. 4)."

OpenStax, an OER solution, is a platform that was developed by Rice University with the purpose of publishing high-quality, peer-reviewed electronic textbooks completely free (Fenton, 2016). The books are available in multiple formats, although there is a small charge for the "iBooks" format. This consistent and broad-based model has allowed over 392,000 students across the country to access free course materials, with an average savings of \$100 per student (Fenton, 2016).

Feldman (2017), is more critical of the OER model. An author and professor, Feldman found that OER is simply a rehash of the traditional textbook. The online platform offers a few nice additions, such as the ability to search the contents and bookmark pages, but it adds nothing to the robustness of the content. Pena (2009) also discusses the importance of investing in and establishing the appropriate infrastructure for OER. The infrastructure must permit distributed participatory learning, provide an incentive for participation at all levels, and encourage cross-boundary and cross-cultural learning. In addition, the school will have to provide financial resources for any change that occurs, and also develop a change management plan. Without the

necessary infrastructure, which must be developed and fostered by the school, the OER initiative is bound to fail.

Inclusive Access

In 2014, major publishers began launching what is colloquially referred to as “Inclusive Access” (IA), in the textbook industry. This new model was designed to combat the new OER model that shook up the industry and hopefully regain market share for the major publishers. Birk (2014) discussed the publisher-specific IA mode, “includED,” by Cengage, which provided students at Indiana University – Purdue University Fort Wayne their course material, completely digitally, while averaging cost savings between 40% and 60% over traditional options. It is also important to note that the course material is fully customizable and can generate robust data from student performance reports to even being able to generate a lesson plan to assist faculty members. The latter is very important, as Edmonds (2015) talks about last-minute requests for class instruction, and the faculty member being unfamiliar with the course material. If faculty do not have time to thoroughly research their assigned course material, they simply cannot develop an adequate lesson plan, and this leads to a barrier regarding student success. Even in this scenario, IA content can help generate a lesson plan for the faculty member while highlighting relevant sections and key topics to help them get up-to-speed in a very short time frame.

Feldman (2017) while dismissing OER as a true alternative, alludes to the IA model as being a true path forward regarding student success. Inclusive Access contains interactive online content, tools for tips and assistance, and reporting information for students and faculty to help them track their progress. As discussed, interaction is directly linked with student engagement, which leads to longer-term student success. Feldman (2017) argues that although IA content is not free, the investment for robust interactive learning tools is well worth the long-term payoff,

and it is important to remember that the IA model still represents a significant savings over a traditional textbook, although not as affordable as OER options. Nelson (2008) further expands on the discussion regarding what a true e-book needs to be to distinguish itself from a digital conversion of antiquated materials. Nelson (2008) stated that e-books are not simply textbooks with static images, but they contain integrated video, audio, animation, and interactive simulation. Nelson (2008) also suggested that Pearson's "Revel" line of course material is an excellent example of cutting-edge, engaging course materials.

One final point to make is that the infrastructure burden is placed heavily on the publisher in this model. In addition to all the materials being hosted on their servers, they are a robust point-of-contact for technology issues and have alternate delivery models in case there is a problem delivering the IA content. In addition, they provide marketing materials, syllabus updates, and presentations within the school community to better educate faculty, staff, and students on the model, a burden which OER now places on school employees. Due to the nature of the course material industry, field representatives are always available to ensure smooth operations, and there are multiple points of contacts for faculty to resolve issues and to help expedite any needs of students and staff.

Theoretical Framework

Different theories address different factors that create barriers to student access including the affordability factor, student engagement, and change management. For affordability, Ethan Senack's textbook cost research drives a lot has informed the baseline affordability issues addressed within the study. Senack's research was published by the United States Public Interest Research Group (Senack, 2014). Senack's (2014) research on textbook costs. Senack's research reveals that students routinely choose classes based on the affordability of the relevant course

material, and many times consider dropping their enrollment due to the exorbitant cost. Senack's (2014) study portrays the reality surrounding textbooks and associated course materials for students; that it truly is a major barrier to student success, and impacts enrollment and matriculation rates. In addition, Birk and Cengage (2014) aggregated data based on the implementation of the IA program at Purdue University-Indiana University. The data reveals that students saved between 40% and 60% over traditional options, and that this model has diminished student barriers, improved performance and has lowered drop rates. Based on the aggregated research, an affordability lens can be applied to the research study. The hypothesis was that lowering course material costs at the research site will increase student satisfaction, encourage retention, and lead to increased matriculation.

In terms of student engagement, this study focuses on research conducted by Dietz-Uhler and Hurn (2013) and Taylor and Parsons (2011). Dietz-Uhler and Hurn (2013) published research focusing on student engagement, with a primary focus on content, the instructor, and peers. Hurn focuses on e-learning enhancements, online course design, and emerging technologies and engagement, and Taylor and Parsons (2011) published research on improving student engagement. In research published by Dietz-Uhler and Hurn (2013) the authors discussed the increasing focus on student engagement and that when students are actively engaged with their course materials, they process the information more deeply, leading to greater retention. The authors established a baseline using the Quality Matters Rubric Standards in order to evaluate the techniques they recommend, which included more interactive course materials, engagement with instructors, and better engagement with other students within the online format. This research helps to elucidate the importance of not just evaluating course materials on their affordability but how robust and engaging they are for students. Research conducted by Taylor

and Parsons (2011) indicated that it is important for a school to adopt technologies that help the transition from students' lives outside to their academic life, supports students in building a better relationship and awareness of their conduct, interaction, and better increase learning and retention through engagement. Based on the research conducted by Taylor and Parsons (2011) and Dietz-Uhler and Hurn (2013), another hypothesis is that increasing student engagement through better course material models will increase student satisfaction, performance, and retention.

One theory, from which a lens was applied to the research process, is the "Engagement Theory" by Kearsley and Schneiderman (1998). In the Engagement Theory, Kearsley and Schneiderman (1998) hypothesize that students must be cognitively engaged in the learning experience through interaction and activities in order to promote learning and retention of new material. One aspect of the research involves comparing traditional course materials to newer materials provided through alternative course materials models OpenStax and Inclusive Access. Kearsley and Schneiderman's (1998) Engagement Theory framed the research by informing the interview questions used to determine which model faculty believe best fits the needs of the current community college student. Lastly, for change management, this research focuses on work by Ringel (2000), which concentrates on the assessment and accountability aspects of change management in a higher education environment.

Another theory that informed the study is Tinto's (1975) "Student Departure Theory." The basis of Tinto's (1975) theory was to determine the major causes of attrition in higher education relative to student needs and to determine what schools could do to retain students and combat the problem. Tinto and other researchers have made multiple revisions to the theory, and Tinto has since focused his research on the low-income socioeconomic level students within the

2-year public institution industry. One of the major factors within the theory is affordability, which is also one of the main instigators for this research. Tinto's hypothesis suggests that providing a sustainable solution to affordability, specifically to the low-income student populace, will help increase retention and graduation rates (Metz, 2004).

Summary and Conclusion

Traditional course material models, such as printed textbooks, have risen in cost in a disproportionate manner compared to other metrics such as national inflation, tuition and fee increases, and cost-of-living adjustments. The additional cost is not necessarily adding potential benefits to the modern student. Printed materials, which have been the primary source of recording and sharing knowledge for thousands of years, have failed to adapt to the modern student and the technology-enhanced environment in which they reside, leading to additional needs in the student engagement area.

Based on the current situation at the site, the institution agreed to implement a new course material model, OER – OpenStax. Due to the current research gap, the researcher has launched an investigation to determine to what degree the available new course material models can address the access and affordability needs of the students, faculty, and organization.

The two main goals of the study are to determine if an acceptable level of affordability is met based on faculty perspective, as well as increased student engagement levels. Research conducted by Senack (2014) indicates that rising course material prices contribute to poor student performance and increased attrition. Due to Senack's findings, the researcher hypothesized that lowering course materials to a more affordable level will increase student satisfaction, performance, and retention.

Research conducted by Dietz-Uhler and Hurn (2013) indicated that increased student engagement with learning content, including course materials, leads to a better understanding of the concepts, better performance, and longer knowledge retention. In addition, Taylor and Parsons (2011) discussed that students have evolved over the past decades due to their upbringing in a technology-rich environment. Due to the “modern” environment students are now raised in, Taylor and Parsons (2011) argue that students have different needs which include the school adapting their model to support the student and focusing on engagement and learning through new technologies. Based on the research conducted by the authors, the researcher hypothesized that implementation of newer course material models that support better student engagement will increase satisfaction, performance, and retention.

This research study primarily focused on the Rice University OpenStax model, although aspects of other models will continue to be considered. Currently, faculty members simply “adopt” an OER textbook, and provide the online course material link to their students; this can be distributed via the LMS, email, in-class, etc. Students are free to download the content in a PDF format for viewing when not online, and there is no charge for any of the access. If students prefer a physical printed edition, one can be ordered for a fee, which averages around \$50 for the most mainstream content.

Overall, this study sought to analyze the processes utilized by faculty and college administration to determine a course material delivery model and subsequent material adoption and determine what role student engagement plays in the overall process.

The researcher acknowledges that course material costs not only create an accessibility obstacle for students within the institution but fail to enhance the learning experience even with the increasing price trend. Chapter 3 describes a qualitative research approach to gathering the

appropriate data. The researcher applied various lenses to process the information and will disseminate the results to address the research questions and determine significance.

Chapter 3

Methodology

The purpose of this chapter is to introduce the research methodology for this qualitative study regarding selecting high quality and engaging course material delivery models in a public, two-year higher education institute. The qualitative study is a design strategy under the qualitative design umbrella which, according to Creswell (2013), in which the researcher explores in depth a program, an event, an activity, a process, or one or more individuals (p. 15).

Kearsley and Schneiderman's (1998) Student Engagement Theory helped frame the relationship between course material engagement opportunities and student success within the environment. Since there is little existing data that comparatively examines the course material models in the given environment, the qualitative study design theory allows for the necessary exploration. According to Creswell (2013), a qualitative study design is extensive and draws from multiple sources such as direct observation, interviews, archival records and audiovisual material.

Research Questions

This study aimed to address the following research questions:

RQ1: What do faculty and other decision-makers believe is the role of learning tools in increasing student engagement and learning efficacy at the institution?

RQ2: Which model is preferred by faculty within the STEAM (Science, Technology, Engineering, Arts and Mathematics) curriculum at the research site and how do they describe the model's capacity to engage students and increase learning efficacy?

RQ3: What was the selection process undertaken by the faculty to choose their course material model?

Setting and Participants

The setting for the study is a two-year, public higher education institution located in the Midwestern region of the United States. The institution serves a diverse student body and has two campus locations in the area being operated. The focal point of this study is the course material delivery model, which impacts multiple individuals. Faculty are utilizing course materials to teach, and college administrators are charged to evaluate student outcomes including metrics and measures of success in terms of matriculation, student performance, and financial Key Performance Indicators (KPI's). Based on this information, the groups that the researcher identified included faculty and college administration. The researcher identified ten potential participants that comprised of both faculty and administrators, at the research site. All participants have served as faculty during their career. The final participants included two administrators, three faculty, and one participant that serves as both faculty and staff.

Site Information

The primary site for this research is focused on is the state's smallest public, a 2-year community college with an annual enrollment of more than 1600 students. The institution released the revised Strategic Vision Plan one year before the study took place. This plan lays the foundation work for both overarching, long-term goals, as well as shorter-term, incremental goals to assist the leadership team in reaching the long-term vision. Based on an analysis of roles within the organization, the "Planning Committee" assigned specific goals to individuals that reflected their current scope of duties. Those that served on the committee established a task force, determined pathways to accomplishing the assigned goals, and created ongoing assessment plans and KPI's once the goal is accomplished.

Data Collection

The data collection process is qualitative, resulting in transcripts of interviews. The instrument being utilized is the qualitative interview. Blackstone (2012) indicates that qualitative interviews are intensive, semi-structured interviews that are distinguished from quantitative interviews due to the open-ended nature of the questions. The primary aim is to determine what the respondents deem important regarding the topic and to collect the data in their own words. For this study, the researcher developed a semi-structured, interview protocol. The semi-structured interview process is useful because it allowed the researcher to develop an interview guide to provide some structure through the interview process but allowed the researcher some flexibility and deviation from that structure.

In order to help limit any bias during the data collection process, the researcher targeted faculty that are or have been concurrently exposed to multiple course material delivery models at the study site. The underlying premise is that surveying and interviewing participants that have not had extended exposure to one model in the current environment may not have the appropriate experience in the course material analysis and consideration process.

Analysis of the Data

For the qualitative interview processes, the initial phase included transcribing the interviews. During the interview processes, the Zoom Meeting web video and audio platform was utilized, with all participants being notified and being asking for approval to record the session. The interview session files were stored on an encrypted drive that requires the researcher's biometric scan to access. Once the interview was completed, the researcher transcribed the recorded sessions using Trint's transcription software. Upon completion, the researcher reviewed the recordings and transcriptions to verify the accuracy and validate the

information. The goal of analysis during the qualitative review process was to reach some inferences, lessons or conclusions by condensing large amounts of data into relatively smaller, more manageable pieces of information that are easier to understand (Charmaz, 2006). To that end, the subsequent step involved qualitative coding of the transcripts. Coding is a multistage process that involves identifying themes across interview data by reading transcripts and determining the emerging themes that are present in the data (Esterberg, 2002).

To code the transcribed information, the researcher utilized Dedoose's qualitative coding software platform. The first stage of the coding process involved open coding. Open coding involves reading the transcript data multiple times and noting any categories or themes that jump out. As the process continued, the researcher began noticing commonalities in responses that informed categories and themes (Blackstone, 2012). Once the researcher determined the commonalities, then the next phase to transition to was focused coding. Focused coding helps narrow the themes and categories identified during the open coding process. Subsequently, defining codes helped develop a method of discussing the findings, which was the first step in the analysis process.

Participant Rights

The researcher sought to ensure that ethical conduct remained a top priority throughout the study. For the qualitative interview processes, the informed consent form was read to all participants prior to conducting the interview. The informed consent form adheres to all U.S. federal guidelines and describes an explanation of any risks and benefits associated with the interviews. Participation is completely voluntary, and the participants can retract their information and participation at any time. The risk to human participants in this study was minimal. Identifiers from the interview processes were redacted from transcripts.

Potential Limitations

One of the first limitations of this study is that the results were specific to the site environment and cannot be applied to a broad base. While conducting qualitative research, a second limitation was the reliance on participants to accurately describe the details being asked about. In addition, time-constraints for the study limit how extensive the data gathering process can be for the qualitative portion. Lastly, since instructors typically adopt one main type of course material for a class, the entire student base does not have access to all existing course material models, and the results cannot be applied to the entire population base at the survey site. Although common adoptions for all courses was a pending initiative, the site has not arrived at the goal yet, which makes assumptions for the outlier courses speculative at best.

Study Note

The researcher initially started the study at another institution on the same topic, but with different research questions, framework, and methodology. The initial study was structured as a sequential transformative design strategy under the mixed-methods research approach. The data collection process included survey research design for the quantitative data, and the semi-structured interview protocol for the qualitative data collection. The researcher subsequently transitioned employment and no longer had access to any archival data and was not granted permission to continue the data collection at the previous site. The researcher is an employee at the current study site and was granted full permission to conduct the appropriate data collection for the study. Based on the substantial differences in the institutions, employee base and student population, the researcher realigned the research questions, framework, and methodology and elected to conduct a qualitative study, with the semi-structured interview protocol as the primary data collection tool.

Chapter 4

Results

The primary purpose of this qualitative study was to document the experiences of faculty and staff concerning course material delivery models. They were asked about both previous exposure and experience as well as their current experiences at the study site. To accomplish this exploration, the researcher developed an interview protocol that aided in the process while allowing freedom for the conversation to expand and flow naturally. The interview protocol was utilized during six interviews with faculty and staff that currently serve at the study site; some of the interviewees currently serve in both capacities. A discussion with the study site's Institutional Research & Advancement department led to data analysis that helped the researcher identify participants that had exposure to multiple course material models. Seven participants were initially identified; however, one participant was considerably displaced due to the disruption and modality change instigated by the COVID-19 pandemic and, ultimately, was not able to participate in the interview process. One site member that was sent an engagement letter declined to participate in the interview process, and two did not respond.

The researcher identified participants that had a diverse range of characteristics, but all possessed a high degree of expertise to discuss the topic of course material models, higher education instruction, course design, and the decision-making process. All the participants in this interview either currently serve as faculty or have served as faculty in the past. The range of disciplines within this participant group falls within the STEAM categorization (Science, Technology, Engineering, Arts, Mathematics). Half of the participants in the study currently serve as full-time faculty, and two currently serve as staff, with previous teaching experience. One member of the study currently serves in both capacities.

The information included in Chapter 4 was obtained during the interviews conducted in April and May 2020. Once the interview protocols concluded, the interview recordings were transcribed using the Trint software. The subsequent transcripts were then scrubbed for transcription errors and any identifiers were redacted. The redacted transcripts were then processed in the Dedoose software, and the information coded. The coding process allowed the data to be thoroughly analyzed, revealing major themes. The interview data and responses were categorized by theme to keep the interviewee's identity confidential.

Analysis of Data

Theme	Course Material Affordability
<ul style="list-style-type: none"> • <u>Codes</u> • Affordability • Barriers to Success • Course Material Evaluation 	
Theme	Accessibility to Course Materials
<ul style="list-style-type: none"> • <u>Codes</u> • Barriers to Success • Quality • Student Metrics • Course Material Evaluation 	
Theme	Importance of Academic Freedom and Instructor Autonomy
<ul style="list-style-type: none"> • <u>Codes</u> • Academic Freedom • Autonomy • Course Material Evaluation • Course Material – Prior Experience 	
Theme	Student Engagement
<ul style="list-style-type: none"> • <u>Codes</u> • Barriers to Success • Current Course Material Model • Quality • Student Metrics 	

There were four major themes that emerged after conducting the interviews: course material affordability, accessibility to course materials, the importance of academic freedom and instructor autonomy, and student engagement.

Course Material Affordability

Course material affordability and pricing was mentioned in responses provided by all interviewees and is something that the participants believe is a major barrier to student success at the study site. It is important to note that, ultimately, the instructor selects the course material for their courses and students have limited control over the pricing of the material beyond researching prices at retail outlets. This limitation can potentially impact the student and their continued education or success in the higher education world. One participant discussed the following:

Some research that has been conducted indicates that traditional textbook prices have increased 88% between 2006 and 2016. Many students then decide to not purchase a textbook or rent the required material for the semester. Some students even said that they went without a trip home or skipped meals or registered for fewer classes because they could not afford books or to pay for some of their materials.

While discussing affordability for students with the participants, the topic of class enrollment surfaced in several interviews. When discussing course material affordability, a participant replied:

I am careful in selecting the type of resources I utilize, especially online resources. Many of those types of resources, those online resources, cost the student additional money. We are trying to attract people to these classes and that resource would count as a “consumable”, and that extra expense is not going to help my enrollment in any way, shape or form.

The information provided by the participants indicated that the affordability aspect of course materials not only impacts students, but can impact instructors as well, as they are concerned

about the total enrollment for their courses and how requisitioning certain material may detract students from enrolling in a particular course or discipline.

Most participants in the interview process discussed OER course materials and the affordability aspect at least leading them to further investigate and explore the newer course material delivery model. One of the participants discussed:

I think that one of the STEM disciplines was really kind of the first department, as a whole, that really thought about it. It was, okay, there is nothing, no difference between this OER option and what we are seeing in our current textbook, except that the standard package costs \$200, and the OER option is completely free. So, they went with the OER option because they could, it was a good option.

Based on responses from the participants, they felt that while the “Textbook Loaner Program” that the institution had implemented was a solid step in the right direction, investigating an OER course material delivery model was a natural evolutionary “next step” toward mitigating affordability as a student success barrier.

“Textbook Loaner Program”. Several study participants discussed the “Textbook Loaner Program” while discussing course material affordability. The institution has a unique program in which students are charged a fee per credit hour while attending, and this fee will cover the cost of the institution “loaning” the textbook to the student during the semester. One participant discussed:

The institution has this really unique book loaner program. The program encourages us to try and use a textbook for at least two to three years. The students, as long as they don’t lose the textbook, they can borrow it for free, essentially like a library, for no additional cost. The book loaner program is wonderful, financially, for our students.

Another participant discussed, however, that, “If we were to use a code in the course, that’s something that they [student] would have to pay for”. It was previously discussed, under the Course Material Affordability theme, that students must pay for consumable items. Consumable items are one-time use access codes that typically grant students access to online learning tools, resources, and also grant the instructor the ability to offer online testing through the platform. The “Textbook Loaner Program” does not include consumable items, so even if a traditional printed textbook is provided to the student, the online access/mastery component would be an additional fee. The fee charged per credit hour for the “Textbook Loaner Program” is also an expense incurred by the student, which is important to distinguish as the program intends to defray costs, but not eliminate them.

Accessibility to Course Materials

The second theme that emerged from the interview data was “accessibility to course materials.” The traditional printed textbook has been the primary tool of knowledge transfer in education for over a thousand years. There is only a single way to access a printed textbook, which, simply put, requires an individual to bring the physical book with them and read it. This single access point can prove to be a barrier for students in a higher education environment. Given the COVID-19 pandemic occurred at the time of this study, the limitation of this information medium became even more apparent, as one participant discussed:

So, this is very interesting. In one of our classes, we are currently using a traditional textbook that does not have an e-copy. This proved to be an enormous problem, for sure. When we are trying to sort out a move to distance learning, not having an e-copy proved to be a real pain.

A participant provided a different perspective, related to course material accessibility and the pandemic:

Right now, our students are in a real crisis of confidence. They are uncertain, as we all are, of where we will be next week, much less than at the end of the semester. They are craving a certain stability and reliance on the familiar. If that means handing them a textbook, that might be what calms their fear. What if they don't have access to the internet? What if they don't have cell service at their house? What if they have to drive 20 minutes to the nearest fast food restaurant in order to access wireless internet? A physical copy of a book means that they have something tangible.

Accessibility was a very prominent theme throughout each of the interviews. According to the participants, the general understanding is that instructors should be mindful of limitations that students may have when planning for their courses. One participant discussed, "I've been surprised to discover the number of students who don't have reliable access to the internet or a laptop. There is a digital divide between the 'haves' and 'have nots' that I have to be aware of when I am preparing for a course each semester." Another participant had comments along the same train of thought and discussed the following:

I think that we feel that this generation is adept with technology, and this is absolutely not always the case. I've had students that are timid to reach out via email or any electronic resource when they're struggling, doing research or finding the right materials. I think it's even harder for them to email because they don't know the right terminology to use.

Even furthering the evidence regarding a digital divide among the students at the study site, another participant stated, "Okay, I have a student that just got their laptop, got internet access, and then they open the laptop. Now what do I do? Where am I supposed to go, how am I

supposed to do my work?” These are accessibility barriers that the students at the institution have been facing, regarding course material, and the issue has now become more pronounced due to the sudden modality shift instigated by the COVID-19 pandemic.

Student Athletics. As the interview process was conducted, a topic that emerged was that a large portion of the traditional students, those attending classes on-campus and residing in the residence halls, are student athletes. Due to the nature of athletic games, tournaments and championships, the students have a very dynamic schedule, and can often be away from campus throughout the semester. One participant discussed the following:

One of the greatest advantages to the OER option is that it’s free, but also that it is carried around in their pocket at all times. So, they can open our LMS app and all the links to the material are right there. Click, okay, I’m in Chapter 3.4; click, okay, I’m in Chapter 3 Homework. We have students that are may at the institution because of a sports scholarship, so they are on the road a lot. They can take their material on the road with them because it’s always in their pocket, and if they have half an hour downtime or if there is someone who can read it on the van, they can do a little bit of homework, even on the road.

Among the participants, there seemed to be a general consensus concerning the advantage to the OER course material delivery model regarding access for students, particularly those with dynamic schedules. A participant commented:

One of the greatest advantages, and that’s definitely become clear in the last two months, is that a lot of OER’s have multiple delivery models; if you left your textbook in the dorm, it still has an online e-book component. There is a greater ease of access to the information, whether you have a book in hand or not, and I think that’s really helpful,

especially if you're in an online learning environment. You can literally link the chapter right to a course module. They [students] don't even have to necessarily have any paper text in hand to complete that course assignment.

Interview data indicated that instructors consider the potential barriers that student athletes may face when trying to accomplish their academic assignments while away from campus, and factor that into their course design and lesson plans.

Academic Freedom and Instructor Autonomy

Another prominent theme throughout the interview process was the concept of academic freedom. Some of the participants indicated that in prior years at the study site, there was conflict regarding the concept of academic freedom as it pertains to course materials. A participant discussed the following:

A few years ago, there were a couple of administrators who heard the term "OER" and thought that it would save a lot of money if all faculty went to OERs. It kind of came out as they were going to make all the faculty use OER, which did not go over very well. I think that was the initial resistance. You know, when you teach, you kind of want to have control over what you present and then somebody comes in and is saying, "No, you have to use this!"

This approach at the study site a few years ago initially created an adversarial environment between the faculty and administrators. Another participant discussed:

So, it has been kind of a crazy journey and part of that crazy journey for me was, at one point, the proposal to completely eliminate textbooks on campus. We [faculty] were prompted by this really random decree that we might go away from textbooks entirely, so that spurred the conversation. It was not entirely clear, even to those of us who lived

through it, where exactly the decree came from. It was this whole sort of chaos. Why is this happening, or is it not happening?

Several of the participants that went through this period at the institution cited their frustration at the lack of communication and conversation. When discussing the period of time in which the institution tried to force a course material conversion, one participant stated, “We professors are your content experts and you are taking away our ability to evaluate part of the course materials and come up with what’s good for our students, our particular subjects.” The term “expert” appeared in interviews with multiple participants, with another interviewee stating, “There is a certain sovereignty with content experts. I am never going to presume to tell another faculty member what their greatest literature/content is, and they are not going to tell me what I should use, because we respect each other as peers and as the experts in our own fields.”

After the previous incident that the participants discussed, most interviewees expressed that the environment had changed recently, in which faculty are allowed a higher degree of freedom. According to multiple faculty members, the initial incident and discussion between the administrators and faculty led some to explore OER options. One participant discussed, “Some went well, all right, what if this change does happen? Should we be prepared for it and look into this? I think that we ended up having some nice learnings out of it.” Speaking along similar lines in another interview, a participant indicated, “Once they saw the OER material, they realized that it was still high-quality, but it allowed them to have the flexibility that they wanted.”

While discussing the present-day level of academic freedom, the participants indicated that the level of autonomy may have increased. One participant stated, “It is a very individual sort of process that we are allowed”, while another participant indicated, “They [study site] are

very supportive and, frankly, delightfully hands-off. I do not feel pressured either way, at this point.” One participant discussed:

If we have faculty that are teaching the same course, we try to encourage using the same material because we don't want a situation where there are ten of the same courses and ten different materials being used but as faculty, you have the freedom to adjust the course and materials and tweak it if needed.

Course Material Evaluation. Evaluating course materials emerged as a topic while conducting interviews as the data indicates that there are multiple approaches to the evaluation process in addition to a baseline standard metric. Every participant indicated that there is a student survey that is issued at the end of the course, and course materials are one of the discussion points in the survey tool. Students submit their anonymous feedback and faculty utilize that as a minimum baseline to begin the course material evaluation and exploration process. There are also approaches that participants indicated that they pursue in addition to the survey baseline. One participant discussed:

So, one of the main things that I look at is do I have enough instructor content to be able to run the course? If I don't, sadly, I look at a publisher because they provide a good amount of instructor materials. However, if I do have enough materials, I would look at a combination of open source materials and some type of “homebrew” of course content and additional materials. I look at the open source textbook and see what it has to offer, what does it meet as far as my learning outcomes, what order does it put the material in; if there is nothing wrong with that, then I see no reason to choose a publisher version of that material. I try to think, you know, how can I make this the most affordable to my students without sacrificing quality?

Another participant discussed their approach to the course material evaluation process:

I attend an annual conference that has a book fair. I go through and look at a number of materials to see what stands out to me. One book in particular matched my personal philosophy of my discipline. I looked at an older book, but the publisher would not give me any instructor materials for this book, and that weighed heavily into my decision in no longer using that publisher in particular. I sat down and I actually answered the questions from the book and made my own answer key for the first half. That really helped me then be able to evaluate other books as I search for a new one because I could more quickly go through their problems and think, oh, do you have this type of problem and that?

In a few of the interviews, participants discussed the role of course material in their classroom, and how it fits into their course design through the evaluation process. One participant stated:

I primarily teach classes that have state board-aligned learning outcomes; when I look at am looking at course materials, I'm looking to see if that this is a textbook that is going to support that learning outcomes that we are trying to complete in a really direct way. I think that our culture of assessment here has come a really long way in the time that I have been here, and it is a much more positive force on campus.

During the interview process, most participants indicated that the evaluation process is both individualized and team oriented. All participants stressed the importance of academic freedom and allowing the faculty member to utilize their expertise in that determination, however, discussed a more team-oriented approach when it comes to evaluation process. One of the interviewees discussed:

We are small enough that we can all meet in a single room and discuss course materials. We aren't a large institution with thousands of employees. So, we can meet, the faculty,

support staff, admissions team, advisors and really discuss the textbooks. Is this what is working best for our students? I think that instructors are very aware of boots on the ground. What is and isn't working for the students? I think especially as we go into a COVID and post-COVID world of higher education, we have to be more aware of what the limitations of our instructional materials are.

One of the participants indicated, "I searched what other colleagues were doing at different institutions on the same topic and then employ the Pugh Decision Matrix when making important decisions about course materials." While the participants indicated that they review the student surveys regarding course materials, each instructor has a different approach, given their field of expertise, in order to strike the appropriate method in which they can best convey the information from their instruction to their student base.

Student Engagement

The final theme that emerged from the data is "student engagement." An instructor utilizes a variety of tools, resources and techniques in order to facilitate and initiate knowledge transfer to the students. It is therefore critical to consider student engagement when discussing course materials, as it can be a very powerful instructional tool in the classroom. One participant discussed, however, that it is important to frame the utility of your learning tools in the classroom when they stated:

If I were in my first year of teaching, I would cling much closer to that textbook, which I think is what a textbook should be. It should be the thing that reinforces your teaching, not what does the teaching for you. I think students, especially now, want the instruction to come from the instructor. I think in classes where I've relied more closely on the

textbook there has been this sort of murmuring of criticism, of, well, what did I need you for? I could just read the book myself.

It is important, when considering student engagement, to consider the opinion of the students being served in the classroom. While the end-of-semester survey is a helpful tool, it is important to also have these discussions in the classroom setting with the students, as one participant discussed:

For student engagement, it is good to have a mobile textbook. The search ability of an online textbook; there is nothing like that in paper. I mean, you could look at the index, but you can literally just type in what you are trying to learn about. The students really like that. They like how accessible the book is as an online book. You know, I came from a school where we didn't even use textbooks. Personally, as a student, I read a lot, but I didn't read a lot of my textbooks. I know that a lot of students are the same way today. It's a battle to get students to do anything with their textbook, so they're not learning from the texts, but they are all learning from an instructor providing them the content, and that is really what my focus is.

Several of the participants also indicated that they have created their own "hybrid" approach of course materials to provide a more engaging experience for the students. One of the participants discussed designing their course material for a recently revised class and stated:

The old book that I was using, there were a couple of things about the material that were weird. I ended up having to combine two chapters together and then I discovered the new book, the OER book, and it really makes sense. It was designed and put together by a group of professors and it was very clear that it was made and organized by the professors to focus on teaching this level of the discipline, which is rare because there is

stuff that I was adding myself and this book already included that material. Then, in the LMS, I can just link to a YouTube series, and I think that the topic descriptions in the video series is far better than the description of the topics in the old book, so I tell my students to check out this series for really good content.

In terms of student engagement relative to course material, having a broad and diverse approach with the materials may be able to better accommodate the different learning styles within the student population of a class, such as kinesthetic, visual, and auditory. Some participants discussed having a mix of materials and then recommending similar content presented in various formats to best facilitate the learning process for their student makeup. It is also important to remember the broader perspective from an institutional level, regarding student engagement, as one of the interviewees discussed:

I personally look to see how students engaged in course materials in discussing the topics I would cover in the semester. Sometimes it gave me inspiration for my lesson plans and from there I could begin thinking about what I need to prepare for success in my courses. All of us are interdependent and it is important that students recognize the connections they encounter between courses. Just as I would never recommend a freshman take a 400-level course without a solid foundation in the subject matter, I think that students should see the journey when they are working within a major to develop the skills and grow their understanding.

The participants in this study promoted a variety of approaches and resources to best evaluate the needs of the students being served and how to better engage them. The underlying theme while conducting the interviews was that there is never a one-size fits all solution for every course, discipline, and student. One of the participants even stated:

It is important to have the freedom to tweak and accommodate what faculty need to do so that you make sure that you are reaching everyone and accomplishing the same learning outcomes for all of the students in your classes

Based on the feedback from the participants, the importance of flexibility and evaluation for course materials is paramount in helping faculty reach the entire student population and achieving the desired learning outcomes.

Summary

The participants of this research study included higher education faculty and administrators that serve at an institution in the Midwest region of the United States of America. This research study described the decision-making processes undertaken at the study site when determining course materials across various subjects and disciplines. In addition, the study documented the student engagement efforts that faculty and administrators undertake when considering course material models, as well as the considerations for the course material evaluation process, including factors such as academic freedom, material quality and relevance. The researcher collected data concerning both employee and student experiences regarding course material accessibility and affordability, and the intrinsic link presented between these factors and student success barriers at the study site. The interviewees shared a wealth of knowledge involving their experience with various course material models, barriers to student success at the current institution, and how these challenges are assessed and approached both on an individual and institutional level. The discussions provided by the participants helped shed light on current issues in the course material sphere, how they are dealing with the existing obstacles, and how their knowledge and experience will help them continue moving forward to help ensure an enriching experience for the students attending the study site. In Chapter 5, the

researcher will present an overall summary of the research study, the findings and how they relate to the current literature, recommendations for subsequent research and the researcher's conclusion.

Chapter 5

Interpretations and Recommendations

The objective of this qualitative study was to better understand and interpret the experiences of higher education faculty and staff in regards to their involvement with course material delivery models, challenges that they, their students and the institution face, and how the issues are being addressed in the present and, potentially, moving forward. Another goal of this study was to determine how the prior experience of the faculty and staff, as well as their current experience, help them determine the best approach regarding course material models and student engagement in the classroom. Chapter 5 includes a summary, statement of the problem, purpose statement, research questions, description of methodology, major research findings, the relation between the findings and the literature, implications for practice, recommendation for future research and conclusion.

Summary of the Study

This research study focused on the experience of higher education faculty and staff, at a specific institution, regarding evaluation of course material delivery models. Participants described factors that support or create barriers to student success and how their previous and current experiences have led them to address their own, their students', and the institution's current challenges. The study examines the student success barriers at the research site, from the perspective of faculty and staff, and compares their responses to those discussed in current literature.

Statement of the Problem

Students in higher education have faced numerous challenges throughout modern history, and the concept of student success barriers is not a new one. Course materials have changed little

until recent decades, and a shifting student population may be one factor for this current evolution in course design. Taylor and Parsons (2011) discussed, “Students have changed over the last twenty years; perhaps as a result of a technology-rich upbringing, they appear to have ‘different’ needs, goals, and learning preferences than students in the past” (p. 6). This shift in student needs makes it critical for institutions to consider the requirements of the modern, dynamic student or falter in their mission of knowledge transfer. As Kirschner (2012) discussed, “The ‘Strategic Inflection Point’ is the critical moment when an organization confronts a significant change and must quickly adapt or fail” (p. 4).

One of the major challenges for higher educators providing accessible programming relates to course material affordability. Popken (2015) indicated that textbook costs have risen every year since 1977, which translates to a total increase of 1,041%; in the same span of time, tuition and fees at public, two-year colleges have increased only 296% (NCES, 2017). This increase over the years has led to shifting attitudes amongst students in higher education, with Senack (2014) stating that a research report published by the U.S. Public Interest Research Group indicated that 65% of students have decided against purchasing course materials at a certain point because they were too expensive (p. 4). There is internal data at the research site that indicates that there is an increased chance of failure in a course if a student does not have their course materials by the end of the second week in a sixteen-week course.

Another major challenge is the student engagement aspect of course materials. According to Krain (2010) and Dixson (2010), when students are actively engaged in the course material, they tend to process it more deeply, which leads to successful retention of the material. Related to the concept of course material engagement, Taylor & Parsons (2011) shifted certain responsibility onto schools, discussing that how schools respond to the issue of engagement will

be the key to student success. Gabriel (2016) discussed the needs of a modern, knowledge-based society that exists in the United States of America, and how many students leave school incapable of or unprepared for a productive life in this society, another problem that can be addressed by better student engagement.

A final issue that this study sought to explore was the decision-making process that faculty and administration at an institution of higher education undertake to establish fair and equitable access for all stakeholders. The researcher wanted to better understand the overall process of evaluation, using both historical information regarding the process, and the current perspective of the participants regarding the existing structure.

Purpose Statement and Research Questions

The intent of this research study was to document the experience of higher education faculty and staff, at a specific institution, regarding their relationship and interaction with course material delivery models and barriers to student success. The study focused on exploring student success barriers such as affordability and student engagement, and how the faculty and staff at the research site dealt with the challenges and what factors influenced the decision-making. The first research question uncovered the perspective of decision-makers, at the research site, regarding the role of course materials as a student engagement tool. The question also sought to discover whether there was any relationship between course material models and learning efficacy at the institution, from the perspective of the faculty and staff. The second research question sought to determine whether there was a preferred course material delivery model by faculty with the STEAM (Science, Technology, Engineering, Arts and Mathematics) curriculum at the research site, and how faculty describe their preferred model's ability to better engage

students. The final research question intended to document the course material selection and evaluation process, as well as decision-making activities at the research site.

Methodology

This study consisted of a qualitative study design. Information was gathered from six total participants that consisted of faculty and administrators. Data was collected using a semi-structured, qualitative interview protocol conducted via the Zoom platform. The raw audio/video recordings were stored in an encrypted folder that requires biometric authentication to access, to protect the confidentiality of the study participants. The audio files were transcribed using the Trint software platform. The researcher analyzed the transcription to identify and correct any errors in the transcription by comparing the audio file to the written transcript. After correcting the transcripts, all identifiers were redacted from the participant transcripts. Analyzing the data gathered from the interview process with the participants led to the emergence of several themes. The themes were identified and categorized using the Dedoose software platform by means of coding. The major themes that emerged from the coding process are relevant to the research questions established prior to initiating the data collection. RQ1 is addressed by both the Academic Freedom and Instructor Autonomy and Student Engagement themes. RQ2 is addressed by the Accessibility of Course Material, Course Material Affordability and Student Engagement themes. RQ3 is addressed by the Academic Freedom and Instructor Autonomy theme.

Major Findings

The data that were collected from the interviews conducted with the six participants presented the researcher with four major emerging themes: a) affordability of course material, b) course material accessibility, c) academic freedom and instructor autonomy, and d) student

engagement. The participants all indicated that their initial perspective on course materials was based off of prior experience at a different institution, however, upon commencing instruction or working at the research site, they arrived at an understanding that the demographic of the students they are serving had shifted and, therefore, the participants could not necessarily rely on course materials they that had prior experience with. One theme that emerged in every participant interview was “Course Material Accessibility” and appeared to be weighted very heavily throughout the discussion. Participants discussed several limitations that a good portion of their student base had, including limited access to reliable broadband internet, as well as a dynamic schedule, due to a high participation rate in the institution’s student athletics program. Many participants discussed that the research site has a unique “Textbook Loaner Program”, which is a positive force in attempting to address “Affordability of Course Material”, however, they do not feel that it is a long-term solution. All participants indicated that student course material costs are a consideration when designing the course and curriculum for various disciplines and is a major factor when evaluating the various course material delivery model options. Lastly, the participants offered insight into the concept of academic freedom, and the critical role it plays within the “life cycle” of course material evaluations, discussions, and student engagement. All participants strongly enforced the perspective that they are considerate of the best interest of their students when determining course materials for a class.

Findings Related to the Literature

Prior to the data gathering process for this research study, the researcher conducted a review of literature examining the student success barriers related to course material, as well as how student engagement with course materials impacts student success in the classroom. The

existing literature indicated that factors such as affordability, accessibility and engagement levels can have both a direct and indirect influence on student success in the higher education sphere.

Course Material Affordability

Tinto's (1975) revised Student Departure Theory focused on students with a low socioeconomic level, which represent a large portion of the student body at the research site. Tinto suggested that increased costs, associated with higher education, will lead to a higher rate of attrition for students. Tinto's (1975) revised Student Departure Theory suggested that it is imperative for institutions to provide a sustainable solution to affordability, specifically to the low-income populace, which will help increase retention and graduation rates (Metz, 2004).

The institution implemented a "Textbook Loaner Program" to help defray costs to the students, however, some of the participants questioned the sustainability of the program. The program charges the students a per credit hour fee, and then loans the books to students at no cost. Data indicates that, even with options such as Inclusive Access, traditional materials increase in cost, annually. Eventually, the institution will have to raise the fee to offset the additional expense of material procurement, thus costing the student additional funds. Senack's (2014) research on traditional textbooks costs revealed that students routinely choose classes based on the affordability of the relevant course material. Additionally, Senack (2014) discussed that many students considered dropping their enrollment altogether due to exorbitant course material cost. One of the participants in this study discussed that they have to consider the cost of their course material choice when designing the course because it directly impacts their class enrollment, aligning with the data published by Senack (2014). A couple of participants indicated that there is some pressure placed on them to achieve certain enrollment levels, so the

choice of course materials may influence an instructor's decision based on certain goals that must be attained by the institution's administration.

Bliss et al. (2013) conducted a study at seven community colleges across the United States of America that were undergoing large-scale OER implementations. The data indicated that both faculty and students recognized an appreciable cost savings in the OER model yet felt that the quality of the OER materials equally compared to the national-edition textbook counterpart. With more data points of OER implementation, instructors are further exploring this course material model option to help address both the issue of affordability as well as achieving enrollment goals for their classes and disciplines, if applicable.

Accessibility to Course Material

Several of the study participants discussed that the initial introduction to the OER course material model did not occur under ideal circumstances. The initiative was, according to the participants, instigated by the administration team, although it was unclear if this was a directive under the guidance of the President, or a decision made by the Executive Cabinet. Faculty did not respond well to initial conversations, according to the participants, as they felt as though they were not consulted in order to have a discussion, rather, they were being instructed on what material to adopt for their courses by individuals with no experience or expertise in the disciplines. Due to this initial encounter, however, many of the faculty began exploring the OER course material model for their respective discipline, and were "pleasantly surprised", according to one participant. For many of the STEM disciplines offered at the 100 and 200 level, the initial impression of the faculty was that the material was of excellent quality, the material was organized with more relevance for their student demographic and, best of all, "Saved students over \$200 for course materials", one participant indicated.

Rogers' (1962) Diffusion of Innovation (DOI) Theory explains how an innovation, model or system can gain momentum, or adoption, and can spread through a specific population. For the purposes of this research study, the innovation is the OER course material model, and the specific population is the institution's faculty. Although the initial discussion did not sit well, mentioned by some participants, it instigated an institutional exploration process pioneered by faculty. Upon reviewing the OER course material options such as OpenStax and Lucent, mentioned by the participants, certain faculty determined that they could redesign their course with this new material, and better engage with the students.

It is important to discuss that, based on the participant interviews, OER and traditional materials are not the only course materials being considered and utilized at the institution. Several of the participants indicated that it is critical for them to reach every student, in broad terms, so that they can instruct them as effectively as possible. To accomplish this feat, some of the participants created a hybrid approach in which they mix in elements of several content mediums to best engage with their students. One participant mentioned a "homebrew" of materials, including content from OER sources, online videos, and material that they wrote themselves. Based on previous experience and student feedback, they determined that the existing material from national publishers and OER providers was not the best fit for the needs of their students, so the participant created targeted content for certain courses within the discipline. This process can be linked to Kearsley and Schneiderman's (1998) Engagement Theory, as the participant analyzed student engagement levels, determined there were opportunities for improvement, and deduced what the best approach for the students in that specific environment would be, leading to better learning outcomes, according to the participant. Another participant also aligned their principles to Dietz-Uhler and Hurn's (2013) research, which suggests creating

more interactive methods of engaging students, especially for students participating in higher education through a distance-learning format. During the COVID-19 pandemic, the participant was able to setup labs in a classroom environment and livestream the entire event in a two-way format for students, requiring their input and heightening the levels of student engagement.

Several participants discussed the high ratio of student athletes at the institution. The students routinely travel for “away games” during the semester and are still expected to complete their coursework with the same level of academic rigor. According to several of the participants, this is where the multi-dimensional access platform of the OER course material model shows its strength. Participants indicated that students could access the OER course material via computer, mobile phone and tablet devices. In addition, a full version of the material can be downloaded and accessed without broadband or cellular internet access. If a student decides that they would prefer a physical copy of the OER material, the student can procure one for a very reasonable fee compared to a national publisher printed text. When students are traveling for an athletic event, staying in a hotel overnight before a tournament, or on the trip back, they always have a means of accessing their course material content and, according to a couple of participants, that access is very powerful and meaningful. The digital OER content also has some additional benefits, including the ability to directly search for terminology, quotes, or topics without having to utilize a traditional index function. One participant indicated that this ability has increased student engagement with the digital text, tremendously, as it makes learning a concept intuitive and efficient, and helps reduce a tedious aspect of learning and doing homework. The digital platform helps shape the material to better address areas of student difficulty, ultimately enhancing student learning and satisfaction moreso than other available tools (Souza & Bingham, 2005-2006, p. 197)

Academic Freedom and Instructor Autonomy

This student-centered curriculum design approach is not a new concept, Pouyioutas (2010) identified Socrates' dialectic methodology fostered critical thinking and the evolution of the curriculum to better meet the needs of the students. Moreno (2007) discussed the current approach of curriculum dynamics focuses on the "control of change" that allows educational authorities, including faculty and administrators, to determine how best to propel the course design and curriculum in the desired direction. The participants in this study argue with a similar underlying tone. Faculty are hired, in their perspective, as content experts in their relevant fields. To not allow them academic freedom when determining course materials is to strip the course, discipline and institution of that expertise. Wakefield (1998) discussed that modern course materials have complemented curriculum design and instruction by virtue of their design due to a combination of practical use and market forces. Wakefield subsequently posited that the next evolution of the textbook and supporting curriculum will revolve around information management; the textbook will not be the sole source of information, rather, it is the hub of several resources. The participants in this study align their viewpoints with Wakefield. One participant indicated that course materials are designed to help instructor reinforce the groundwork and concepts of the class but are not designed to teach students; that is the purpose of the instructor. Several other participants discussed that, to reach their entire student base, it is critical to use a mix of resources, further reinforcing the multiple resource theory that Wakefield discussed.

Course Material Evaluation. One purpose of this research study was to explore the decision-making process undertaken by faculty and staff to determine what course material to adopt for a course within a specific discipline. Heider, Laverick and Bennett (2009) shared that

college instructors have begun to abandon traditional approaches to instruction, as the traditional textbook is no longer satisfying the needs of the modern student (p.103). A couple of the participants discussed that a diverse representation of employees will meet, on occasion, to discuss barriers, student feedback, and the fluid needs of students. Although faculty maintain to right to determine what the best fit for their students and courses are, they are constantly evaluating, revising, and updating their materials and overall course design, according to a participant. Some participants indicated that they go through the material being evaluated, answer study guide questions, reflect on their current course design, and see if this is the level required for the students, and if the flow and layout of the content would be a good fit in the classroom. Current administration at the research site grants faculty a high degree of autonomy to select what the best resources are for their students, and no specific model is pushed more than the other; participants indicated that, currently, they are able to select materials of their own volition. One participant described the evaluation of course materials as a very individual process. Within that individualized process, however, exists a plethora of considerations on behalf of the student, including ease of use, accessibility, total cost, learning curve, and, ultimately, if it will be a useful tool in achieving learning outcomes.

Student Engagement

Kearsley and Schneiderman (1998) hypothesized, in their Engagement Theory, that students must be cognitively engaged in the learning experience through interaction and activities to promote learning and retention of new material. This study sought to determine if the faculty and staff at the research site indicated a difference in student engagement amongst a variety of course material models such as an OER solution like OpenStax, an evolved traditional format such as Inclusive Access, or a hybrid approach to course material content design. Dietz-

Uhler and Hurn (2013) published research focusing on student engagement with the primary focal point of content and the instructor. The research by Dietz-Uhler and Hurn (2013) discussed that increased student engagement leads to greater knowledge retention and designed a baseline using the Quality Matters Rubric Standards to evaluate the techniques recommended by the authors. The findings by Dietz-Uhler and Hurn (2013) suggest that more interactive course materials and better engagement within the online format will be critical to student success.

At the time of conducting this research study, the world was impacted by the COVID-19 pandemic, forcing rapid modality changes for students on a global scale. Taylor and Parsons (2011) discussed that it is important for a school to adopt technologies that help the students transition into their academic life. With an event as unexpected or unprecedented in modern times as a pandemic, the rapid transition can have serious consequences for students and faculty that are forced to shift from on-campus instruction to an online format. Depending on the type of course material selected by instructors, the modality change created many barriers and significant challenges. One participant discussed that their course material was a physical, printed textbook that had no electronic copy or other means of access. This created a challenge for both students and instructors, as many students had to leave campus and leave their belongings in their dorm, therefore not having access to the book. According to the participant, not having easy access to the course material led to a higher number of failures and withdrawals in several classes, highlighting the importance of access to course materials.

Conclusions

The findings obtained in this study represent the experience of faculty and staff at the institution that includes site-specific information. Qualitative interviews provided the data for the study. The current literature and research suggest that students face multiple success barriers

related to course material delivery models, such as affordability, accessibility and student engagement, and that continuing along a traditional approach model may not lead to success for the institution, faculty or students. This research study was created to explore the current course material model challenges at the research site and how they impacted the participants, their perspectives on the impact of those models on the students being served at the institution, and how the participants are currently responding to the challenges. The information and experiences discussed in this research study may potentially provide additional insight into the challenges surrounding course material delivery models and content at the research site.

Implications for Practice

Traditional printed textbooks have been the standard tool utilized to assist with conveying knowledge transfer for a thousand years. The traditional format no longer meets the needs of the modern higher education student in the United States of America, who require new strategies for engagement, according to Heider, Laverick and Bennett (2009). The results of this study may assist in documenting course material model trends and related student success barriers at the research site. The process of documenting the experiences of the participants in this study may help the research site better understand the evolving needs of the student base, and how to respond to the needs when designing an academic course. It is timely that this study was conducted during the COVID-19 pandemic, as it forced a modality change within the entire higher education industry. The rapid shift and additional challenges that students at the research site faced were documented by the interviews with the participants and may help in determining additional factors in course material model evaluations and considerations in the future.

The insight gleaned from the participants during the research process indicates that there is not a universal course material model that can be applied within a specific discipline at the

research site, much less a sweeping adoption throughout the entire institution. What is important is to consider the needs of the students in each course, the learning outcomes the instructor is trying to achieve, and then considering what barriers may prevent the students from accomplishing those learning outcomes. Based on the feedback from the participants, price is not an indicator of quality when referencing course materials and related content. Several participants have indicated that a national publisher-based course material may be beneficial to an individual that is a relatively new instructor, or one that has very limited instructional material and content for the course. Participants also indicated that, in an institution such as the research site, that now grants a high degree of academic freedom and autonomy, it is appropriate to explore, discover and decide what works best for the instructor and their students. Consistent evaluation measures on a recurring basis may help determine whether certain content is an appropriate fit for the students the instructor is attempting to reach, or if it is time for the instructor to explore other avenues. Regardless of the course material model that an instructor selects, it is imperative that the institution ensure that the students and faculty have the appropriate resources. Pena (2009) discussed the importance of institutions investing in and establishing all of the necessary infrastructure for newer course material models. Additional resources and a change management plan should be maintained and ongoing, by the institution, to help ensure the success of faculty, staff and students as everyone continues their academic journey.

Recommendations for Additional Research

This researcher was able to document the experience and perspective of six participants that are currently employed with the research site, an institution of higher education located in the Midwestern region of the United States of America. Subsequent studies and research may

potentially add to the data collected by this study, at the research site. Future studies may attempt to capture the experiences and perspectives of faculty and staff that did not participate in this study, adding additional information and data to the topic. Due to the limitations of this research, and how rapidly course material and student needs continuously evolve, multiple subsequent studies would have to be conducted in order to establish a broader understanding of the experiences and perspectives at the research site, and a single study most likely will not be able to capture all of the data relevant to this topic at the research site.

Participants in the current study included faculty and staff at the research site. Future studies could be developed to include members of the student population, to collect data on their experience and perspectives as it relates to course material models and barriers to student success. In addition, a larger overall sample may be beneficial by providing a greater diversity of experiences and perspectives, further adding to the topic.

Future research on this topic may potentially include a qualitative comparison between the experiences of members within the current research site and another research site with similar identified characteristic, located in a similar geographic area. This type of subsequent study would help expand upon the existing data greatly, particularly from a comparative and depth standpoint.

Final Remarks

Existing literature suggests that several student success barriers related to course material delivery models exist in the higher education system of the United States of America. Some of these barriers include limited student engagement, challenges regarding accessibility, and recurring pricing increases that create affordability barriers for many students. Although the traditional textbook served as the “preferred” course material resource for centuries, the modern

higher education student in the United States of America requires additional resources that might not be served by the traditional model.

The participants in this research study elucidated several barriers to student success at the research site, including accessibility for the large student athlete population and affordability for traditionally underserved students that attend the institution. The interviewees indicated that the institution affords the faculty a high degree of academic freedom and autonomy to explore course material models that may best fit with the student needs as well as the instructor's curriculum design. Additional findings in this study show that while the course material evaluation and decision-making process is, ultimately, a very individual one, instructors obtain feedback and information from a multitude of sources in order to arrive at a determination that attempts to reduce as many barriers to student success within the course while providing the appropriate content and materials in order to achieve the desired learning outcomes. The institution has taken several steps to help mitigate some of the student success barriers, but many challenges are still present at the research site, as education and student needs are ever evolving. This study's findings present implications for the current community within the research site, including faculty, staff and students, as it relates to overcoming barriers, achieving student success, reducing attrition, and attempting to develop sustainable and revisable course content that tends to the complex needs of the student population. Future studies on this topic at the research site may reduce the knowledge gap by broadening the data gained by additional participant experiences and perspectives, and may reflect temporary and permanent impacts related to course materials and student engagement as a result of the COVID-19 pandemic.

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