IMPROVING THE RIGOR OF ONLINE EDUCATION: EXPLORING CHARACTERISTICS OF FACULTY AND SYLLABI WITHIN AN ONLINE PROGRAM ASSESSMENT PROCESS

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By

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ABSTRACT

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As online course enrollments grow, overall perception of rigor still lags compared to that of traditional face-to-face education. The purpose of this research was to tie faculty and syllabi characteristics to the rigor of online courses. This study explored the relationship between faculty and syllabi characteristics and performance on an online entry-level course design quality assurance assessment (pass, pass with concern, or fail). A decision tree analysis was used to predict the relationship of the independent (faculty and syllabi characteristics) and the dependent (entry-level course design assessment) variables. Findings suggest that faculty rank and writing intensive are key characteristics predictive of the rigor of design for online courses. Knowing what characteristics are likely to fail the course design assessments, extra resources and support can be shifted to elevate the rigor of online courses.

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This thesis adheres to the American Psychological Association citation style and was deemed exempt by the Northern Michigan University Human Subjects Institutional Review Board.

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CHAPTER 1: INTRODUCTION

Enrollment in online courses has risen over 17% from 2012 to 2016 according to Abamu (2018). Despite the growth in enrollment of online courses, the reputation of rigor has not kept pace (Abamu, 2018). Recent research from a Gallup-Purdue Index shows the quality of an online course relates to its rigor and perceived value (Tran, 2018). Strategies for increasing course rigor can be developed by incorporating peer reviews of the learning environment (Baran & Correia, 2014). Faculty who have taught extensively online state it is important to receive training and have a course peer-reviewed to maintain the rigor expected of an education course (Dimeo, 2017). The institution is responsible for the rigor of online courses offered, and quality training programs and assessment are critical to ensure rigor (Dimeo, 2017). Online course design assessment standards establish rigor, improve student learning, and helps courses follow institution policy (Stanny, Gonzalez, & McGowan, 2015). There are programs, such as the industry standard Quality Matters (QM), developed to maintain online course rigor through evidence-based assessment evolving from established standards (Kanekar, 2018). Using even the basic tenets of QM can improve online course design (Young, 2014). The basis for the dependent variable in this study, the entry-level online course design assessment rubric, was developed based on the QM standards for course design (see Appendix A for rubric).

Problem Statement

Higher education institutions need to guarantee the rigor of online courses. However, with limited resources educational institutions are spending time and human capital on assessing faculty and their courses that may already meet the required

standards (Russell & Markle, 2017). If educational institutions could determine the characteristics of faculty and courses needing the most intervention, courses and faculty most in need could be funneled resources. By focusing on faculty who need the most assistance in course design, institutions can more efficiently increase rigor for online courses.

Having a better understanding of the relationship between characteristics of faculty and course design, as communicated on course syllabi will help institutions implementat assessment processes (Arteaga-Narváez, Rivera, & González, 2016). The assessment process for higher education online course design holds implications for the growing acceptance of online distance education (Kelly, Coates, & Naylor, 2016). Little is known about faculty and syllabi characteristics and assessment of online course design. No empirical work has looked at faculty and syllabi characteristics in an online environment linking assessment to course rigor (Mitchell, Parlamis, & Claiborne, 2015).

Purpose Statement

Using a secondary dataset from one Midwestern University's online course design assessment process, this study explored how faculty and syllabi characteristics related to the results of assessing online course syllabi for "entry-level" design standards. The entry level design standards are the first step in a stepwise series of increasing standards imposed on all university online courses. The purpose of this research was to predict how syllabi characteristics and faculty characteristics related to assessment of entry-level standards for online course design as measured by an assessment rubric. This study examined faculty characteristics including the number of online courses taught at the institution, faculty rank at the institution, and whether the faculty had taken the Online

Teaching Fellow Training, (controlling for sex, academic college) and how faculty and syllabus characteristics related to passing an entry-level online course design assessment (pass, pass with concern, fail).

Research Question

To what extent do faculty and syllabi characteristics predict the entry-level online course design assessment outcome?

Conceptual Framework

By analyzing course syllabi, it is possible to evaluate course design and give feedback to faculty for purposes of course improvement (Stanny et al., 2015). Exploring the relationship of faculty and course syllabi characteristics to the outcomes of assessing course design, institutions can develop professional development to improve course design and achieve increased rigor (Baran & Correia, 2014).

The Midwestern university developed the entry-level online course design assessment rubric based on the goal of scaffolding faculty ability to meet QM standards (see Appendix A for rubric). QM is an international organization that helps institutions assure quality online course design and delivery (Cowan et al., 2017). Kanekar (2018) adds that QM is the benchmark for online course assessment due to its being evidence-based and evolving from established standards.

The ability to pass a course design assessment is mediated strongly by the characteristics of faculty and syllabi at an institution. The opportunity for faculty to receive training along with the faculty's longevity and experience may affect their ability to design quality and rigorous courses (Stanny et al., 2015). Linking faculty

characteristics to quality courses can facilitate positive change among the faculty (Nelson & Schmitz, 2016).
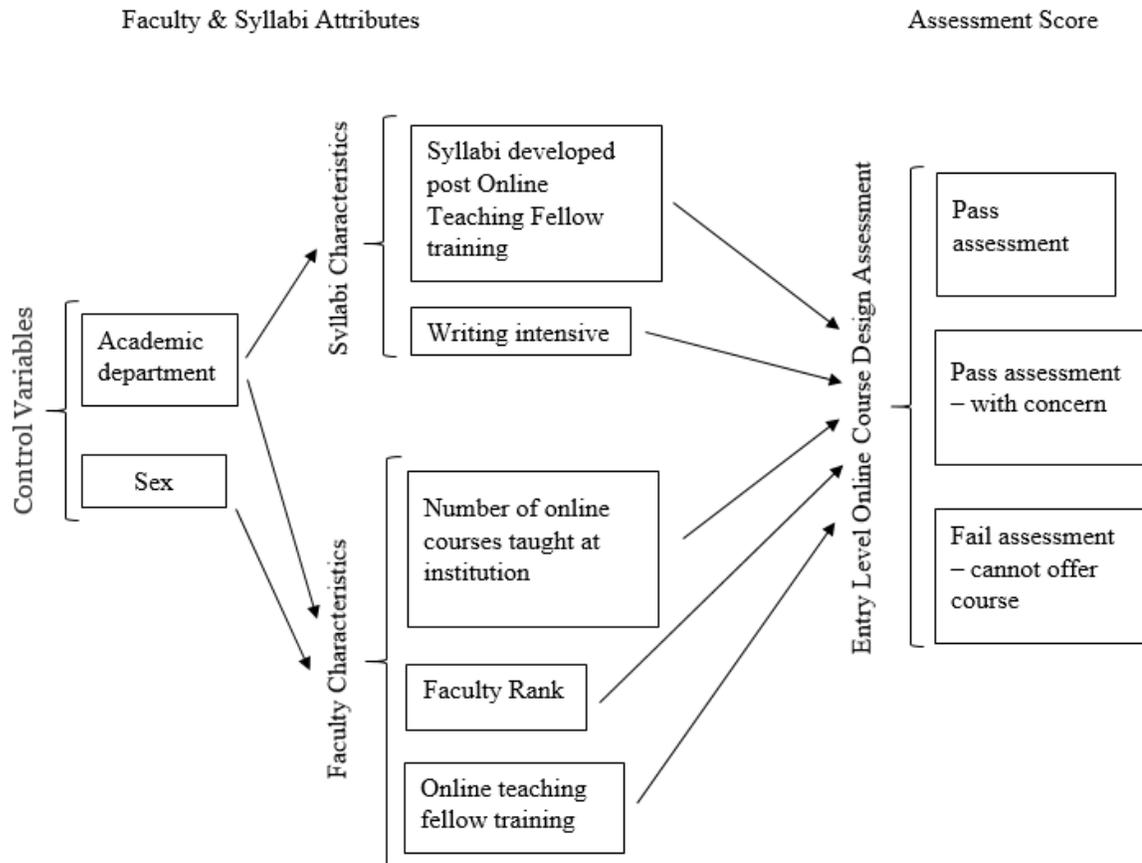
Figure 1. Relationships between faculty and syllabi attributes to assessment scores.

Characteristics.

Writing intensiveness is a course characteristic that has been shown to improve student outcomes, engagement, and retention (Bonet & Walters, 2016; Kilgo, Ezell Sheets, & Pascarella, 2015). Studies have shown the effects of writing intensiveness can be beneficial across a broad range of academic disciplines (Kilgo et al., 2015). Writing assignments are considered transactional learning and can improve learning for low-achieving students and high-achieving students (Bonet & Walters, 2016). Faculty who

participated in the Online Teaching Fellows learned about the Quality Matters standards for course design. Meeting Quality Matters standards has been shown to improve course development (Huun, 2018).

Faculty rank and number of online courses taught have been used to determine faculty effectiveness in higher education in recent studies for both face-to-face and online education (Ghonji, Khoshnodifar, Hosseini, & Mazloumzadeh, 2015; Horvitz, Beach, Anderson, & Xia, 2015; Singh & Hurley, 2017). Online Teaching Fellows training is related to the self-efficacy of faculty for enhancing their teaching ability by adhering to established standards developed by Quality Matters.

Control characteristics and variables were used to make the study more generalizable (Bernerth & Aguinis, 2016). Other institutions may not have an academic college makeup similar to the institution in which the research was conducted. By controlling for college and sex these values remained constant in the analyses. By utilizing control variables, relationships between the predictors were not distorted (Bernerth & Aguinis, 2016).

Significance of the Study

With the reputation of rigor in online courses not keeping up with enrollment growth, this study can contribute to what is known about the rigor of course design in distance education. Online courses with proper pedagogical practices in the course design and implementation can be more rigorous than face-to-face courses (Stanny et al., 2015). By connecting the characteristics of faculty and syllabi, institutions can devise training and policy to maintain the high standards in distance education consumers expect

from higher education. This research also explored a summative assessment approach to course design where formative assessment the norm.

Definitions of Terms

Assessment: Quality assurance of online academic course (Rhode, Richter, & Miller, 2017).

Distance Education: Education that is delivered without in-person faculty face-to-face interaction. May be used interchangeably with online education.

Course design: The methodology of creating quality learning environments and experiences for students.

Face-to-face education/traditional education: Courses that have an in-person interaction with instructors in the same physical space (Rohland-Heinrich, 2016). These terms are used interchangeably.

Formative assessment: Providing ongoing feedback that can be used for improvement.

Higher Learning Commission: Accredits degree-granting post-secondary educational institutions in the North Central region.

Online education: (for this study), Education that is delivered 100% online with the use of technology. May be used interchangeably with distance education.

Pedagogy: The method and practice of teaching, especially as an academic subject or theoretical concept.

Self-efficacy: A person's belief that they can be successful when carrying out a particular task.

Summative assessment: Evaluating at the end of a task by comparing it against some standard or benchmark.

Quality Matters: An organization that specializes in the development of assessment or quality assurance of online programming.

Assumptions

The characteristics of faculty and syllabi at an institution will predict if a passing score is achieved on an entry-level course design assessment. With more opportunity for faculty to receive training along with institutional experience, the ability for the course developed to pass the assessment increses (Stanny et al., 2015). Syllabi that are developed with the skills obtained in the Online Teaching Fellows faculty training program at Midwestern University will also correlate to having a greater chance of passing the initial assessment. Achieving passing assessments, the perception of rigor at the institution will rise.

Summary

As online education continues to see enrollment growth the perceptions of rigor are not keeping pace. Educational institutions are responsible for assuring the rigor of online courses, and a course design assessment is one way to accomplish that. However, with limited resources institutions need to allocate available resources wisely. Understanding the characteristics of faculty and syllabi and their relationship to an online entry-level course design assessment is one way to allocate resources where they are needed the most without wasting them in unneeded areas. By allocating the resources and supports where they will be the most affective the rigor will increase. With increased course design quality and rigor, online education will continue to increase its position as an effective form of education.

CHAPTER 2: LITERATURE REVIEW

Chapter 2 provides a review of the literature by theme relevant to the online learning environment. The literature begins with a history of distance education and assessment and then continues to explore the constituents closest to online programming within higher education. The chapter wraps up with an exploration of relevant theories and ties the theories into a conceptual model.

The purpose of this research was to predict how the characteristics of syllabi and faculty will affect the entry-level online course design as measured by assessment rubric. This study examined faculty characteristics including the number of online courses taught at the institution, faculty rank at an institution, and whether the faculty had taken the Online Teaching Fellow Training, (controlling for sex, academic college) and how the faculty member's course related to passing an entry-level online course design assessment (pass, pass with concern, fail). Using a secondary dataset of one Midwestern University online course design assessment process, this study explored faculty characteristics and how they relate to an entry-level online course design assessment procedure.

Development of Online Learning

Distance education has its roots in early America; the first correspondence courses are developed with the advent of the postal system (Flinders & Moroye, 2015). The definition of online learning is when the instruction is being facilitated using online internet technology 80% of the time or more (Allen, Seaman, Poulin, & Straut, 2016). Formal acceptance of distance education began as higher education institutions adopted the models on the late 1800s (Flinders & Moroye, 2015). However, studies have found

that faculty still struggle with acceptance of online education and the conversion of face-to-face curriculum to online (Chiasson, Terras, & Smart, 2015).

With the advent of online education access to higher education opened up to those who traditional could not attend (Kelly et al., 2016). Bunk, Li, Smidt, Bidetti, and Malize (2015) found in their research that faculty have mixed attitudes about online education. Kelly, Coates, and Naylor (2016) point out that the early leaders in the online space tended to be for-profit organizations. Without quality standards and the establishment of appropriate pedagogical, some traditional universities did not embrace the move to online programs (Flinders & Moroye, 2015).

There are pressures from academic institutions to expand learning opportunities into the online education space (Kelly et al., 2016). However, one of the challenges that institutions face is that faculty can be resistant to change (Nelson & Schmitz, 2016). Institutions need to gain the buy-in from faculty to make online programming successful (Mitchell et al., 2015). Faculty concerns include fears of the unknown, cultural assumptions, loss of student contact, and overall institutional impact (Mitchell et al., 2015).

Allen, Seaman, Poulin, and Straut (2016) state that the perceptions of online rigor are not to the level of face-to-face course. However, there has been significant growth in rigor perception since 2003 (Allen et al., 2016). The attitudes towards rigor have increased from a 57.2% rating of good or better to 71.4% rating of good or better than face-to-face (Allen et al., 2016). Studies have shown that with proper content, faculty support, and online acceptance course provide more perceived value than face-to-face courses (Sebastianelli, Swift, & Tamimi, 2015).

Development of Assessment

There is an increased demand for assessment in higher education from multiple constituents (Russell & Markle, 2017). However, Lock and Johnson (2015) stress that the implementation of assessment initiatives, particularly in the online environment, can be complex and challenging. Rohde, Richter, and Miller (2017) add that if a universal approach is used in the development of an assessment tool, it will not meet the needs of the faculty who have varying familiarity and attitudes with the online learning space. The level of acceptance and attitude toward online learning was found to be correlated to the faculty involvement in online learning in a study by Ciabocchi, Ginsberg, and Picciano (2016).

Online program assessment approaches can take either a formative or summative approach (Stevenson, Finan, & Martel, 2017). Pellegrino, DiBello, and Goldman (2016) explain that with either approach, formative or summative, organizations must use careful consideration in the implementation. The primary objective of formative assessment is to continually improve learning through peer review and a feedback loop (Dixson & Worrell, 2016). The process of formative assessment involves both the content creator and the reviewer (Pellegrino et al., 2016). Summative assessment compares the creators' content against a firm set of standards (Dixson & Worrell, 2016). In the summative assessment, the review of material happens at a set point in time, and the material is given a score between adequate and inadequate (Pellegrino et al., 2016).

The higher education assessment process incorporates the use of both formative and summative assessments (Ponte, 2013). Lock and Johnson (2015) stress that with both forms of assessment that institution have a clear set of expectation agreed upon by both

faculty and administration. Ciabocchi, Ginsberg, and Picciano (2016), found in their

study that the increased support of administration and availability of services increased

the acceptance and attitudes of faculty to the institution moving to online.

Institutional support

Assessment has evolved from the technical, design, and implementation, to

overall improving education according to Stevenson, Finan, and Martel (2017).

Educational institutions are incorporating a variety of assessments both formative and

summative, including peer-review, self-assessment, committee review, and assessment

teams, in advancing the perceptions of rigor throughout the organization (Ponte, 2013).

Leaders need to make evidenced-based decisions gathering data from multiple sources

and from across the organization (Kelly et al., 2016). By gathering data from across the

entire organization a wide range of constituents will be involved and feel part of the

decision-making process (Stevenson et al., 2017). Studies have found that faculty and

staff prefer the opportunity to openly discuss issues related to student learning without

fear of retribution (Arteaga-Narváez et al., 2016; Ciabocchi et al., 2016).

To maintain a positive attitude with faculty, it is crucial for institutions to

maintain a culture of assessment versus compliance and use a balance of formative and

summative approaches (Stevenson et al., 2017). A sense of autonomy and freedom is

important throughout higher education (Mitchell et al., 2015). Along with autonomy, a

robust professional development framework will support faculty and staff when

developing new programs (Baran & Correia, 2014). Findings show in a 2015 study, that

there is a slight rise in the perception of rigor in online learning by educational leaders

whose institution offer online education compared to other that only offered face-to-face (Allen et al., 2016).

Student Efficacy

Student learning outcomes are also a concern in the advent of online education (Zlatkin-Troitschanskaia, Pant, & Coates, 2016). As educational institutions develop assessment policies, indirect and direct student involvement will help with the success of implementation (Poth, Riedel, & Luth, 2015). However, Poth, Riedel, and Luth (2015) add that there is limited research on engaging students in the practice of program assessment. Student efficacy for knowledge and skills needs to be considered in online program development and assessment (Singh & Hurley, 2017). In addition, Judson and colleagues' (2017) study found that there is a strong relationship between student success and faculty attitudes. With the increased positive attitudes toward the online environment, there was fewer hurdles to success as part of the expectancy construct (Judson et al., 2017).

To involve students in an educational institution's policies requires a clear mechanism for student input (Poth et al., 2015). Faculty and administration need to encourage students to evaluate not only individual courses but the entire program and system (Singh & Hurley, 2017). However, Galbraith, Merrill, and Kline (2011) found that there is a validity issue in student course evaluations of teaching. Studies have shown that student course evaluations do not always correlate to learning outcomes (Galbraith et al., 2011). Student involvement in course evaluation gives the student a voice and ownership of the learning process, increasing the value and perceived rigor overall (Poth et al., 2015).

Faculty Self-Efficacy

With the growth of online learning, new demands are placed on faculty (Nelson & Schmitz, 2016). Morris, Usher, and Chen (2017) found with increased demands, negative attitudes amplified towards the overall institution. Nelson and Schmitz (2016) add that faculty acceptance is key to facilitating change in educational organizations. Faculty self-efficacy can determine the way a course or program is developed and functions (Morris et al., 2017). Horvitz, Beach, Anderson, and Xia (2015) define faculty self-efficacy as their confidence in the ability to facilitate student learning. Klassen and Tze (2014) add that faculty self-efficacy and attitude is related to the educational institution's overall effectiveness. Faculty attitudes are positively correlated to their self-efficacy (Horvitz et al., 2015).

Conceptual Model
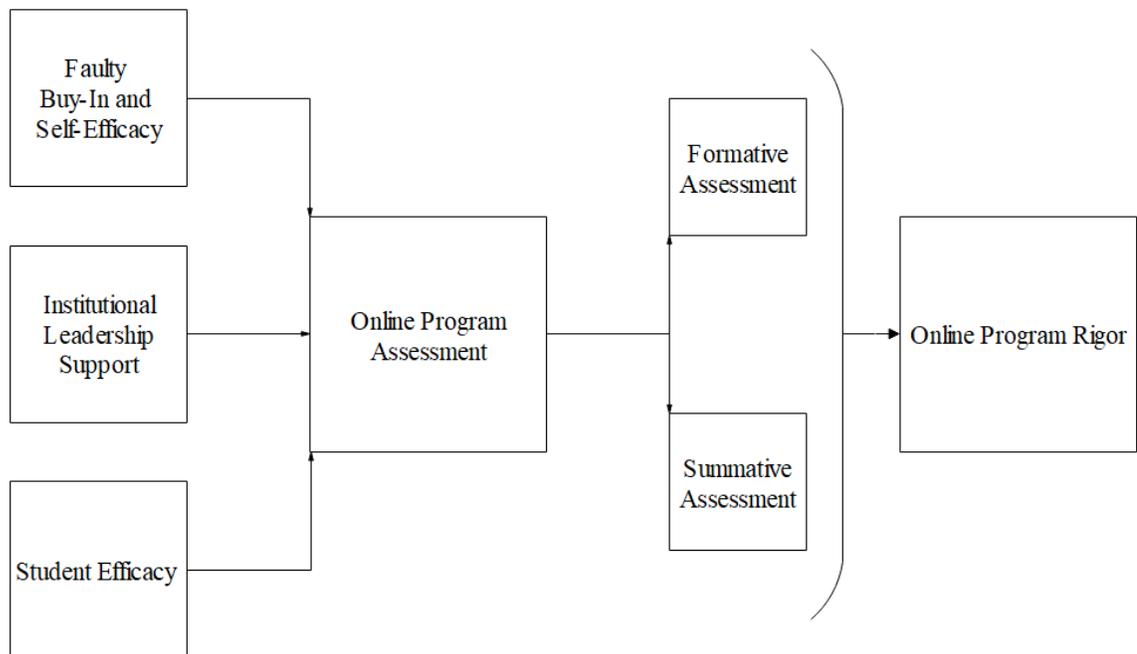
Figure 2. Conceptual model

The conceptual model in Figure 2 shows the relationship between key educational constituents and the process of online program assessment leading to online program rigor. In the Bunk et al. (2015) study, faculty admitted that fear of the unknown was a key factor in the acceptance and attitude towards online learning. Horvitz et al. (2015) adds that faculty interest in teaching online increased by 79.5% if they had taught more than 6 semesters online.

The effectiveness of teaching is related to faculty identity and motivation to teach (Saroyan & Trigwell, 2015). Faculty self-efficacy is used to enhance teaching practices by evaluation and assessment of program and course development (Nevgi & Löfström, 2015). Nevgi and Löfström (2015) connect program and course development to faculty desires to develop the best education system possible. To accomplish increased rigor, faculty need adequate opportunities for improving online teaching techniques (Ryan, 2015).

Providing faculty ample opportunities to stay current in online learning design, content, and pedagogy is critical to guaranteeing rigor in online programming (Ryan, 2015). Smidt (2015) adds that the demand for accountability produces a culture of quality assessment. Chiasson, Terras, and Smart (2015) found faculty advanced their pedagogical skills as courses were converted to an online format.

The assessment process of online programming may increase the key stakeholders perception of rigor (Russell & Markle, 2017). Faculty, students and institutional leaders are key stakeholders identified in the literature. With the support of the key stakeholders', development of an online program assessment process including

both formative and summative approaches will lead to increased perceptions of online program rigor.

Faculty buy-in comes from having adequate resources for developing online programs and also resources to develop the skills to teach online (Mitchell et al., 2015). Training resources and assessment tools can help lessen the resistance to change (Nelson & Schmitz, 2016). Nelson and Schmitz add that once faculty embrace self-efficacy regarding the online space, outcomes and rigor will increase.

Extant research is mixed on the exact stance that leadership should take regarding the pressures put on faculty to address rigor concerns in online programs. However, one common theme is that institutional leaders need to support those most affected including faculty and students and not make decisions in a vacuum (Singh & Hurley, 2017). Listening to constituents from across the institution and involving all levels can increase the perceptions of wanting the best and increasing the perception of rigor in online programs. The decisions administrative leaders are making are shifting from course quantity to the quality of education delivered (Kelly et al., 2016).

Student efficacy and ultimately their ability to learn should be among the top concerns of an educational institution (Poth et al., 2015). The student body should have a voice in the way online programs are initiated and assessed (Singh & Hurley, 2017). The involvement goes beyond the student course evaluation and into the initial program development and ongoing assessment (Galbraith et al., 2011).

Incorporation of both formative and summative assessment is crucial in assuring program rigor (Pellegrino et al., 2016). Formative assessment is widely accepted among faculty ranks and is the preferred method of continual improvement for that group (Ponte,

2013). Summative assessments have a stronger weight within the institutional administrative ranks and accreditation bodies (Ponte, 2013). With all assessment practices, collaboration is key to keep all constituents involved, engaged, and content (Lock & Johnson, 2015).

Foundational Theories

Two foundational theories contributing to the construct of the conceptual model are self-efficacy and expectancy theory. Self-efficacy focuses on an individual's confidence and ability to achieve a goal (Horvitz et al., 2015). Expectancy theory refers to actions one takes based on the expected result (Judson et al., 2017). An expectancy construct also involves envisioning the completed learning environment (Judson et al., 2017). Though the two theories are closely related, there are key differences that relate to the conceptual framework resulting in online program rigor.

Self-efficacy draws from the intrapersonal desires of the person to complete self-motivated goals (Morris et al., 2017). The self-efficacy of staff is related to job satisfaction, level of stress, and overall effectiveness (Klassen & Tze, 2014). Expectancy theory focuses on the motivation an individual desires in order to achieve a goal (Judson et al., 2017). Motivation in expectancy theory to achieve a goal can come from external factors (Estes & Polnick, 2012). There is a strong relationship between the attitudes of faculty and student success within the expectancy construct (Judson et al., 2017). Expectancy theory is based on rewards and outcomes from a top-down hierarchy, not necessarily from a self-motivated self-efficacy standpoint (Vito, Brown, Bannister, Cianci, & Mujtaba, 2018). Judson and colleagues (2017) assert expectancy theory may help formulate the perceptions of rigor for online education among other constituent

groups as well. By utilizing both self-efficacy and expectancy theories the attitudes and perception toward rigor of online learning, for faculty as well as external groups, will increase.

Summary

The development of distance education including online learning has been evolving from the times of early America and is changing rapidly. There are pressures from both internal and external constituents to guarantee the rigor of online education. To address concerns, institutions can use assessments of program and course development to improve the overall learning experience including rigor. Institutional leadership, faculty, and student involvement are crucial for the success of improving online education.

CHAPTER 3: METHODS

The purpose of this research was to predict how the characteristics of syllabi and faculty would relate to the entry-level online course design as measured by an assessment rubric. This study examined faculty characteristics including the number of online courses taught at the institution, faculty rank at an institution, and whether the faculty had taken the Online Teaching Fellow Training, (controlling for sex, academic college) and how each faculty member's courses related to passing an entry-level online course design assessment (pass, pass with concern, fail). Using a secondary dataset of one Midwestern University's online course design assessment process, this study explored faculty characteristics and how they related to outcomes of an entry-level online course design assessment.

This chapter describes the research methods used as they relate to the conceptual framework in Figure 1. Also, the variables are defined, along with details of the population, data collection, and data analysis procedures.

Using a secondary dataset of one Midwestern University online course design assessment, the researcher explored faculty and syllabi characteristics and how they relate to a course design assessment outcome to answer the following research question: To what extent do faculty and syllabi characteristics predict the entry-level online course design assessment outcome?

Research Design

This study was a non-experimental design. Krathwohl (2009) defines non-experimental as a comparison of variables that cannot be manipulated. Non-experimental research is ideal for research that wants to look at relationships between

variables occurring in real-life settings (Muijs, 2010). The study looked at the relationship occurring between the variables at a single point in time. The data came from the analysis of syllabi and faculty from the fall 2018 semesters. Furthermore, the research was predictive as the analysis examined how the independent variable predicted the outcome of the dependent variable. In this study, the researcher looked to predict how the characteristics of syllabi and faculty related to the entry-level online course design assessment.

Population

A Midwestern comprehensive teaching university, comprised of approximately 7,500 students and 1,200 total employees, was the focus of this study. The institution offers both online courses and programs, offering online coursework since 2007. In 2016, the institution added an Extended Learning division that facilitates the institution's online courses and programs. In 2018, the Extended Learning division established distance learning standards and expectations for online design and delivery, based on the Quality Matters certification process. The university's assessment criteria address the evaluation of online courses and consistency of course rigor. In the stepwise assessment process all aspects of an online courses are evaluated, to include syllabi creation through course delivery. Standards were implemented in a 5-level tiered structure of increasing standards for course design and delivery. The 5 levels started at the entry-level course design ending at a top level where the course meets all Quality Matters standards for course design.

For this study, syllabi for courses offered in the 2019 winter semester were compiled along with a list of faculty who taught the courses. A total of 100 syllabi

developed by 66 faculty for courses scheduled to be offered in Winter 2019 were

reviewed and scored for entry-level standards by faculty reviewers. This study utilized a

census population analyzing all the faculty and syllabi related to the online space and

time-frame that were available to the researcher at the time of the study.

Data Collection

The data collected for this study originated from secondary data sources and

collected through the institution. See Table 1 for the listing of data and source. The

institution in this research study has a decentralized data collection structure. Faculty,

syllabi, and assessment data are stored in the departments that facilitate each function.

The data was collected from the university's Institutional Research Department, the

Center for Teaching and Learning, and the Extended Learning Assessment Team. Data

requests were submitted through each department where the data is stored and transferred

via an external drive. All data that is analyzed in the SPSS Modeler was de-identified.

The Online Teaching Fellows training was collected from the Center for

Teaching. Data requests were submitted to the Director of The Center for Teaching and

Learning. The Center for Teaching and Learning collects the completion of the Online

Teaching Fellows training continually, starting from the program's inception in 2016.

The data was organized in a Microsoft Excel document. The Data was then re-coded to

the researcher's coding structure.

Data collected from the Institutional Research office consisted of faculty sex,

rank, number of online courses taught, and academic college. The researcher submitted

data requests through each department's online request form. Data provided by the

Institutional Research office was formatted in a Microsoft Excel file.

The researcher compiled the syllabi characteristics consisting of if the syllabus was developed pre or post Online Teaching Fellows Training, and if the course is writing intensive. The researcher reviewed each syllabus for writing intensive status and recorded this feature in a Microsoft Excel document. The researcher reviewed the syllabi for writing assignments that made up 20 percent or more of the total course grade and determined if the course was writing intensive. Syllabi were also compared to the faculty Online Teaching Fellow Training status to determine if the syllabus was developed pre or post faculty training.

The Extended Learning Assessment Team provided the dependent variable of the entry-level online course design assessment outcome. The development of the assessment rubric (see Appendix A) is based on Quality Matters design standards and the teaching requirements from the university's faculty union Master Agreement. The outcomes of the assessment rubric were stored on a secure drive in the Extended Learning Assessment Team office. The researcher requested the assessment data through the Vice President of Extended Learning and Community Engagement. The Assessment Team compiled the assessment outcomes in a Microsoft Excel file. The outcomes were converted from the previous coding system (color coded) to the researcher's numbered coding system.

Table 1

Data Sources

Variables	Source
Entry-Level Course Design Assessment	Extended Learning Assessment Team
Faculty characteristics	Institutional Research, The Center for Teaching and Learning
Syllabi characteristics	The Center for Teaching and Learning, Extended Learning Assessment Team, Researcher
Control variables	Institutional Research

Problems in Data Collection

The study includes data from 66 faculty and 100 syllabi, collected from the institution, for courses offered during the winter semester of 2019. The number of faculty and syllabi analyzed is limited to the number of faculty and departments that turned in syllabi for the entry-level online assessment process. There are a limited number of courses that were taught during the 2019 winter semester that could not be analyzed due to the assessment team not having all the syllabi at the time of the study. There were a total of 150 completely online courses taught by 95 faulty for the 2019 winter semester at the institution. In future semesters analysis of all courses taught will improve the study results.

Variables

The dependent variable referred to the outcome of the entry-level course design assessment rubric (see Appendix A). The outcome of the rubric is categorical with three outcomes pass, pass with concern, and fail. The independent variables were faculty and syllabi characteristics. The data analysis accounted for the control variables of sex, and academic college, see Table 2 for variable operationalization.

Table 2
Variable Operationalization

Variables	Operationalization
Dependent variable	
Entry-Level Course Design Assessment	Categorical variable (Pass =1, Pass – with concern = 2, Fail = 3)
Independent variables	
Syllabi characteristics	
Course is post-Online Teaching Fellow training	Categorical variable (No =1, Yes = 2)
Writing intensive	Categorical variable (Yes = 1, No = 2)
Faculty characteristics	
Number of online courses taught at institution	Continuous variable
Faculty rank	Categorical variable (Professor = 1, Associate Professor = 2, Assistant Professor = 3, Instructor = 4)
Online Teaching Fellow Training	Categorical variable (None = 1, Session 1 = 2, Session 1& 2 = 3)
Control variables	
Sex	Categorical variable (Female = 1, Male = 2)
Academic college	Categorical variable (College of Arts and Sciences = 1, College of Business = 2, College of Health Science & Professional Studies = 3)

Dependent variable. The dependent variable reflected the outcome from the

entry-level course design assessment rubric (see Appendix A). There are three possible

outcome scores from the rubric, pass, pass with concern, and fail. Passing the assessment

meant that the syllabus met all features in the rubric. If the course syllabus passed with

concern, the syllabus still meet all the features in the rubric; however, the reviewers

determined that some of the design criteria were not clearly communicated or fully

developed, resulting in portions of the syllabus being underdeveloped or unclear. The last outcome of the assessment was that the syllabus failed. If a syllabus failed the assessment, the syllabus did not demonstrate one or more of design standards assessed by the rubric. Syllabi data was stored in the institutional database within the Extended Learning Assessment office.

Independent Variables. The independent variables were syllabi and faculty characteristics. Each variable characteristic was broken down and defined in the following sections.

Syllabi characteristics. The syllabi characteristics included whether the syllabus was written by a faculty who completed any session of the Online Teaching Fellows Training and if the course was an intensive writing course. Writing intensive was defined as a course in which writing assignments made up 20 percent or more of the course grade (McLeod, 2001). The syllabi characteristics were collected by the researcher from university secondary databases.

Faculty characteristics. The number of online courses taught are the total of online courses taught by the faculty over the previous 30 semesters from the Fall 2018 semester. The second faculty characteristic was faculty rank at the institution. Faculty rank is established by the faculty AAUP Master Agreement and the Academic Affairs Office. The third faculty characteristic was if the faculty member had completed the Online Teaching Fellows training. The training variable was categorized by whether the faculty had not taken any training, completed session one, or if the faculty had completed session 2.

Control variables. The control variables were sex and academic college. Academic college was defined as the academic college within the university that the faculty member is employed. The university has four colleges consisting of the College of Business, College of Health Sciences and Professional Studies, College of Arts and Sciences, and the College of Technology and Occupational Sciences.

Analytical Method

All the variables underwent a descriptive statistical analysis using SPSS. The descriptive analysis was performed with a single combined faculty and syllabi data file. A frequency analysis was performed on all categorical variable. Categorical variables included

- academic college (Table 3)
- sex (Table 4)
- Teaching Fellows training (Table 5)
- writing intensive (Table 6)
- faculty rank (Table 7)
- whether or not faculty have taken the Online Teaching Fellows training indicating session 1 or 2, (Table 8)
- whether or not a syllabus was developed by a faculty member who took an Online
- course design assessment (Table 12)

Descriptive analysis of the continuous variables consisted of minimum, maximum, mean, standard deviation, skewness, and kurtosis. The continuous variables include

- number of online courses taught (Table 10)

A decision tree is a way to recursively fragment variables into mutually exclusive subgroups, then splitting the variables until there are no more groupings that have a statistical significance (Agaoglu, 2016). A decision tree is a form of learning analytics, where the data relates course content to student learning (Avella, Kebritchi, Nunn, & Kanai, 2016). Universities collect an enormous amount of data, and the decision tree is a way for an organization to use that data to predict future performance (Thakar, 2015). By using the decision tree higher education educators and administration can determine weaknesses in the learning process (Avella et al., 2016). The predictive analysis and visual representation of the decision tree are benefits that leadership can use in the formation of improvement plans.

Five categories of study are involved in the decision tree analysis are prediction, clustering, relationships, discovery, and separation of data (Avella et al., 2016). Predictive analytics is beneficial by revealing hidden relationships that are not obvious from descriptive analytics alone (Manohar, Gupta, Priyanka, & Uddin, 2016). By running a data tree analysis, the data is placed into clusters that form natural groupings to show relationships to the full data set (Avella et al., 2016). The discovery or formation of modeling in the decision tree is a way to discover hidden patterns in a given data set (Agaoglu, 2016). By visually separating of data into a branching representation of the predictive model, the decision tree is ideal for making a decisions based on data (Avella et al., 2016).

Benefits of analyzing educational data through the decision tree analysis include curriculum improvement, instructor performance, and the development of personalized learning (Avella et al., 2016). Research has observed significant relationships to specific

skillsets of faculty and their ability to produce quality in instruction (Thakar, 2015).

There are several challenges in using the decision tree analysis in the education sector.

These challenges include a lack of data governance, utilizing the correct data sets, and the

possibility of finding multiple truths (Manohar et al., 2016). To overcome the challenges

of data analysis, educational institutions should develop clear data standard and set

agreed upon outcomes to what extent the data analysis is used (Avella et al., 2016).

Methodology Limitations

One limitation of this research study was the self-efficacy of the faculty at the

institution. Klassen and Taze (2014) state that faculty self-efficacy is related to

educational effectiveness. The effectiveness of teaching is related to the faculty identity

and motivation to teach (Saroyan & Trigwell, 2015). If all faculty knew there are

resources available to help with course design, the assessment would show more positive

results. Future research should look at the self-efficacy and how it affects course design.

One other limitation to this research design is its relatability to other institutions

outside of a comprehensive Midwestern university. The culture and climate differences

between institutional levels can vary to extremes. Assessment is complex and not

universally applicable among the ranges of institutions (Lock & Johnson, 2015; Rhode et

al., 2017). This research could be expanded to other institutions ranging from smaller to

large, research to teaching, and non-profits to for-profits.

Ethical Issues

This research was submitted to the Institutional Review Board for an exempt

review since all data would be de-identified. See Appendix C for the Researcher and IRB

Chair communication and exempt approval. All data were stored in a secure drive with

password protection. It was crucial data not be compromised, as participant anonymity was the highest priority. Nevertheless, faculty names might be identified by connecting college, syllabi and semester the course was taught, even with no names associated with the course. All information was aggregated, and no individuals were named in the analysis.

From the above ethical issues, two paradigms governed this research, ethics of profession and ethics of critique. Strict professional guidelines govern the university and faculty. Ethics of critique is the need to deal with the hard questions and question the deeper issues in an organization (Shapiro & Stefkovich, 2016). The assessment outcomes challenged both the syllabi and faculty characteristics, questioning the status quo in assessment, and the research was asking difficult questions about the future of higher education.

Summary

This research design was looking at the relationship between faculty and syllabi characteristics from a Midwestern comprehensive teaching university and the relationship to an entry-level online course design assessment outcome. The data was collected from a secondary dataset of courses offered during the winter 2019 semester. There was a total of 100 syllabi reviewed from 66 faculty for this study. A decision tree analysis was used to explore the relationship between the faculty and syllabi characteristics and the entry-level online course design assessment outcome. The main benefit of the decision tree analysis was its ability to discover hidden patterns in data.

CHAPTER 4: RESULTS

The purpose of this research was to predict how the characteristics of syllabi and faculty would relate to the entry-level online course design as measured by an assessment rubric. This study examined faculty characteristics including the number of online courses taught at the institution, faculty rank at an institution, and whether the faculty had taken the Online Teaching Fellow Training, (controlling for sex, academic college) and how the variables related to passing an entry-level online course design assessment (pass, pass with concern, fail). Using a secondary dataset of one Midwestern University online course design assessment process, this study explored faculty characteristics and how those characteristics related to results of an entry-level online course design assessment.

The study included data from 100 syllabi taught by 66 faculty offered during the winter 2019 semester. The number of faculty and syllabi analyzed were limited to the number of faculty and departments that turned in syllabi for the Entry-Level Online Assessment Process. There were a limited number of courses taught during the 2019 winter semester that could not be analyzed due to the assessment team not having the syllabi. Chapter 4 includes the research question data collected and findings.

Research Question

To what extent do faculty and syllabi characteristics predict the entry-level online course design assessment outcome?

Findings

The tables in Appendix B breakdown the findings of this study. The data was presented in descriptive statistics for all the independent and dependent variables. A Decision Tree analysis represents the outcome of the predictive analysis.

For proper validation, the Decision Tree analysis needed normally distributed data. The data in two categories were binned into groups to normally distribute the variable. The Online Teaching Fellows training for faculty was binned from three levels to two (2 levels: no training = 0 and some training = 1). The number of online courses taught was binned into four quartiles, $1 = >= 1, < 9; 2 = >= 9, < 22; 3 = >= 22, < 55; 4 = >= 55, <= 87$.

Table 3 indicates that the majority of faculty at 48% come from the College of Health Science and Professional Studies. The remaining faculty resides in the College of Arts and Science at 31% and the College of Business at 13%. The sex of the populations is distributed relative evenly with 49% being female and 51% being male represented in Table 4.

Table 5 indicates that most of the syllabi were developed by non-Online Teaching Fellow trained faculty at 64%. Table 7 signifies that 66% of the syllabi are not writing intensive.

The largest faculty rank at 33% is at the Professor level, followed by Associate Processor at 28%, with Assistant Professor at 21% and Instructor at 18%. A majority of faculty have not completed the Online Teaching Fellows training at 64%. Faculty completing session 1 is 15% and faculty completing both training sessions is at 21%. For analyses, the Online Teachign Fellows faculty training was binned into two categories no training (64%) and some training (36%). The number of courses taught, represented in Table 10, was moderately skewed. A skewness of .62 indicated that the distribution was toward the lower numbers of course taught. By binning the courses taught, the distribution was evened out into quartiles, represented in Table 11.

The dependent variable in Table 12 indicates that approximately half of the

syllabi passed the assessment at 53%, where one third passed with concern at 35% and

the number of fails was at 12% of the total syllabi. The decision tree represented in

Figure 3, cascaded by the dominant category until there were no significant relationships

between the variables. In the predictive model, writing-intensive was the most dominant

variable with the highest outcomes in the not-writing intensive category and failing the

assessment was the highest predicted outcome at 42%. The next dominant variable was

faculty rank with 64% failing the assessment as the most predictive factor. Faculty rank

had two related variables connected to the final level. Faculty at the rank of Professor

related to the number of courses taught, and Associate Professor related to syllabi written

by faculty who had the Online Teaching Fellow training. The model predicts at a 76%

rate that if a not-writing intensive course taught by a faculty at the rank of Professor who

taught less than 55 courses would fail the assessment. However, if a not-writing intensive

course taught by a faculty at the rank of Professor who taught 55 or more courses the pass

rate would be 75%. The other highest reliability was found in the scenario of when a non-

writing intensive Associate Professor developed a syllabi after the Online Teaching

Fellow Training the assessment passing rate was 100%.

The SPSS Modeler software partitioned the data in half to analyze and to produce

a training data set to then create the most predictive model. Once a reliable model was

established the prediction and final decision tree was produced from the complete

original data set. The training data produced an accuracy result of 66% while the testing

data produced an accuracy of 69%. When the reliable model was executed with the

testing data, the SPSS Modeler replicated the data to create a balanced data set. For the

decision tree seen in Figure 3, the n's will not match the original data set due to the tree was built from the balanced data set to create reliable results. The rules for the decision tree wer as follows: (see Figure 3)

If writing intensive = yes (1), then most frequent outcome was pass (1).

If writing intensive = no (2), then most frequent outcome was fail (3).

If writing intensive = no (2) and faculty rank was professor (1), outcome = fail.

If writing intensive = no (2) and faculty rank was assoc prof (2), outcome = pass w/concern.

If writing intensive = no (2) and faculty rank was asst professor (3), outcome = pass.

If writing intensive = no (2) and faculty rank was instructor (4), outcome = fail.

If writing intensive = no (2) and faculty rank was professor (1) and courses taught were in bins 1 – 3 (< 55), then outcome = fail.

If writing intensive = no (2) and faculty rank was professor (1) and courses taught was bin 4 (55 or more), then outcome = pass.

If writing intensive = no (2) and faculty rank was assoc prof (2) and OTF syllabi training = yes (2), outcome = pass w/concern.

If writing intensive = no (2) and faculty rank was assoc prof (2) and OTF syllabi training = no (1), then, outcome = pass.

Assessment Rating

Node 0

Category	%	n
1.000	35.135	26
2.000	32.432	24
3.000	32.432	24
Total	100.000	74

Writing Intensive

— 2.000 → Node 1; 1.000 → Node 10

Node 1

Category	%	n
1.000	26.316	15
2.000	31.579	18
3.000	42.105	24
Total	77.027	57

Node 10

Category	%	n
1.000	64.706	11
2.000	35.294	6
3.000	0.000	0
Total	22.973	17

Faculty Rank

— 1.000 → Node 2; 2.000 → Node 5; 3.000 → Node 8; 4.000 → Node 9

Node 2

Category	%	n
1.000	20.000	5
2.000	16.000	4
3.000	64.000	16
Total	33.784	25

Node 5

Category	%	n
1.000	33.333	4
2.000	50.000	6
3.000	16.667	2
Total	16.216	12

Node 8

Category	%	n
1.000	50.000	4
2.000	50.000	4
3.000	0.000	0
Total	10.811	8

Node 9

Category	%	n
1.000	16.667	2
2.000	33.333	4
3.000	50.000	6
Total	16.216	12

Coures Taught_TILE4

— 1.000; 2.000; 3.000 → Node 3; 4.000 → Node 4

Node 3

Category	%	n
1.000	9.524	2
2.000	14.286	3
3.000	76.190	16
Total	28.378	21

Node 4

Category	%	n
1.000	75.000	3
2.000	25.000	1
3.000	0.000	0
Total	5.405	4

OTF Syllabi

— 2.000 → Node 6; 1.000 → Node 7

Node 6

Category	%	n
1.000	11.111	1
2.000	66.667	6
3.000	22.222	2
Total	12.162	9

Node 7

Category	%	n
1.000	100.000	3
2.000	0.000	0
3.000	0.000	0
Total	4.054	3

Figure 3. Visualization of the decision tree analysis.

Summary

This chapter was an overview of the analysis process and results of the analysis procedure. The study included data from 100 syllabi taught by 66 faculty offered during the winter 2019 semester. In the data analysis descriptive statistics were described and a decision tree analysis was performed. This study looked at how the characteristics of syllabi and faculty would relate to the entry-level online course design as measured by assessment rubric.

The data in two areas were binned to for the decision tree analysis including the syllabi online teaching fellows training and number of online courses taught. The characteristic of Oline Teaching Fellows training was reduced to no-training or some training from the three original categories. The number of courses taught was binned into even quartiles as the distribution was moderately skewed.

The decision tree analysis displayed the variables in a branched hierarchy from the most significant, branching off the next less significant result. The outcome of the decision tree produced a visual representation of the independent variables and the percentages of possible outcomes related to the dependent variable of assessment outcome.

CHAPTER 5: DISCUSSION AND SUMMARY

The purpose of this research was to predict how the characteristics of syllabi and faculty will relate to the entry-level online course design as measured by assessment rubric. This study examined faculty characteristics including the number of online courses taught at the institution, faculty rank at an institution, and whether the faculty has taken the Online Teaching Fellow Training, (controlling for sex, academic college) and how they related to passing an entry-level online course design assessment (pass, pass with concern, fail). Using a secondary dataset of one Midwestern University online course design assessment process, this study explored faculty characteristics and how they related to an entry-level online course design assessment. This chapter will discuss the research findings along with any conclusions that can be made. There will also be a discussion on the limitations and recommendations for future research.

Summary

As online education grows the perception of rigor in online courses is not keeping pace both for internal and external constituents (Abamu, 2018). Educational institutions are responsible for maintenance and improving the rigor of the education received by students (Dimeo, 2017). One way for institutions to improve rigor is to assess course development and faculty ability to produce quality content. However, an assessment of the course training needs to be developed to ensure improvements are made in the appropriate manner (Dimeo, 2017). For the training to be successful, institutions need to develop programs tailored to the faculty and course characteristics that need the most help.

This study looked at a set of faculty and syllabi characteristics that could predict the outcome of an online entry-level course design assessment. By utilizing a decision tree analysis, the variables undergo a model discovery to produce a visualization of the outcome or decision tree. The decision tree aligns the most predictive independent variables to the outcome or dependent variable. By doing this type of analysis, institutions can develop training and supports for each outcome of the faculty and syllabi characteristic.

Conclusions

Although this study had a limited sample size there are a number of conclusions that can be drawn from the findings. From the decision tree analysis, two characteristics stood out for their reliability to relate to an online entry-level course design assessment, writing intensive and faculty rank. From the literature there is evidence that writing intensive coursework is transactional forcing the student and faculty to interact, increasing student learning (Bonet & Walters, 2016). If the course was not writing intensive, there is a probability that course syllabi would not pass the assessment. Further, if the course was not writing intensive and developed by a faculty at the rank of Professor, the course has the greatest chance of not passing the assessment. It should be noted that the Online Teaching Fellows Training for faculty did not have a significance in this particular model and was not predictive. However, the post Online Teaching Fellows Training for syllabi did show a significance with Associate Professors. The self-motivations of faculty at each level of faculty rank may play a role in the assessment outcome related to the expectancy theory (Vito et al., 2018). Faculty at either end of the

rank continuum have different motivations to improve courses and rigor affecting the course design assessment outcome (Judson et al., 2017).

Without inferring that all courses that were not writing intensive and taught by faculty at the rank of Professor would fail the online entry-level course design assessment, the Online Assessment team could pay particular attention to non-writing intensive taught by faculty at the rank of Professors' syllabi and less attention to courses that have a writing intensive component. Furthermore, since writing intensive fared well as indicating a passed assessment, training could be held for faculty on how to incorporate such practices in the course design. The Online Teaching Fellow Training it did have a significance to syllabi, but was not predictive for faculty in this model. One can infer the training is effective at some level to make online courses more rigorous. No matter how the follow up training is focused the motivations and self-efficacy of the faculty will need to play a role in the development of individualized training sessions (Judson et al., 2017)

Using predictive models such as the decision tree used in this study, institutions can review the characteristics of their faculty and syllabi and predict how well they would pass an entry-level course design assessment process. Once reliable characteristics are established and analyzed, institutions could focus on supports and resources to the profiles that need it the most to maintain rigor in the courses. Assessment teams can shift their focus away from those who are already at a passing level and focus on the areas that need the most resources and intervention.

Limitations

The first limitation to this study was that there is a limited number of participants represented by syllabi and faculty. With the limited sample size, the predictive model in the final rounds of categories had particularly small n sizes under 25. With small n's the prediction may not be relatable to other institutions or able to confidently predict the assessment at the study site.

The research designs relatability to other institutions outside of a comprehensive Midwestern university goes beyond sample size. The culture and climate differences between institutional levels can vary to extremes. Assessment is complex and not universally applicable among the ranges of institutions (Lock & Johnson, 2015; Rhode et al., 2017). With the limited number of available syllabi, a larger data set would be beneficial to make this research more robust.

An additional limitation is the degree of authority that the assessment process has over the faculty. Governance plays a large role in the assessment process within higher education institutions (Robinson, 2017). The primary governor of the academic programs is the faculty master agreement and the Office of Academic Affairs. For this research and the results herein would need to be accepted by not only by the assessment department, but also the faulty and chief academic officers.

Recommendations for Future Research

Further research including a broad range of faculty and syllabi characteristics within a larger data set would yield a more reliable result. By including a broad range of institutions, assessment procedures could be developed and adopted by a wider range of educational institutions looking to increase the rigor of their online education. Other

factors to include in future research are other constituents related to online learning. Constituents that could be included are students and administrators. Lastly, further research is recommended not only to look at the way assessment affects online education, but how increasing rigor to online education affects face-to-face courses from faculty who teach in both modalities.

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APPENDIX A: Entry-Level Online Course Design Assessment Rubric

NMU Global Campus

Checklist for Design Standards

Entry-Level Expectations		
Feature	**Met**	**Description**
Syllabus[1]		
Course Outcomes		The course learning objectives, outcomes, or course / program competencies are communicated to learners. (Scaffolds to QM 2.1)
Assessment of Student Learning (Assignments)		Assessment of learning supports course objectives/outcomes/competencies. (Scaffolds to QM 3.1)
Evaluation of Student Learning (Grading Policy)		A course grading policy is present/communicated to students with grading scale or weights. (Scaffolds to QM 3.2)
Instructional Materials		The instructional materials support the achievement of the stated course objectives/outcomes/competencies. (Scaffolds to QM 4.1)
Learning Activities		The learning activities promote the achievement of the stated course-level learning objectives or competencies. (Scaffolds to QM 5.1) Learning activities provide opportunities for interaction. (Scaffolds to QM 5.2)

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[1] **NOTE:** Syllabus should meet contractual (Master Agreement 6.2.1) and program expectations (e.g., course description; credit hours; required textbooks, etc.). The learning outcomes for the online course should be identical to outcomes in other formats (hybrid; on-campus…), if applicable.

APPENDIX B: Descriptive Statistics

Descriptive statistics for control variables

Table 3

Descriptive Statistics for College

	Frequency	Percent
1	31	31.0
2	13	13.0
3	56	56.0
Total	100	100.0

Note. College of Arts and Sciences = 1, College of Business = 2, College of Health Science & Professional Studies = 3

Table 4

Descriptive Statistics for Sex

	Frequency	Percent
1	49	49.0
2	51	51.0
Total	100	100.0

Note. Female = 1, Male = 2

Descriptive statistics for syllabi variables.

Table 5

Descriptive Statistics for Online Teaching Fellows Syllabi

	Frequency	Percent
1	64	64.0
2	36	36.0
Total	100	100.0

Note. No =1, Yes = 2

Table 6

Descriptive Statistics for Writing Intensive

	Frequency	Percent
1	34	34.0
2	66	66.0
Total	100	100.0

Note. Yes = 1, No = 2

Descriptive statistics for faculty variables.

Table 7

Descriptive Statistics for Faculty Rank

	Frequency	Percent
1	33	33.0
2	28	28.0
3	21	21.0
4	18	18.0
Total	100	100.0

Note. Professor = 1, Associate Professor = 2, Assistant Professor = 3, Instructor = 4
Table 8

Descriptive Statistics for Online Teaching Fellows Faculty

	Frequency	Percent
1	64	64.0
2	15	15.0
3	21	21.0
Total	100	100.0

Note. None = 1, Session 1 = 2, Session 1& 2 = 3

Table 9

Descriptive Statistics for Online Teaching Fellow Binned

	Frequency	Percent
0	64	64.0
1	36	36.0
Total	100	100.0

Note. No Training = 0, Some Training = 1

Table 10

Descriptive Statistics for Courses Taught

N	Min	Max	Mean	Std. Deviation	Skewness	Kurtosis
100	1	87	33.64	28.62	0.62	-1.04

Table 11

Descriptive Statistics for Courses Taught Binned

	Frequency	Percent
1	23	23.0
2	27	27.0
3	24	24.0
4	26	26.0
Total	100	100.0

Note. 1: >= 1, < 9; 2: >= 9, < 22; 3: >= 22, < 55; 4: >= 55, <= 87

Descriptive statistics for the dependent variable.

Table 12

Descriptive Statistics for Assessment Rating

	Frequency	Percent
1	53	53.0
2	35	35.0
3	12	12.0
Total	100	100.0

Note. Pass =1, Pass – with concern = 2, Fail = 3

APPENDIX C: IRB Communication

Re: Ed.S. Thesis IRB
Brad Hamel <bhamel@nmu.edu>   Fri, Feb 22, 2019 at 7:43 PM
To: Derek Anderson <dereande@nmu.edu> Cc: "Dr. Christi Edge" <cedge@nmu.edu>

Thank you, Dr. Anderson.

On Fri, Feb 22, 2019 at 4:24 PM
Derek Anderson <dereande@nmu.edu> wrote:

Hi Brad,

Based on what we've discussed and what you've reiterated in this email, you
will not need IRB approval for your project.

Best,

Derek

On Fri, Feb 22, 2019 at 10:27 AM
Brad Hamel <bhamel@nmu.edu> wrote:

Hello, Dr. Anderson.

I am writing to get your feedback as the IRB chair. I will be conducting
research for my Ed.S. thesis and collecting data on NMU faculty. The
research is connecting faculty and syllabi characteristics to the online
program assessment program.

The data is secondary data collected from NMU Institutional Research,
Extended Learning and the CTL. All data will be analyzed de-identified
through SPSS. No identifiers will be analyzed or reported in the final thesis
paper.

As previously mentioned, you felt this research will not need IRB approval.

Thank you for your help.
Brad