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Factors That Influenced Post-Secondary Faculty Members' use of a D2L Learning Management System

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Walden University
2022

Abstract

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by

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MA, University of the West Indies, 2007

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Project Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

In 2019, the college administrators at a large 2-year college located in Canada implemented a Learning Management System (LMS) policy for all instructors. The goal of the LMS policy was for faculty members to demonstrate committed professionalism and high degree of competence in teaching. The problem was that instructors underutilized the LMS to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning. In this study, the factors that influenced instructors' use of the LMS in accordance with the LMS usage policy were explored. The expanded technology acceptance model grounded this study. The research questions were designed to explore how faculty members from the School of Business perceived that the system quality, their self-efficacy and facilitating conditions influenced their use of the LMS in accordance with the LMS policy. A basic qualitative study was conducted, and 11 faculty members employed by the School of Business were interviewed. Data were analyzed using open coding followed by axial coding. The results revealed that participants perceived system quality, self-efficacy and facilitating conditions influenced their use of the LMS in accordance with the LMS policy. The study findings led to the development of a policy paper for administrators at the School of Business that made recommendations regarding interventions to improve faculty member professional practices and the overall student experience. Positive social change could result from the administrators using these recommendations to provide interventions that will improve instructor use of the LMS to provide learning opportunities so that students will become successful learners.

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Dedication

This work is dedicated to my two sons Josh-Juan age 11 and Josh-Shaun age 9. When I started this journey, I thought I would complete this study before you entered elementary school so I could provide you with all the support you needed to remain high achievers. However, it took me longer than I thought so that expectation I had to support you during your early years in elementary school was not met. I sacrificed a lot of time to this study that I should spend with you. There were many times when I felt guilty because I could not spend all the time you wanted, with you. In spite of, you both did well in your early years of elementary school. Whenever I felt like giving up, I continued because I saw you at the finishing line cheering me along. There was a time in this journey when I felt it was impossible to complete this study, so I decided to quit. Josh-Juan, you looked at me and asked, “mommy you are quitting!” I knew then that I must complete this study to be a positive example for my sons. It was at this moment I sought divine intervention from God and he came through for me. The Lord said in Isaiah 43 verse 2, “When thou pass through the waters, I will be with you; and through the rivers, they shall not overflow you. When thou walk through the fire, you shalt not be burned; nor shall the flame scorch you”.

Acknowledgments

I expressed sincere gratitude to my doctoral chair, Dr Salina Shrofel for your guidance and support through this journey. I would like to say thank you to Dr Howard Moskowitz another member of my research committee and Dr. Nicolae Nistor my University Research Reviewer for your valuable comment. Thanks to my husband Patrick Kelly, my greatest cheer leader. Thanks to all my family members and friends who stayed with me through this journey. Even though I was always busy for you, you never walked away. You stayed with me and encouraged me because you believed in me that this journey will come to an end.

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Section 1: The Problem

The Local Problem

The problem that I addressed in this study was that instructors at the School of Business at a large 2-year college located in Canada underutilized the LMS to provide feedback to students, to make course content available in a variety of accessible formats to students, and to promote student engagement in learning. According to the instructors' virtual faculty meetings in 2020, over 50% of instructors were using the entire 3 hours allotted for a course class session to lecture in an online environment Many instructors provided course content only through synchronous lectures using Microsoft Blackboard or PowerPoint to provide notes to students. In 2019, the college administrators at this large two-year college located in Canada implemented a LMS policy for all instructors. The college administrators mandated that all faculty members were required to (a) use the facilities of the learning management systems (LMS) to support teaching and learning at the college, and (b) expand their use of the LMS beyond the basic requirements by developing their expertise in using the LMS functionality to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning. According to the study college LMS policy and procedure, the goal of the LMS implementation policy at the School of Business is to be in line with the college mission statement that states that faculty members demonstrate committed professionalism and high degree of competence in teaching. According to the college LMS policy and procedure, administrators expect that instructors will use the LMS to provide an organized, consistent, and timely course-related communication

between the instructors and their students to assist with course administration while supporting student engagement, increase flexible learning opportunities, enable quality learning experiences and provide increased options for supporting student's engagement.

Research shows that faculty members in higher education tend to underutilize the learning management system for teaching and learning (Washington, 2019). Salisbury (2018) found that many instructors failed to use the blackboard LMS as part of their pedagogical practices and wanted to apply their face-to-face pedagogical practices and theories in Blackboard LMS. Some instructors refused to abandon their face-to-face classroom practices such as assessments and content delivery because they favored those teaching practices or were unaware of the distinctive features of the LMS and did not know how to adapt their practices to meet the needs of this new space (Salisbury, 2018). Sinclair and Aho (2018) found that there was insufficient use of LMS for pedagogy practice by most of the teaching staff in two post-secondary institutions, because they were afraid to use the technology and had anxiety related to its adoption. Results showed that faculty members used blackboard LMS tools mostly to substitute their old ways of doing things and there was limited use of the LMS for pedagogy practices such as collaboration and students' engagement (Nkonki & Ntlabathi, 2016). Walker et al. (2016) found that some faculty members demonstrated negative attitudes towards the use of most LMS features because they found the LMS tools cumbersome, hard to use, and in need of improvement. In order for instructors from the School of Business to receive the necessary interventions to expand their use of the LMS to provide feedback to students, make course content available in a variety of accessible formats to students, and promote

student engagement in learning as mandated, administrators needed to know the external factors that influenced instructors' technology acceptance to use the LMS. The gap in practice that I addressed is that the college administration did not know enough about instructors' use of the LMS to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning. In order to provide interventions to faculty to use the LMS as outlined in the college policy, administrators needed to understand the factors that influenced instructors use of the LMS in accordance to the policy.

Rationale

Neither the college nor the School of Business administrators had conducted research that could be used to understand factors that influenced faculty members to use the LMS to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning. Evidence that there was an underutilization of the LMS in accordance to the LMS usage policy among faculty from the School of Business was supported by a senior administrator from the School of Business who is responsible to ensure that all faculty members are using the LMS according to the college policy. The senior administrator estimated, based on observation and feedback from instructors, that only 20 to 25% of faculty members used the LMS in their classes to support or enhance student learning and engagement as outlined in the college policy. Evidence that the problem existed also arose in a virtual faculty meeting that was held in 2020 to discuss online teaching practices during the COVID-19 pandemic. At this meeting, faculty members described and discussed the

challenges they were experiencing teaching their face-to-face courses in a virtual format. For example, faculty members described difficulties engaging students in the classroom activities such as in whole class discussions and small group activities. Research has shown that faculty use of the LMS is affected by system quality, perceived self-efficacy, and facilitating conditions (Fathema et al., 2015; Fearnley & Amora, 2020; Rucker & Downey, 2016; Salajan et al., 2015; Zheng et al., 2018). These studies indicated that faculty members placed emphasis on quality issues such as functions, contents, navigation speed, and interaction capability of the LMS to determine their actual use of the system (Fathema et al., 2015). Varnell (2016) found that faculty members perceived the features of the LMS difficult to use and time consuming. Salajan et al. (2015) found that perceived self-efficacy was one of the most important factors that influenced instructors' use of the learning management system. Rucker and Downey (2016) found that system quality influenced faculty use of the LMS. When faculty members perceive that the LMS is complicated, they avoid using the features of that system. However, when they found the tools easy to use, they adopted the technology to enhance their teaching practices. Cantabella et al. (2018) found that when an organization supported faculty in both technical and self-efficacy areas, faculty use of LMS increased. Washington (2019) found that instructors applied the knowledge received from attending professional development training, a facilitating condition, directly to their use of the LMS.

Administrators from the study college, including the senior administrator of the School of Business, stated that they would benefit from knowing the factors that

influenced instructor use of the LMS in accordance with the LMS usage policy and procedures established by the college. The administrators stated that such knowledge would be useful when developing intervention where needed to support faculty use of the LMS whether they are teaching on-line or in person.

The purpose of this study was to explore factors that influenced instructors use of the LMS in accordance with the LMS usage policy to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning. My goal was to gain information for administrators from the School of Business so that they could develop the necessary interventions to improve the faculty professional practices and the overall student experience. To achieve this purpose, I conducted a basic qualitative study as described by Merriam & Tisdell (2016) and interviewed 11 faculty members selected from a population of 223 full-time and part-time faculty members employed by the School of Business.

Definition of Terms

Asynchronous learning: Asynchronous learning refers to situations where students are not required to meet in real-time virtual space, can complete leaning task from convenient locations and are not restricted by required meeting times (Parish, et. al, 2021).

Facilitating conditions: Facilitating conditions in this study refers to the availability of the related resources such as technical help, internet infrastructure, hardware, software, training, and online help to work with the LMS (Fathema et al., 2015).

Learning management system (LMS): The learning management system (LMS) is a critical technology platform for teaching and learning beyond the physical classroom in post-secondary institutions (Rhode et al., 2017; Washington, 2019). The LMS is a suite of integrated tools used in postsecondary institutions to enable online delivery of instructional content, interaction and collaboration between teachers and students, tracking and reporting of student participation, course management, and students' assessment (Rhode et al., 2017; Washington, 2019).

Perceived self-efficacy: Perceived self-efficacy in this study refers to faculty member's judgement or confidence he/she has in his/her own capability to operate, navigate, or work with the LMS (Fathema et al., 2015).

Synchronous learning: Synchronous learning refers to situations where students interact in virtual classroom spaces during a set class time (Parish et. al, 2021).

System quality: System quality is defined as the quality related to the functions, speed, features, contents and the interaction capability of learning management systems (Fathema et al., 2015).

Significance of the Study

In this study, I explored faculty members' perceptions of external factors such as system quality, perceived self-efficacy, and facilitating conditions that influenced their use the LMS as required by the LMS usage policy at the School of Business at a 2-year College in Canada. The results of the study provided the local setting with information that could inform the development of policy and/or professional development interventions that take into consideration the factors that influence the School of Business

faculty members' use of the LMS as outlined in the LMS policy. The faculty members could indirectly benefit by receiving interventions that take into consideration the factors that influence their use of the LMS for teaching and learning as expected by the college. This project study may contribute to positive social change by providing college administrators with information about factors that influence faculty members from the School of Business experiences concerning the use of LMS for teaching practices as required and to expand their LMS use beyond the basic requirements as outlined in the college policy and procedures. The School of Business administration may use this information to provide interventions that will allow instructors to learn to use the LMS in their classrooms to provide learning opportunities so that students will become successful learners.

Research Questions

I addressed the following three research questions:

Research Question 1 (RQ1): How do faculty members from the School of Business perceive that the system quality influenced their use of the LMS in accordance to the LMS usage policy?

Research Question 2 (RQ2): How do faculty members from the School of Business perceive that their self-efficacy perceptions influenced their use of the LMS in accordance to the LMS usage policy?

Research Question 3 (RQ3): How do faculty members from the School of Business perceive that the facilitating conditions influenced their use of the LMS in accordance to the LMS usage policy?

Review of the Literature

Conceptual Framework

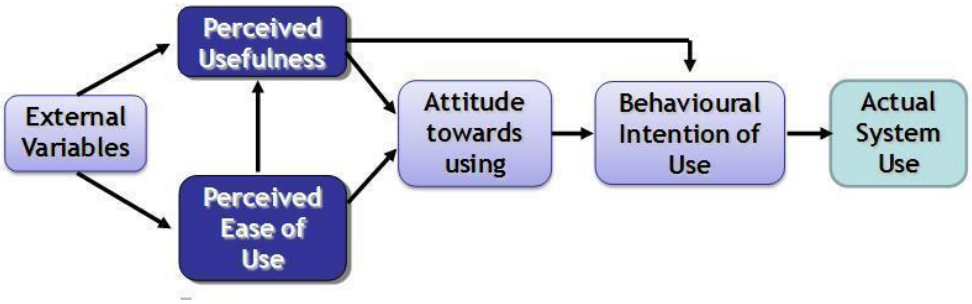
I used the expanded technology acceptance model (TAM) by Fathema et al. (2015) to ground this study. Fathema et al. (2015) found that three external factors—*system quality*, *perceived self-efficacy*, and *facilitating conditions*—were significant predictors of faculty, in higher education institutions, actual use of the LMSs. In the expanded TAM, system quality is defined as the quality related to the functions, speed, features, contents and the interaction capability of the LMS. System quality, an external factor, positively affects perceived usefulness of the LMS, faculty members' attitudes toward using LMS, and their perceived ease of use of LMS. While perceived ease of use affects perceived usefulness, perceived usefulness and perceived ease of use directly influenced instructors' attitudes toward using the LMS. Instructors' attitude and perceived use then influenced behavioral intensions to use the system which in turn influenced instructors actual use of the LMS. Perceived self-efficacy, another external factor that influenced instructors LMS usage, is defined as a faculty member's judgement or confidence he/she has in his/her own capability to operate, navigate, or work with the LMS. Faculty members perceived that self-efficacy positively affects their perceived ease of use and their perceptions of the usefulness of LMS. Perceived usefulness then directly affects instructors' attitude towards using the LMS and behavioral intentions to use the LMS while perceived ease of use directly affects attitude towards using (ATT) the LMS and ATT directly affects actual use of the LMS. Facilitating conditions, the third external factor that influences instructor LMS usage, refers to the availability of the related

resources such as technical help, internet infrastructure, hardware, software, training, and online help to work with the LMS. Facilitating conditions have a significant positive effect on faculty members' attitude (ATT) toward using LMS. ATT then had direct influence on behavioral intention to use which directly influenced instructors actual use of the LMS.

Figure 1 displays a model that summarizes how the three external factors, system quality, perceived self-efficacy, and facilitating conditions, predicted the original TAM factors such as instructors perceived usefulness, perceived ease of use, attitude toward using and behavioral intention to use which directly or indirectly influenced instructors actual use (AU) of the LMS. I used the conceptual framework to inform the research questions, the interview protocol, the data analysis, and the interpretation of the findings.

Figure 1

The Expanded TAM Structural Model Of The Relationships Between External and Internal Factors That Affect Faculty Actual Use of The LMS



Review of the Broader Problem

The use of the LMS in post-secondary institutions has been studied from several perspectives but the two major topics found in the literature were its implementation/utilization by post-secondary faculty and the factors that affect its implementation by this faculty. In this literature review I discuss three critical factors under the headings (a) research about perceived self-efficacy that influence instructor experiences concerning the use of the LMS for teaching and learning, (b) research about facilitating conditions that influence instructor experiences concerning the use of the LMS for teaching and learning, and (c) research about system quality that influence instructor experiences concerning the use of the LMS for teaching and learning. I also discuss the implementation of the LMS in post-secondary institutions under the headings (a) research about technology adoption by post-secondary faculty members**,** (b) research about instructor challenges and perceptions using the LMS for teaching and learning, (c) research about supports needed by instructors when implementing technology use for

teaching and learning, (d) and research about the effect of technology on teaching and learning in post-secondary institutions.

Search Terms and Practices Used to Locate Related Research

To develop this review of literature, I searched for and gathered scholarly and peer review articles from the following databases in Walden library: Education Source, ERIC, SAGE Journals, ScienceDirect, Academic Search Complete, and Thoreau Multi-Database. I also searched Google Scholar. I used several key search terms to locate peer reviewed journal articles and dissertations published within the last 5 years related to this study. These are *learning management system, educational technology acceptance, technology adoption, technology or learning management system use, higher education or college or university, educators or instructors or faculty use of LMS, Desire2Learn OR Moodle OR Canvas OR Blackboard, faculty or instructor or professor communication with students, how faculty value and use an LMS in teaching and learning, technological issues faculty members encountered while using LMS, college students or university students or undergraduates, lecturers or professors or instructors or faculty, college or university or undergraduate, and Blackboard Learn.* I also used the reference lists of the articles I found in the literature to locate additional peer review articles. I concluded this research when the search terms yielded no new relevant articles or dissertations published within the last 5 years (2016 through 2021).

Research About Perceived Self-Efficacy as a Factor That Influenced Instructors' Experiences Concerning the use of the LMS for Teaching and Learning

Self-efficacy is the belief of an instructor in their ability to use LMS for teaching effectively and achieving instructional goals in an online learning environment (Zheng et al., 2018). According to Scherer et al. (2018), self-efficacy in using technology is one of the core variables in TAM that represents either a possible barrier or enabler for technology use in education. Fearnley and Amora (2020) found that perceived self-efficacy has a strong and direct influence on perceived usefulness and perceived ease of use. Instructors with positive beliefs about their ability to use the learning management system will accept it as both useful and easy to use (Fearnley & Amora, 2020).

The Influence of Perceived Self-efficacy as an Instructor Factor on Instructors' use of the LMS

Instructors with high perceived self-efficacy to use the LMS were influenced to use the LMS for instruction. Salajan et al. (2015) explored instructors' perceptions and attitudes toward the utilization of LMS for instructional purposes and found perceived self-efficacy to use the LMS had a significant effect on faculty members' use of Blackboard LMS in their teaching practices. Salajan et al. (2015) found that instructors with high LMS self-efficacy tend to perceive the LMS tools as easy to use which motivated their use and increased their frequency of using the system. Fathema et al. (2015) found that instructors with higher self-efficacy used the LMS more than instructors with lower self-efficacy. Instructors who were confident in their ability to utilize the LMS perceived the LMS useful and easy to use (Fearnley & Amora, 2020).

Salisbury (2018) found that instructors who were not confident using the LMS tools did not utilize the use of the tool. The research showed that instructors with higher self-efficacy in utilizing the LMS were more likely to be motivated to use the LMS, found it easy to use the LMS and therefore used the LMS more frequent than faculty members with lower self-efficacy. Perceived self-efficacy increased instructors' confidence to recognize the benefits of using the LMS for teaching and learning. The faculty members who were more confident with operating basic LMS features and functions and utilizing online learning contents perceived LMS as a useful technology and experienced lower complexity when using it than the less confident instructors (Fathema et al., 2015). Radovan and Kristen (2017) found that instructors who were more confident of their knowledge of the LMS used the LMS more frequently for instructional practices than their counterparts. Zheng et al. (2018) argued that perceived self-efficacy motivated instructors to discover more instructional benefits of using the LMS. An increase in instructors perceived self-efficacy increased their confidence to use the LMS and their perceptions of benefits of the LMS than other factors such as technical support from LMS specialist (Zheng et al., 2018). Perceived self-efficacy is a significant instructor factor that increases instructors' confidence to use the LMS and their perceptions of the benefits for instructional practices.

Research About Facilitating Conditions That Influence Instructor Experiences Concerning the use of the LMS for Teaching and Learning

There are several facilitating conditions that influenced instructors' use of the LMS for effective teaching and learning. Scherer et al. (2018) found that facilitating

conditions were positively related to both perceived ease of use and perceived usefulness of the LMS with stronger effects on perceived ease of use. Scherer et al. (2018) mentioned that facilitating conditions are school resources used to support teachers to use technology for teaching and learning. Strawser et al. (2018) found that facilitating conditions such as technical and training support, incentives, orientation and workshops for instructors' use of a LMS influenced instructors' adoption of the LMS system in their teaching practices. Bervell and Arkorful (2020) found that there was a significant relationship between facilitating conditions and perceive ease of use to use the LMS technology. An increase in facilitating conditions such as technical support and internet resources increased educators frequent use of the learning management systems for teaching and learning (Bervell & Arkorful, 2020). Klein et al. (2019) found that facilitating conditions such as organizational technology resources, and leadership support of the LMS influenced instructors' adoption of LMS tools in the classroom. Faculty members expected additional support from organization leadership in cases where LMS implementation significantly impacted their workloads (Varnell, 2016). Bove and Conklin (2020) found that providing training support such as 24/7 LMS front desk access, group and one-to-one training, helped faculty members to use the LMS. When faculty members received support to develop their technical skills and self-efficacy to use the LMS, the use of LMS increased among faculty members (Zheng et al., 2018).

Professional development (PD), such as workshops and training, is a common facilitating condition that was used to influence instructors' use of the LMS in their teaching practices. PD designed to assist instructors' use of the LMS features influenced

instructors' use of the LMS in their teaching practices (Sanga, 2016). The level of satisfaction of professors enrolled in an e-lab PD on technical and pedagogical training was high. The professors were very satisfied with the PD because what they learned could be applied to their own teaching practices (Batista et al., 2017). A professional development designed for instructors to learn to use features of Blackboard LMS in their teaching practices influenced instructors' use of the Blackboard LMS (Washington, 2019). The instructors applied the knowledge received from attending the professional development training directly to their use of the Blackboard LMS (Washington, 2019). When instructors attended PD to learn how to use new LMS tools, there was an increase in the use of the LMS tools for instruction among instructors (Rucker & Downey, 2016). Zheng et al. (2018) found that PD motivated faculty members perceived self-efficacy and had an impact on their perceived benefits to use the LMS. A faculty PD to use the LMS threaded discussion forum, influenced instructors' use of the LMS (Zheng et al., 2018). The experience from the shared engagement between faculty members at the PD had improved faculty members' teaching skills to enhance students' learning outcomes within the online learning environment (Lewis & Ewing, 2016). PD for faculty to create modules within an LMS environment also influenced faculty use of the LMS for teaching (Mune et al., 2015). Scherer et al. (2018) found that perceived usefulness and perceived ease of use, significantly predicted behavioral intentions via attitudes toward technology and therefore proposed that teacher education and PD practices be used to strengthen perceived use and perceived ease of use. The research shows that PD can influence

instructors to increase their use of the LMS in teaching practices if they are satisfied with the knowledge received from the PD.

Research suggests that facilitating conditions should be critically addressed when implementing the use of the LMS in face-to-face classes and facilitating conditions have an influence on instructors use attitude which in turn strongly determines their intention to accept the LMS (see Bervell et al., 2020). Research findings show that administrators need to encourage faculty members to use the LMS for engaging students in online learning (Blakey & Major, 2019). Administrators need to encourage faculty members to use the LMS to facilitate student-led pedagogies such as cooperative learning, team-based learning, and problem-based learning (Blakey & Major, 2019). Faculty members need to be aware of variety of ways they can utilize the LMS to engage students in the pedagogy process. Mtebe and Raphael (2018) argued that instructors should be trained in pedagogical skills so that they can provide reliable, timely, and effective support services to learners who use e-learning systems. In addition, institutions should find mechanisms to incorporate pedagogical training as part of continuing professional development programs (Mtebe & Raphael, 2018). Vlachopoulos and Makri (2019) stated that professional development and training for educators are key requirements for engaging students in collaborative tasks. Alqahtan and Rajkhan (2020) perceived that educational institutional support is very important in the success of e-learning and a focus on providing students and instructors with more training to develop their skills in utilizing the use of the LMS would be wise.

Research About System Quality That Influence Instructor Experiences Concerning the use of the LMS for Teaching and Learning

System quality influenced instructors' use of LMS. Fearnley and Amora (2020) found that system quality directly affected instructors' perceived usefulness, perceived ease of use and behavioral intention to use the LMS. The results indicated that high system quality led to high perceived usefulness, perceived ease of use and behavioral intention to use the LMS (Fearnley & Amora, 2020). Scherer et al. (2018) found that perceived ease of use, significantly predicted behavioral intentions via attitudes toward technology. Fathema et al. (2015) found that instructors were satisfied with the functions, contents, navigation speed, and interaction capability of the new LMS quality. The instructors were more influenced to use the new LMS system because it was more stable; its interface was better than the previous LMS, and the system was easier to navigate (Rucker & Frass, 2017). Rienties et al. (2016) found that instructors' perceived ease of use was related to their intentions and actual behavior with the LMS and their perceived ease of use seemed to be related to how instructors engaged with the LMS. In addition, instructors' perceived ease of use of the LMS showed significant positive effect on instructors' perceived usefulness of the system (Salajan et al., 2015). Rucker and Downey (2016) found that system quality motivated faculty use of the LMS. For example, when faculty perceived the technology complicated, they avoided using the technology system but when faculty members found the technology easy to use, they quickly adopted the technology features to enhance their teaching practices.

System quality such as the LMS features affected instructors' use of the LMS for instructional practices. Rucker and Downey (2016) found that the LMS adoption rates among faculty members were not equal across disciplines and faculty members needed additional training and support to implement some features of the LMS tools in their teaching practices. Bove and Conklin (2019) found that there was a negative association with instructors' comfort levels and ease of use of the Blackboard LMS; the faculty members who were identified with LMS low comfort levels indicated that Blackboard LMS was difficult to use. Although **s**ome instructors were motivated to use Blackboard because they found the tools efficient and time-saving**,** other instructors never utilized many of the LMS tools (Bove & Conklin, 2019). The instructors who did not utilize the LMS tools explained that they felt limited in their capabilities to use the LMS tools and that they didn't always know how to apply specific LMS tools (Salisbury, 2018). The ease of use of the LMS tools, the interface, easy access, and availability of the technology tools were some of the system quality factors that affected instructors use of the LMS (Rucker & Frass, 2017; Washington, 2019).

Research About Technology Adoption by Post-Secondary Faculty Members

The learning management system has been adopted by postsecondary institutions as the technology platform for teaching and learning. Dreamson et al. (2018) discussed that LMSs have been adopted in higher learning to enhance the quality of teaching and learning (Dreamson et al., 2018). The adoption of a learning management system in post-secondary institutions continues to increase and faculty members in post-secondary institutions are expected to use LMS as their fundamental technology tool for instruction

(Mune et al., 2015). Mune et al. (2015) in their qualitative case study described how instructors used LMS to teach programs with an online component. The instructors used LMS primarily for the distribution of syllabi, course readings, assignments, quizzes, discussions, post lecture notes and recorded lectures (Mune et al., 2015). Rhode et al. (2017) found that the most frequent LMS features used by instructors were announcements, grades, items, folders, files, assignments, web links, plagiarism detection, discussion boards and tests.

LMS as a Platform to Deliver Course Content and Learning Materials for Student Learning

Research shows that LMSs are the primary technology resources. Salisbury (2018) and Wilcox et al. (2016) found that instructors used the LMS to create and house course content for students to access throughout the semester. Research shows that the LMS was used to upload learning resources for students to access the course content (Cantabella et al., 2018; Nkonki & Ntlabathi, 2016). Dreamson et al. (2018) found that instructors recorded the lectures and uploaded to the LMS for students to access. Machajewski et al. (2018) found that instructors used the LMS to provide course content items such as the syllabi for students to have an overview of the course structure and topics. Cantabella et al. (2018) found that instructors used the lesson builder template within the LMS to create and provide the course content for each unit for students use. The research shows that the LMS is a useful technology platform that instructors used to prepare and deliver the course content for students learning.

There are several techniques that instructors used to deliver course content and learning materials through the LMS. Swartz et al. (2016) discussed the procedures that faculty members had taken to deliver a business course through the learning management system. The instructors used blackboard LMS to provide an online component of the course content. The instructors provided an overview of the course through the LMS and the overview included a course content, a syllabus and help resources. The organization made it compulsory for the instructors to use the most effective and modern tools and technology to bring real-life legal issues and events to the students and enhance the course objectives; hence, to deliver the course content the instructors used PowerPoint slides with full transcript of the spoken lecture, selected videos, video recording, and webcasts as instructional materials to achieve the course learning objectives (Swartz et al., 2016). Washington (2019) found that instructors used LMS to post PowerPoint slides and supplemental materials related to the course content prior to class. To increase content learning instructors used LMS to engage students in online learning activities, to upload learning resources, lecture notes and reading materials (Tuapawa, 2017; Zanjani et al., 2016). Lowe et al. (2018) found that instructors used LMS to create a course, titled *Learning with Integrity*, for first year and transfer students to self-enroll and complete independently. The students were able to access the course content and learning materials through the LMS to successfully complete the course. Instructors used the LMS to prepare content knowledge for instruction, embed the course content, provide links to students, videos, and create teaching materials that were all related to the course content (Crittenden & Peterson, 2019). Sales and Moller (2015) examined faculty perceived

usefulness of Voice Thread as an instructional technology tool to assist with delivering course content. Voice thread is an instructional technology tool in the university LMS that has cloud-based multimedia application and enhanced content development in teaching and learning (Sales & Moller, 2015). The finding revealed that faculty used Voice Thread in their course introduction, to model learning or reinforced lectures, to provide students with materials that supplement their learning and to clarify course content (Sales & Moller, 2015). Rhode et al. (2017) found the instructors relied on other LMS tools to support instruction or content delivery and increase students learning. Instructors used tools such as PowerPoint slides, videos, webcasts, reading materials, links, lecture notes and voice thread to provide the course content through the LMS for students learning.

Instructors' use of the LMS for Administrative Tasks

Research shows that the LMS was used for administrative tasks such as to manage attendance, files, enrollment, and manage their calendar (Lee et al., 2016; Salisbury, 2018; Wilcox et al., 2016). Marks et al. (2016) found that LMS' functions known as Learning Analytics (LAs) have significantly helped educators with academic administrative tasks. The faculty members used LMS-LAs to grade assignments, ensure specific learning outcomes are achieved and analyze students' performance (Marks et al., 2016). Instructors used alerts and early warning systems, another LMS-LA tool, to compare students' course grades, and identify students who were at risk in order to provide them with the necessary guidance and support they needed to be successful in the course (Marks et al., 2016). Nkonki and Ntlabathi (2016) found the instructors used

blackboard mostly for management and efficiency rather than for convenience, engagement, development of students learning, collaboration, and personalization concerns. Nkonki and Ntlabathi (2016) found that instructors' use of blackboard was not for the transformation of teaching methods and learning tasks but to do administrative duties that works to their advantage. Instructors used the LMS for administrative duties such as (a) to access materials and communicate with students for clarity and effectiveness, (b) to complete assessment tasks that required minimal time and labor, (c) to economize on utilization of resources for example not having to print papers, (d) to manage the repository of materials and resources, (e) to query, (f) and to manage their submissions of completed tasks (Nkonki & Ntlabathi, 2016). The studies show that some instructors used LMS to complete the administrative aspects of their instructional practices because of its efficiency, convenience and management features.

Instructors' Adoption of the LMS for Collaboration and Communication

Several instructors used the LMS for collaboration and communication during the teaching and learning process. The LMS is used as the primary technology resource for collaboration among lecturers and students in higher education (Cantabella et al., 2018). Instructors used LMS communication tools to encourage students' active participation, provide additional information to students, and explain difficult concepts (Baldwin, 2019). Some instructors used the chat tool to provide immediate response to students' questions and the videoconference tool to welcome students to the course (Cantabella et al., 2018). Radovan and Kristen (2017) found that some instructors used the LMS communication tools to facilitate discussion, give instructions, and direct instructions.

Research found that the LMS communication tools were used to communicate with students, post announcements, host group discussions, and to deliver messages to students (Crittenden & Peterson, 2019; Dreamson et al., 2018; Wilcox et al., 2016). Some of the communication tools that instructors used to collaborate and communicate with students during the teaching and learning process were announcement, threaded discussion**,** messaging**,** chat communication, videoconference, email, Skype, Google Chat, and contact information (Baldwin, 2019; Cantabella et al., 2018; Salisbury, 2018; Swartz et al., 2016; Rucker & Downey, 2016; Tuapawa, 2017). Cantabella et al. (2018) however found that the communication tools that instructors selected and used were based on the instructors' teaching activities and preferences.

LMS communication tools were used to facilitate content learning through instructor-student interaction and student-student interaction. Cote and Milliner (2015) found that the faculty members who taught the university level English as a Lingua Franca (ELF) program used virtual interactions in the LMS to facilitate content learning in the program, engage the students in the course content, create an environment for communication among ELF students, promote students' confidence, encourage interactions between teachers and peers, and create more personalized learning activities for students. Drange and Kargaard (2017) found that instructors from a private post-secondary institution were provided with several communication tools in the LMS to support their students which provided a real classroom feel and led to an increased in student participation. PowerPoint slides and videos were used to stimulate communication for Threaded Discussions that had a high level of student-student and

student-instructor interaction (Swartz et al., 2016). Instructors allowed students to participate in discussion boards after they read the required materials from the PowerPoint slides and supplemental materials uploaded to the course content prior to class (Washington, 2019). Other communication and collaboration tools such as blogs, wikis, and journals were also used by faculty members to promote content learning (Salisbury, 2018). Baldwin (2019) found that the LMS was utilized to encourage student-instructor interaction, student-student interaction, and student-content interaction.

Instructors used video conferencing as a communication tool to facilitate learning. Video conferencing tools such as VoiceThread, FaceTime, Skype, and Google Chat were used to record video lectures and video introductions for each module within the LMS (Baldwin, 2019). The Voice Thread was also used for discussions, course announcements, individual or group project assignment presentations and as an orientation module instead of the discussion forum (Sales & Moller, 2015). The instructors used Voice Thread because they wanted to provide students with engaging learning experiences, promote interactions, have an instructors' presence in the course, strengthen an instructor-student relationship, allow students and instructor to interact in a more natural way, and allow the instructor to act more as a facilitator than the focal point in the lesson (Sales & Moller, 2015). The faculty reported that Voice Thread was a valuable learning tool for online teaching and learning as well as promoting classroom engagement and assisting students in their work (Sales & Moller, 2015).

The LMS was used as a communication tool to provide messages or information to students. Some instructors usually post an announcement or sent an email to students

as their means of providing information to students (Cantabella et al., 2018). Research shows that instructors used the announcement and email tools in Blackboard Learn for general welcome and class announcements related to upcoming assessments and in-class activities in their traditional face-to-face courses (see Washington, 2019). Dreamson et al. (2018) discussed that the academic staff's favorite part of Blackboard was the announcement's function, as they were able to email all students at once. However, only instructors with extended knowledge of Blackboard Learn were able to use the features and tools beyond communication for teaching and learning purposes (Washington, 2019). The email tool was used to communicate with students individually and the discussion tool was not only used for collaboration and interaction but to share information with students (Washington, 2019). Swartz et al. (2016) also found that instructors used email as a communication tool to welcome students to the class, provide some introductory instructions and encourage students to log in and participate in the course shell as soon as possible. The research shows that instructors who used the LMS are likely to use the communication tools to provide information to students.

Although some instructors found LMS effective for communication and collaboration, other instructors had challenges. Dreamson et al. (2018) found that some academic staff reported that they used Blackboard LMS as a one-way directional communication tool just to ensure that the right messages were delivered to students because students never usually read the learning materials and items uploaded in Blackboard. Ross et al. (2019) also discussed that instructors expressed frustration that students do not read the announcements. The students used alternate messaging apps to

communicate on their phones rather than the private group chat that instructors organized on the LMS for them to use to collaborate with each other (Ross et al, 2019). Results show that some instructors did not enjoy organizing groups for large class and the experiences provided for interactive communication, collaboration and community in Blackboard were inefficient for some students (Dreamson et al., 2018). Walker et al. (2016) however found that some instructors thought the LMS communication tools useful for online discussion, announcements and peer review. They were also able to use the LMS communication tools to provide opportunities for an instructor-learner engagement, to promote learning and enhance student motivation (Swartz et al., 2016). Even though several instructors found the LMS communication tools effective in their instructional practices some instructors encountered difficulties using these tools.

Technology Adoption by Post-Secondary Faculty Members for Assessment

Several post-secondary faculty members adopted the use of the LMS for assessment. Research shows that instructors used LMS assessment tools such as grade center columns, grade book and assignments (Cantabella et al., 2018; Lee et al., 2016; Machajewski et al., 2018). The assessment tools were used for grading, managing grades, creating assignments, tests, quizzes, and exams (Cantabella et al., 2018; Crittenden & Peterson, 2019; Lee et al., 2016; Lowe et al., 2018; Swartz et al., 2016; Tuapawa, 2017; Wilcox et al., 2016). Assignments were created in LMS to increase students' engagement and provide feedback to students (Swartz et al., 2016). The assignments were also submitted and evaluated through the LMS (Swartz et al., 2016). In addition to using the LMS for quiz and exams instructors also used assessment tools such as student-response-

systems, editing, peer review, and case analyses to assess and measure students' performance and to achieve an assurance of students' learning (Swartz et al., 2016). Instructors found the grade book and assessment tools useful for assignment submission, quizzes, tests, Turnitin, and to keep students informed of their performances (Walker et al., 2016). Although research did not provide specific details on how the assessment tools were used but only indicated that they were used (Machajewski et al., 2018), it showed that some instructors found the assessment tools useful to measure students' academic performances.

Research About Instructor Challenges and Perceptions of Utilizing the LMS for Teaching and Learning

Several instructors experienced challenges when using the LMS as the technology platform for teaching and learning. Lecturers used the LMS in different ways for different reasons to enhance purposes but not at an advance level that requires transformation of teaching and learning methods and tasks (Nkonki & Ntlabathi, 2016). Research shows that instructors found the LMS difficult to use, cumbersome, complex, and challenging to integrate in their teaching practices (Baldwin, 2019; Cantabella et al., 2018; Singh & Miah, 2019; Walker et al., 2016). Bervell et. al (2020) stated that instructors should be well-informed on the usefulness and performance of the LMS system and the features should be well demonstrated to them so they can utilize the system in a positive and effective way for students' success.

Instructors' Limited Skills and Unfamiliarity with LMS Tools Made Their use of the System Challenging

Instructors' unfamiliarity with the LMS tools made it difficult for them to implement the LMS in their teaching practices. Mune et al. (2015) discussed that faculty members experienced difficulties utilizing the LMS to deliver instructions to students because they did not have the extensive technology skills required and were unfamiliar with navigating through the LMS. Academic staff expressed that they were not comfortable with the advanced or unfamiliar functions in LMS and they were unable to use tools such as blog, study smart, and soapbox because they found these functions difficult (Dreamson et al., 2018). When an institution changed from one LMS to another or upgraded their existing LMS, the faculty members found adjusting to a new system of LMS interface difficult (Mune et al., 2015). Singh and Miah (2019) showed that instructors found it difficult to use the LMS tools due to lack of experience and knowledge of the system; most instructors had never seen or were not familiar with the LMS tools. Varnell (2016) argued that when there was an upgrade to the LMS, the faculty members needed training and additional support about how to utilize the LMS tools effectively in their courses. The LMS upgrade impacted the faculty pedagogical practices as they had challenges understanding the mechanics of the new LMS features (Varnell, 2016). Other instructors who used the LMS for their courses or course design were challenged by the unfamiliarity of the system (Godlewska et al., 2019). Zanjani et al. (2017) found that the level of instructors' knowledge and skills to perform the task,

and the level of complexity of the system design are factors that impacted instructors' use of the LMS.

Instructors lack of knowledge concerning the use of the LMS made it challenging for them to use the LMS for teaching and learning. Salisbury (2018) found that instructors did not use the LMS tools because they were not aware of all the specific tools that were available. The instructors stated that their inability to manipulate and customize the system's design caused them to use the system less (Salisbury, 2018). Salisbury (2018) further discussed that instructors were uncertain about how well their teaching philosophy/practices were being reflected in Blackboard. As a result of the instructors' limited knowledge and training in LMS they either refused or had minimal use of the LMS in their teaching practices (Salisbury, 2018). Salisbury (2018) found that instructors were often frustrated, hesitant and would more likely to reject the use of LMS tools than struggle to implement them without guidance or knowing what to do. Baldwin (2019) found that instructors found the use of LMS for instruction a challenge because they were never taught to use online instructional techniques for pedagogy and therefore used the LMS primarily for students' interaction and engagement.

Instructors' migrating from one LMS to another is a factor that made instructors' use of the LMS challenging. Rucker and Downey (2016) found that a main factor that affected faculty members' adaptation of teaching practices occurs when the institutions migrate from one LMS platform to another. During the transition to a new LMS system some instructors found it challenging because they did not have the skills to facilitate the change (Strawser et al., 2018). Educators were at different skill levels with their

competence to use LMS for pedagogy and had to receive support based on their individual needs (Strawser et al., 2018). In conclusion, LMS migration had contributed to instructors' limited skills and unfamiliarity with the system which made their use of the LMS challenging.

Instructors' Dissatisfaction of LMS Made Their use of LMS Challenging

There are several factors that made instructors dissatisfied when using the LMS for teaching and learning. Almarashdeh (2016) explained that if the LMS was not designed to meet the needs of instructors, it negatively affected their use of LMS for teaching and learning. Almarashdeh (2016) found that service quality, perceived usefulness, system quality and information quality had significant effect on instructors' satisfaction with the use of LMS. Hammond et al. (2018) found that 31.21% of faculty members responded that there was a need for improved functionality of the LMS to make their teaching more effective. The faculty members indicated that a faster and more efficient LMS functionality would allow them to dedicate more time to vastly improve the quality of their teaching activities (Hammond et al., 2018). Results show that in spite of the innovative communication tool there were limitations as the tools were not efficient to accommodate for the needs of teaching and learning (Drange & Kargaard, 2017). Some instructors' perceptions of Blackboard LMS was that its interface was not user friendly enough, their students were not able to make anonymous post, and there needed to be more control over the privacy settings (Zanjani et al., 2017). Zanjani et al. (2017) also found that instructors had issues with Blackboard discussion board, wiki, blog, and chat tools. The results showed that instructors' perceptions of the

communication tools were that they lacked functionalities and did not support easy content editing. In addition, while some instructors complained that there were too many tools in LMS, others complained that the tools were insufficient (Zanjani et al., 2017). Some faculty members who experienced Canvas LMS reported that Canvas was not user friendly, did not address the needs of users from novice to expert, did not allow for customization, did not work with their preferred browser, and did not offer an easy-to-use discussion board (Wilcox et al., 2016). Overall, the findings revealed that instructors wanted a simpler, more flexible, user friendly LMS environment with many features that do not confuse them (Zanjani et al., 2017).

Difficulties Instructors Face When Using the LMS

The complexity of the LMS tools made it difficult for instructors to use them in their teaching practices. Cantabella et al. (2018) found that instructors tended to use the LMS tools that they found less complex and more useful. For example, videoconference was used more frequently by instructors who found this tool less complex and more useful. Cantabella et al. (2018) found that instructors found the LMS test tools difficult, and were, therefore, not utilizing them as e-learning tools. Dreamson et al. (2018) found that setting up groups in the LMS for large class discussion was challenging for instructors because they had to search for the links and the interface was not visually pleasing, was boring, and unfriendly. Faculty members were frustrated when learning how to use the LMS for pedagogy because they found it difficult but stated that they did the best they could (Varnell, 2016).

Instructors' inability to manipulate the LMS features made it difficult for instructors to use the tools in their teaching practices. Annamala et al. (2021) found that there was a lack of communication between students and lecturers as lecturers were not effectively managing the LMS to provide appropriate course information to the students. Zanjani et al. (2017) found that instructors had problems using the Blackboard LMS for teaching and learning because they found it difficult to navigate and not well designed for discussion and collaboration activities. Zanjani et al. (2017) found that the instructors were aware that Blackboard had features that could set policies for assessment and presentations but did not utilize those functions because they were hidden and difficult to find. For example, to create math quizzes that require special mathematical symbols and to create test with multiple versions were long and complex procedures for instructors because they did not know where to find the functions. Sinclair and Aho (2018) found that there was insufficient use of LMS for pedagogy practice by most of the instructors at two European universities because they were afraid to use the technology tools and had anxiety related to its adoption. The results also revealed a state of inertia in the adoption of LMS among teaching staff with underlying causes that were not limited to technology but disruption of pedagogy and conceptions of teaching (Sinclair & Aho, 2018). When instructors are not able to employ the LMS functions to create the learning activities and assessments they need, it became difficult for instructors to implement the LMS in their instructional practices.

The use of a Canvas interface for technology integration during the teaching and learning process was difficult for instructors. Sanga (2016) analyzed issues instructors

experienced from Canvas interface as well as integrating other technological applications in Canvas. Instructors received four workshops that covered different aspects of Canvas LMS but still experienced contextual challenges while using Canvas (Sanga, 2016). The instructors had issues using the general Canvas interface and integrating various software applications in Canvas. Some of the issues they experienced using the general Canvas interface were managing course administration, creating and formatting quizzes, working with grade book, having discussions, taking attendance, and creating student groups (Sanga, 2016). The software applications that the instructors used in Canvas and encountered challenges with were panopto, voice thread, respondus lockdown browser, and Turnitin (Sanga, 2016). In an effort to deal with the difficulties they were experiencing with Canvas, the instructors consulted the teaching and learning coordinator to assist with their issues or made one-on-one appointments if they needed more specialized assistance (Sanga, 2016).

Some instructors found the LMS interface and navigation features challenging to use. Annamala et al. (2021) found that instructors had challenges using the LMS due to perceived resources not supporting the actual use. Technical difficulties such as technology glitches, poor internet connectivity due to high usage, lecturer's ineffective use of activity modules, and the platform's outdated features made instructors frustrated when using the LMS (Annamala et al., 2021). Annamala et al. (2021) stated that inconveniences with the LMS in accessing learning contents and lack of interactive learning activities were primary concerns among instructors and determined their perceived ease of use. Some LMS features such as the search functionality, mobile

notifications, real-time chat, video, asynchronous chat and mobile app were not commonly used by instructors because they were either not aware of the features or found them difficult to use (Ross et al., 2019). Instructors reported that some LMS features were cumbersome, hard to use, and needed improvement (Walker et al., 2016). Instructors also felt that the training information received was overloaded and suggested that it should be experiential rather than theoretical (Walker et al., 2016). Instructors believed there were too many tools and links in the LMS, the functions were hidden and difficult to find and it was challenging to create quizzes with special mathematical symbols (Zanjani et al., 2017). The research shows that instructors use of the LMS interface and functionalities can be a challenging experience.

Another difficulty that faculty members experienced with LMS was for students to easily access the courses on their devices. The instructors used their laptops to create courses for students to access; however, the students used their smart phone to access the LMS rather than a laptop which created a challenge for instructors because the interface, navigation, and features were not easily accessible on a mobile device (Wilcox et al., 2016). The course structure and learning modules could not be viewed on smartphones which prevented the students to access the course as the instructors intended for them to (Wilcox et al., 2016). In conclusion, students being unable to access the courses with their available devices can be a challenge for instructors' use of the LMS.

Instructors Found the LMS Time Consuming

The amount of time that instructors needed to successfully implement the LMS in teaching and learning was a challenge for several faculty members. To effectively

implement the LMS tools in their courses, instructors had to allocate significant amount of time learning and working in the new LMS and some faculty members had to work outside work hours to learn how to use the LMS with their courses (Varnell, 2016). Rucker and Frass (2017) found that faculty members did not make use of the training and instructional support that the university provided during a LMS transition because the support schedule was not flexible enough to accommodate faculty members' personal schedules. The faculty members, however, reached out to IT help desk for support because IT hours were more flexible and could assist faculty members with their immediate challenges. The instructors perceived that setting up groups for large discussions required additional hours which exceeded their workload as students expected instructors to be actively participating in the discussion forum (Dreamson et al., 2018). Godlewska et al. (2019) found that using the LMS instructors were challenged by the flow of emails from students, the large volume of evaluation, and the quick turnaround times for assignments because they were time consuming. Instructors avoided using the Blackboard LMS tools that would take a lot of time for them to learn and use (Salisbury, 2018). Instructors expressed that designing courses in LMS was frustrating, took their time away from their discipline, lesson classroom teaching, made faculty superfluous to the university, and forced them into pedagogical model they did not like or consented to use (Wilcox et al., 2016).

Insufficient LMS Support From Administrators

Several faculty members felt they needed more support from administrators concerning the use of LMS. Some faculty members reported that they did not feel

supported by the administrators in using the LMS while other faculty members indicated that they believed they got the help they asked for although it was their previous experience with Blackboard LMS that allowed them to figure things out without any assistant (Varnell, 2016). Faculty members indicated that they needed additional support such as a course release, compensation, professional development, and mentoring from administration to use the LMS as they found the implementation of LMS difficult and time consuming (Varnell, 2016). The institution provided PD which were not mandatory, for faculty members to attend, but some faculty stated that the PD did not help them (Varnell, 2016). Hammond et al. (2018) found that some instructors indicated that faculty support for the use of LMS was an issue and that they would prefer that more faculty collaboration opportunities be made available for faculty members. It appears from the research that LMS support from administrators is considered paramount and significant to some instructors.

Research About Supports Needed by Instructors When Implementing Technology Use for Teaching and Learning

Instructors require various types of support in order to implement the LMS in their courses. The orientation and available assistance faculty members received to use the LMS however did not seem to eradicate the difficulties but helped to alleviate the implementation challenges faculty members experienced with the LMS. Research found that LMS specialists, administrators, and PDs are some reasons that either supported or challenged instructors to implement the LMS in their instructions for students' learning (Cantabella et al., 2018; Lewis and Ewing, 2016; Mune et al., 2015; Strawser et al., 2018;

Batista et al., 2017). Research found that instructors need support from LMS specialist, administrators, and require professional development to assist with their use of the LMS to teach their courses (Cantabella et al., 2018; Lewis & Ewing, 2016; Mune et al., 2015; Strawser et al., 2018; Batista et al., 2017).

Instructors Benefit from Support From LMS Specialist

Research shows that LMS specialists provided support to instructors during an implementation process. Mune et al. (2015) found that the LMS specialist team at a university had conducted orientation with faulty members to use the LMS. The LMS specialist ensured that the faculty members could comfortably create the LMS modules for their courses, informed faculty members of the benefits of implementing LMS in their courses, provided faculty with the opportunity to give their feedback about the LMS implementation, ensured quality control of the LMS, and made sure that faculty members received support from their colleagues (Mune et al., 2015). In spite of all the support from the LMS specialist some faculty members reported that they had difficulties using the LMS because it was time consuming and used too much of their energy to implement in the courses (Mune et al., 2015). The educational technology specialist took the time to understand the specific needs for LMS implementation and build resources based on what each department needed (Strawser et al., 2018). The technology specialist gave faculty members sufficient time, incentives, and support to motivate them to use the LMS (Strawser et al., 2018). Faculty members were also given a voice to identify problems, made recommendations and were included in decision making of the LMS implementation (Strawser et al., 2018). The results showed that after faculty members

received support from the LMS specialist, a majority of the faculty members implemented the LMS in their teaching practices (Strawser et al., 2018). Although a few instructors may still have experienced some challenges with the LMS, the use of LMS specialists can contribute to instructors' use of the LMS for teaching and learning.

The PD Instructors Received Contributed to Their use of the LMS in Their Instructional Practices

Post-secondary institutions provided PD to instructors about how to use the LMS in their instructional practices. University instructors received faculty development on how to use asynchronous discussions to support students' achievement of the course learning outcome (Lewis & Ewing, 2016). During the PD training, the faculty members posted an initial response to a discussion question and then replied to at least one of their colleagues' initial responses. The aim of the PD was to allow faculty members to gain experience and demonstrate expertise using the LMS discussion tool as an instructional method for student learning outcomes achievement (Lewis & Ewing, 2016). Another university also provided asynchronous video tutorials of the PD that was covered at a previous LMS PD on how to use the LMS to further support faculty members (Rucker & Downey, 2016). At another PD the faculty members received one-on-one assistant to migrate course content from previous LMS to the new LMS (Rucker & Downey, 2016).

PD provided to instructors through LMS training contributed to their use of the LMS for teaching and learning. Washington (2019) found that all instructors who received PD that supported teaching and learning that informed practices specific to pedagogy in an online learning environment used the information learned from the PD to

implement Blackboard Learn into the teaching and learning processes. The primary focus of the PD was course design, course development, and course delivery (Washington, 2019). Washington (2019) also found that the instructors applied the knowledge received from attending the PD directly to the use of Blackboard Learn LMS for teaching and learning. Strawser et al. (2018) discussed the challenges faculty members experienced using LMS and how they were supported through PD to use the system. The results revealed that the institution had several PD sessions to support faculty members and staff with the implementation of the LMS (Strawser et al., 2018). The faculty members completed PDs on introduction to Moodle LMS, learned the basics such as grade book, basic course constructions, and basic Moodle tools (Strawser et al., 2018). LMS PD training contributed to several instructors' use of the LMS as they were able to apply the knowledge received to their instructional practices.

PD provided to instructors through workshops also contributed to their use of the LMS for teaching and learning. Batista et al. (2017) examined PD that the University of Lisbon offered to faculty members to expand their skills and encourage the adoption of online learning environments for teaching in face-to-face classes. Batista et al. (2017) explained that the PD focused on (a) the use of learning management systems as a support of students learning, (b) the pedagogical models for e-learning, (c) and the use of multimedia tools for developing digital educational resources. In the PD the professors used Moodle LMS Platform to design curricular units and create tests. During the PD the instructors also practiced e-learning pedagogy skills such online assessment, e-tutoring, and delivery of course content in an online environment (Batista et al., 2017). The

instructors also experienced the basics of photo editing and video production, as well as creating presentations with Prezi, web conference and virtual classrooms. The results showed that the professors were very satisfied with the PDs because what they learned could be applied to their own teaching practices (Batista et al., 2017). Batista et al. (2017) further discussed that PD opportunities with a purpose to promote the knowledge and skills instructors required for a successful integration of technologies for teaching practices within online environments produced a high level of satisfaction among the faculties who participated as there was an adequate balance between the technical and the pedagogical aspects of the PDs. Research shows that LMS migration is a common issue instructors experience in online learning environment; therefore, in an effort to address the issue of LMS migration universities had PDs for faculty members as the new LMS tool's interface was different from the previous (Rucker & Downey, 2016). The results show that except for SCORM and synchronous sessions there was an increase in the use of the LMS tools for instruction within the new online learning environment as a result of the workshop (Rucker & Downey, 2016).

Research About How the LMS Enhances Teaching and Learning in Post-Secondary Institutions

Research shows that the LMS is used as a fundamental asset in most post-secondary institutions (Cantabella et al., 2018). The LMS platform provides a flexible work tool to support academic processes such as resource management, collaborative learning and classroom activities, among others for face-to-face courses (Cantabella et

al., 2018). The LMS as a flexible work tool and influence was used to enhance teaching and learning.

The Flexibility and Convenience of the LMS for Teaching and Learning

The LMS can be used as a flexible system for instructional practices and student learning. Drange and Kargaard (2017) found that LMS provides a flexible teacher student interaction which is one of the key points in creating a positive learning environment for online education. During synchronous classes, the instructors can use the LMS to provide immediate assistance to their students and also respond to students' questions at any time (Drange & Kargaard, 2017). Results show that instructors preferred to use the announcement functions as a communication tool because of the flexibility to send message to all students at once (Dreamson et al., 2018). Instructors used multimodal approach such as email notification with colored text that highlighted all the key information that students need to know (Dreamson et al., 2018). Rather than providing students with multiple resources and information at different places, several instructors provided students with a one-stop-shop strategy in the form of a table with all learning resources, readings and activities they needed (Dreamson et al., 2018). Instructors used the LMS communication tools to keep students informed about the class, provide feedback on graded assignments, facilitate group and individual online activities, and provide in-class assignments (Washington, 2019). Asynchronous communication tools such as email, discussion boards, and announcements were found to be beneficial tools that allowed instructors to communicate with individual students as well as the entire class any time outside the face-to-face classroom environment (Washington, 2019).

Washington (2019) discussed that the use of LMS provided opportunities for instructors to facilitate a blended approach to learning that was flexible for students learning to happen even when students were outside the physical classroom environment. Faculty members can use the LMS in a meaningful way to adopt pedagogies that allow students to (a) connect their personal interests to course content as they are more likely to be interested in topics that involve them directly, (b) stimulate reality as students tend to be more engaged in activities that feel real to them, (c) create opportunity for authentic learning such as engaging in activities such as book reviews, digital storytelling, surveys, data analysis, or case studies that are ”contextualized” in real life, rather than “decontextualized” to the classroom, (d) implement activities such as short video lectures contrasted with active learning assignments, posting to a discussion board, uploading content to actively engage students in their learning, commenting on a content post, and (e) engage students in activities such as accessing information, sharing information, contributing information, creating information, and presenting information (Blakey and Major (2019). The flexibility of the LMS allowed it to serve as a connecting thread between instruction within the face-to-face class environment and instruction beyond the face-to-face classroom (Washington, 2019).

The variety of functionality tools in the LMS allowed instructors to provide students with a flexible learning experience. Zanjani et al. (2017) found that LMS functionalities such as easy navigation structure, easy editing functionality, the existence of notification and auto correction features, customizability, opportunities for students to post anonymously, and avoiding technology overload were instructors’ perceptions of

ease of use of the LMS. As a result of the course organizational structure, which provided consistent navigation, the students were able to find course materials, assignments, discussions boards, and assessments leading to an improved learning experience (Washington, 2019). The flexibility of students being able to complete and view assignments after submission, complete and view quiz after submission, participate and view discussions, and also view announcements helped to increase students' final grades (Lee et al., 2016).

Research shows that instructors found the use of the LMS convenient. Washington (2019) found that instructors found their experience using LMS to be convenient and to save time. For example, when students completed online quizzes and tests outside the face-to-face classroom environment instructors had more time for hands-on activities. In addition, instructors not having to collect assignment papers during class time, having all student assignments in one location, and being able to grade assignments within Blackboard Learn were convenient for instructors (Washington, 2019). Instructors were able to copy course content and course settings from one Blackboard Learn course to another (Washington, 2019). Instructors used the LMS as a repository for resources and materials and therefore expressed the conveniences of having all course resources in one location for students to access at any time (Washington, 2019). Instructors agreed that the convenient use of LMS to provide learning opportunities outside the face-to-face classroom were strategies to enhance and supplement face-to-face instruction (Washington, 2019).

Influence of the LMS to Enhance Teaching and Learning

The use of the LMS implementation in the classroom influenced other instructional practices for teaching and learning. Afify (2020) found that instructors used shorter (less than 6 minutes) learning videos through the LMS to provide course content to students as the shorter learning videos resulted into higher cognitive achievement compared to when students watched the longer learning videos above 6 minutes. The results further revealed that students' retention of learning is longer when instructors used shorter learning videos (Afify, 2020). The shorter learning videos maintained students' knowledge, concepts, and skills longer than the longer learning videos Afify, 2020). Washington (2019) argued that the use of technology in education will further enhance instructional methods such as blended learning approach, flipped classroom, and student-centered approach in traditional face-to-face courses. Instructors used the LMS to design learning modules that meet the needs of students at various skill levels (Mune et al., 2015). The modules contained resources for additional content and practice to increase student learning opportunities (Mune et al., 2015). Instructors' use of LMS improved instruction, course learning, teaching quality, and increased student engagement when used effectively (Walker et al., 2016). Washington (2019) found that instructors' use of LMS impacted their teaching and students' learning in the face-to-face environment through a shift from a teacher-centered to a student-centered approach. Although some instructors expressed that the LMS was restrictive to their teaching style they felt that the LMS was significant and influential to the teaching and learning process **(**Salisbury, 2018)**.** Some instructors, while confident Blackboard had not changed their teaching

practice, believed the system was influential to teaching and learning in higher education overall (Salisbury, 2018).

Findings reveal that the use of LMS by instructors teaching courses in higher education can support instructional techniques that promote learning. Lee et al. (2016) examined the relationship between student and instructor use of a learning management system and student learning outcomes, by examining the extent to which the use of LMS influenced students' final grades. The results revealed that the instructors who used a higher number of LMS features also had higher student grades (Lee et al., 2016). Zhen (2017) found that students achieved good results from online interactive teaching practices that gave them opportunities to independently explore, study, analyze and solve problems, as well as acquire knowledge throughout the learning process. The use of the LMS provided a rich context of students' interactions and how they relate to each other (Lee et al., 2016). Instructors used interactive LMS tools to encourage students' active participation in the course (Baldwin, 2019). Videos, discussion forums, and authentic assignments were used to increase interaction and engagement among students in an online learning environment (Baldwin, 2019). Results showed that faculty members rated the use of the LMS as the most important and competent technology for teaching and learning (Martin et al., 2020). Martin et al. (2020) found that instructors' perceptions of the LMS is that the collaboration tools, and audio-visual tools were necessary for successful online teaching and provided relative advantage, compatibility, and observability in the area of innovation diffusion. The LMS was used to promote students' engagement in learning, make learning materials available, for simple tests and quizzes as

well as a FAQ in the discussion board (Dreamson et al., 2018). Instructors' use of the LMS in higher learning for students' active engagement in learning appears to enhance instructional practices that promote students learning.

There are other uses of the LMS to enhance teaching and learning. Radovan and Kristen (2017) explained that the nature of LMS promotes a social platform for instructors to communicate with students and introduce lessons. Instructors used the social characteristics of LMS to facilitate discussions, and give instructions (Radovan & Kristen, 2017). Godlewska et al. (2019) found that the use of the LMS led instructors to collaborate with students to enhance their learning, and view teaching as learning on multiple levels in variety of ways and as a rewarding experience. The results also revealed that instructors' perception of LMS was that it promoted shorter lecture hours and allowed students to take care of their own learning with instructors playing a supporting role (Godlewska et al., 2019). Instructors expressed that LMS should be used to promote culturally inclusion education such as incorporating reading materials from different perspectives and providing additional reading materials for students from non-English speaking backgrounds (Dreamson et al., 2018). Shatri et al. (2021) found that educators perceived that the use of the LMS platform and online resources influence their lessons to become more attractive and inclusive for the students as well as easier for teaching. There is substantial research that supports the belief that instructors use of LMS promote classroom interaction, social presence, and creates course engagement (Baldwin, 2019).

Critical Summary of the Literature

The literature reviewed both qualitative and quantitative research studies about the adoption of the learning management system in postsecondary institutions within the United States, Europe, Africa and Canada. The literature reveals that the learning management system is the fundamental platform that is used in post-secondary institutions across the United States, Canada, Europe, and some parts of Africa for teaching and learning. While institutions expect the instructors to utilize the LMS for effective instructional practices and students learning there are several challenges that instructors have experienced when utilizing the LMS as required by the institutions. A few instructors will utilize the LMS because they have perceived self-efficacy in LMS, positive belief and attitude toward the LMS and found that the LMS works well with their preferred teaching practices. On the other hand, some instructors will experience difficulties with the navigation, interface and features of the LMS if they do not have the skills and knowledge to use the system. When there is an increase in the facilitating conditions to support faculty use of the LMS it usually results in instructors increased use of the LMS. In order to assist instructors to maximize their potential to utilize the LMS for effective instructional practices and student learning, post-secondary institutions need to provide the instructors with relevant support based on their individual needs. The instructors need continuous PD, one-on-one support from LMS specialist and IT personnel, time to interact and learn from their colleagues, and strong motivation from administration leadership to develop high LMS self-efficacy. In order to provide the ideal support to instructors, administrators need to be aware that instructors are at different

skill levels regarding their use of the LMS and require ample time to learn how to utilize the LMS for effective teaching and learning. If instructors are not comfortable using the LMS they will underutilize the use of the LMS for effective instructional teaching and learning required by their institution.

Implications

The results of my study led to the development of a policy paper for the study college administrators from the School of Business. I made recommendations based on my study findings that may lead to the development of interventions for instructors to learn how to use the LMS to (a) develop an organized, consistent and timely course-related communication between the instructors and their students, assist with course administration while supporting student engagement, (b) increase flexible learning opportunities, (c) enable quality learning experiences and (d) provide increased options for supporting student's engagement as outlined in the college policy and procedure. The recommendations were supported by current literature which reflected that similar practices have occurred in higher learning institution.

Summary

The purpose of this study was to provide in depth information to college administrators from the School of Business of factors that affected faculty use of the LMS in accordance with the policy established by the college. This study explored perceptions of faculty members employed by the School of Business to learn about their perceptions of system quality, self-efficacy and facilitating conditions as external factors that influenced their use of the LMS. To provide information on how faculty members

were influenced by system quality, perceived self-efficacy and facilitating conditions this study addressed how the external factors influenced faculty use of the LMS in accordance to the usage policy. In this section, I described the problem and purpose of the study, provided evidence that the problem existed at the local and national level, and reviewed professional and research literature related to the use of the learning management system in higher learning.

Section two includes a detailed discussion of the research methodology. I describe the justification for the research design, the participants, an explanation of the data collection procedures that were used, the process that were used to analyze the data, and a description of how I addressed ethical considerations.

Section 2: The Methodology

Research Design and Approach

According to Merriam and Tisdell (2016), a qualitative research design is used to explore how people interpret their experiences and what meaning they attribute to their experiences. My main focus of conducting qualitative research was to understand the phenomenon of interest from the participants' perspectives and not from the researcher's perspective (see Merriam and Tisdell, 2016). In this study I explored the perceptions of the School of Business faculty members to learn about system quality, perceived self-efficacy and facilitating conditions as external factors that affected their use of the LMS in their teaching as required by the college policy.

I chose a basic qualitative study because I collected data from only one source, a sample of faculty members from the School of Business at the study college, to learn about participants' use of the LMS (see Merriam & Tisdell, 2016). The gap in practice this study addresses was that the College administration did not know enough about instructors' use of the LMS to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning.

I conducted this study to learn how faculty members employed by the School of Business perceived that they were influenced by system quality, perceived self-efficacy, and facilitating conditions to use the LMS for teaching as required by the college policy. In this study I sought to understand how faculty members from the School of Business

perceived that system quality, self-efficacy and facilitating conditions influenced their use of the LMS in accordance to the LMS policy.

Selection of a Qualitative Research Approach

In a qualitative study, the researcher is interested in understanding the meaning a phenomenon has for those involved. The researcher seeks to understand how people make sense of their lives and their experiences (see Merriam & Tisdell, 2016). For my study I chose a basic qualitative approach because I was collecting data from only one source, a sample of faculty members from the School of Business at the study college.

In quantitative research the researcher asks specific, narrow questions and collects quantifiable data (Creswell, 2012). I considered a quantitative research design but rejected it because I did not intend to ask specific, narrow questions and collect quantifiable data. If I chose a quantitative design, I would not be able to collect broad, rich, thick data. I would not understand how faculty members perceived external factors such as system quality, self-efficacy and facilitating conditions influenced their use of the LMS to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning. Data with broad, rich, thick description was necessary for this study because I was able to collect adequate descriptions of the context for the readers to determine the extent to which their situations match the research context in order to determine whether the findings are transferrable to their context (see Merriam & Tisdell, 2016).

I considered other qualitative approaches such as phenomenology, ethnography, grounded theory, narrative, and case study and rejected them. They have additional

dimensions, beyond the characteristics of a basic qualitative research study, that are not the focus of this study (see Merriam & Tisdell, 2016).

Phenomenology

According to Merriam and Tisdell (2016), phenomenology is a study of people's conscious experience of their everyday life and social actions. Phenomenologists are interested in people's lived experiences (Lodico et al., 2010). Phenomenologists focus on the experience itself and how experiencing something is transformed into consciousness (see Merriam & Tisdell, 2016). I rejected this design because in this study I did not intend to study the lived experiences of the participants nor to focus on how their experiences transformed into consciousness.

Ethnography

According to Merriam and Tisdell (2016) an ethnographic study focuses on human society and culture. Culture is the fundamental defining characteristic of an ethnography study design and the product of an ethnographic inquiry is a rich description of a culture. An ethnography study explores the culture of a specific group of people in a defined cultural setting to understand the culture of the group (see Merriam & Tisdell, 2016). According to Merriam and Tisdell (2016), in an ethnographic study, the lens of culture must be the focus to understand the phenomenon. According to Creswell (2012), an ethnographic research study explores a shared culture of a group of individuals describing, analyzing, and interpreting the patterns of behavior, beliefs, and language that developed over time. I rejected this design because I did not intend to focus on the culture of the study college.

Grounded Theory

In a grounded theory study the researcher seeks to build a substantive theory about the `phenomenon of interest (see Merriam & Tisdell, 2016). According to Creswell (2012), a grounded theory study addresses common experiences of individuals to develop a theory. I rejected this study design because I did not to develop a theory about implementation of the LMS at the study college.

Qualitative Case Study

According to Merriam and Tisdell (2016), a case study is an in-depth description and analysis of a bounded system. The bounded system is a single entity or a unit such as single person who is a case example of some phenomenon, a program, a group, an institution, a community, or a specific policy, in which there are boundaries (see Merriam & Tisdell, 2016). A qualitative case study has more than one sources of data. I rejected this study design because in this study I collected data from only one source.

Narrative Inquiry Design

According to Merriam and Tisdell (2016), the main focus of a narrative analysis research design is the use of stories as data which includes the first-person accounts of experience told in a story form with a beginning, middle, and end. A narrative inquiry researcher uses the stories people tell and analyze them in various ways to understand the meaning of the experiences as revealed in the story. According to Creswell (2012), a narrative research design addresses individual stories to describe the lives of people. I rejected this design because I did not intend to do a study to analyze stories about individual lives.

To address the gap in practice and answer the research question, I used the basic qualitative approach design (see Merriam & Tisdell, 2016). The gap in practice I addresses in this qualitative study is that the college did not know enough about instructors' use of the LMS to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning. In conducting a basic qualitative study, I was able to collect data from one source, a sample of faculty members from the School of Business at the study college, to understand the meaning a phenomenon has for those individuals involved and how they made use of their experiences (see Merriam & Tisdell, 2016).

Participants

Lodico et al. (2010) stated that in a qualitative study the researcher selects a purposeful sampling strategy to select participants who are best able to provide the information that is essential for the study. I used purposeful sampling to select a sample of 11 faculty members from a population of 223 full-time and part-time faculty members who have been employed full-time or part-time by the School of Business and have been employed by the college for at least two years. The participants consisted of full-time and part-time faculty members who were employed by the School of Business. In order to have both groups adequately represented, I selected five full-time and six part-time faculty members to interview. The number of participants allowed me to conduct in-depth interviews and collected rich, thick, and detailed data.

Setting

The study site is a 2-year college which is located in eastern Canada within a multicultural urban environment. The college offers programs of study to both full time and part time students as well as certificate, diploma, bachelors' degree and graduate certificate programs. There are about 14,000 full-time students that includes approximately 2,000 international students from over 60 countries. There are approximately 400 full-time and 900 part-time faculty members. The college is composed of nine schools including the School of Business which is the largest school in the college. The School of Business has 54 full time and 169 part time faculty members and has been experiencing a large growth of student enrollment. The School of Business offers 36 programs of study which include accounting, business, management, artificial intelligence, cyber security, human resources and computer studies. When I collected the data, all participants had been teaching in an online learning environment for four semesters due to COVID-19. They were all using the LMS to provide course content to students, communicate with students, and provide assessments to students.

Access to Participants

According to Creswell (2012), the process of gaining access to participants and sites involves obtaining permissions at different levels. Lodico et al. (2010) stated that the selection of participants usually occurs in multiple stages. I took the following steps to gain access to participants:

1. I completed an internal researcher form for permission to conduct research at the study site. After obtaining approval I received a letter of permission to submit along with my application to the institutional research ethics board (REB).
2. I applied and received approval from Walden IRB to conduct my research study by following the application process required by the university.
3. After I received approval from Walden IRB, I applied to the research site institution REB for permission to collect data. I submitted to the institution REB a completed application form, the letter of approval from Walden IRB and the approved internal researcher form from the senior administrator from the School of Business.

Recruitment and Selection of Participants

After I received permission from the institution REB, I contacted the senior administrator from the School of Business who instructed his secretary to provide me with the list of email addresses of all the faculty members employed in the School of Business. In following the protocol of the college, the senior administrator forwarded the invitation letter to all faculty members, inviting them to volunteer in the research. Within three weeks after the senior administrator forwarded the letter, I had received 15 responses from both full-time and part-time faculty members indicating interest to participate in the study. I selected all of the full-time faculty and the first six of the nine part-time faculty members who indicated interest to participate in the research and sent an email to each, thanking them for indicating interest to participate in the research.

The email included the informed consent form to participate in the study. The informed consent form included explanations regarding (a) who was conducting the research, the purpose of the study, (b) why the participant was asked to participate, (c) background information of the study, the procedure of the study, (d) the protection of the participant privacy and confidentiality, (e) the risks and benefits of participating in the study, (f) information that participating in the study was voluntary, (g) information to participant to verify the accuracy of data after it is transcribed, (h) the researcher and the IRB contact information for questions or concerns regarding the study, (i) an explanation that a gift card in the amount of CAN$25.00 would be provided as a token of appreciation for participating in the study, and (j) a request for participants to reply with the words "I consent" to officially indicate they are consenting to participate in the study. I sent a thank you email to the participants who responded but were not selected.

Methods of Establishing a Researcher Participant Working Relationship

After I received the signed consent forms from the participants, I established a researcher participant working relationship. To do this, I conducted all procedures and communications with participants in a professional manner with a high level of respect, integrity and confidentiality. I (a) emailed each participant a letter of appreciation expressing my gratitude to the participant to accept the invitation to participate in the research, (b) assured each participant in each email that if at any time they wished not to continue with the interview, they could withdraw, (c) conveyed to participants information about all the components of the study, (d) discussed with participants the

risks and benefits of participating in the study (see Creswell, 2012; & Lodico et al., 2010).

I established a trusting researcher-participant working relationship at the interview by taking the following procedures. I demonstrated interest in participants' wellbeing by asking if they were feeling comfortable and if it was okay for me to now begin with the interview. I reminded participants of the purpose of the study and procedure of conducting the study. I reminded participants that their information would be kept in the strictest confidence and assigned each participant a pseudonym. I discussed with participants their rights as participants. I was an active listener and showed genuine interest in what the participants said or did. I demonstrated respect for participants' time by being punctual and completing the interview within the planned time. I also provided the participants with my Walden email address and personal phone number so that they could contact me at any time if they had any questions about the research process (see Creswell, 2012; & Lodico et al., 2010).

Ethical Protection of the Participants

I followed ethical protocols to ensure that the rights of and confidentiality of the participants were protected. First, I requested internal researcher institutional permission from the School of Business senior administrator, approval from the institution Research Ethics Board and Walden University's Institutional Review Board to conduct the study. Second, I obtained consent forms from the participants. Third, I informed the participants that they could remove themselves from the study at any time with no consequences. Fourth, I informed the participants of the risks and benefits of participating in the study

and that participation in this study would not pose risk to their safety or wellbeing. Finally, I protected the confidentiality of the participants and the data collected from the study by taking the following measures (a) replacing institution and participants' names with pseudonyms, (b) keeping data secured on a password-protected computer, (c) keeping data for a period of 5 years and then destroyed it (see Creswell, 2012; & Lodico et al., 2010).

Role of the Researcher

I am currently a doctoral student at Walden University pursuing an Ed.D. in education administration. I have 12 years of experience as a teacher and administrator at the elementary and high school level, and 9 years as a faculty member at the post-secondary level. I am currently a part-time faculty at the study college where I teach both in a face-to-face and online environment.

My role as the researcher in this study was to conduct a basic qualitative study with focus on faculty members' use of the LMS to provide feedback to students, make course content available in a variety of accessible formats to students and promote student engagement in learning. This study was conducted at a post-secondary institution, in the School of Business at the college where I am employed as a part-time faculty member. I do not have a supervisory role with the participants. My role as a researcher was to recruit participants, develop a researcher-participant relationship by providing clear open communication with participants about the research process including the interview and data analysis. I created the interview protocol, conducted the interviews,

and analyzed the data. The participants viewed me as a researcher and not as a faculty member.

Data Collection

After I received the consent email from the 11 participants who replied with the words “I consent” to officially indicate they were consenting to participate in the study, I contacted each participant through email to arrange for an interview. Due to COVID-19 protocols and restrictions participants were informed that the interview would be virtual. After the participants emailed me their available times, I sent each participant a virtual meeting link to join the interview. I used GoToMeeting as the virtual platform for the interview.

Each interview lasted for approximately an hour. I assigned each participant a pseudonym to protect their identity. Then, I conducted the interview using the interview protocol that I developed to guide the interview. The participants were asked in-depth open-ended questions to gain information regarding how they as faculty members perceived that system quality, self-efficacy and facilitating conditions influenced their use of the LMS to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning in accordance with the LMS policy.

During the interviews, I used the recording feature on GoToMeeting to record participant responses. For privacy and confidentiality of participants, I used a GoToMeeting account that is password protected to record the meeting and a computer that is password protected to save the recording. I used my research journal to write notes

and record observations of the interviews and any developing understanding I had. I also documented the thoughts and ideas I had during the research process about the data as they emerged.

Organizing and Managing the Data

At the end of each interview, I transcribed the responses from the recording into a Microsoft Word document that is password protected on my laptop for privacy and confidentiality. I transcribed the responses and I indicated the participant's pseudonym, the date and time of the interview, the number of years the participant was employed at the college, and the employment status (full-time or part-time) of the participant employment. After each interview was transcribed, I compared the transcription with the recording to ensure the transcription accurately reflected the recording. After I ensured that the transcripts accurately represented the recording, I conducted a transcript check. I send each participant a copy of his or her responses to the interview questions for them to check whether the transcript accurately reflected what they said during the interview.

After the transcript checking, minor corrections were made on Participants 1, 3, 5, 8 and 10 transcripts. The corrections were minor as I show here. For example, Participant 1 stated that he said, "I feel *confident* when I used the LMS and not *unconfident*. Participant 3 stated that he said, "I want to kind of *poll* the mood of the class" and not "I want to *pull* the mood of the class". It was recorded that Participant 5 stated,

> When I'm giving content, like information, I'm usually giving it either as a PowerPoint that's written, make like a little animation so they hear it, make a

> movie so they can pause it, and I record myself teaching or showing or demonstrating or doing something. That's how I deliver content.

After checking her transcript Participant 5 commented that what she stated above made her class sounded boring and lecture driven. Participant 5 added that during her class the students also explored the content they are learning through activities. For example, they participated in group activities prior to and after the lecture. Participant 5 also added that she engaged students in several activities that are applicable for a applied learning institute. Participant 5 stated she meant "respondus lockdown browser" and not "lockdown browser". For Participant 5 the term "college version of interactive activities" was changed to "LMS version of interactive activities". Participant 5 stated that "when students click on the link it will take them to *that web browser*". The term "that web browser" was replaced for "*the URL of that tool*". Participant 8 stated that she said "old calculator" and not "cool calculator". It was recorded that Participant 10 stated "…. engagement isn't necessarily what would be considered as *seller*". Participant 10 stated that the word was *stellar* and not *seller*. Participant 10 stated that she meant to say *video assignment* and not *video sound* as written in the transcription. For accuracy, I made all the necessary changes to the transcript and then proceeded to the data analysis.

Data Analysis

Data analysis is the process of making sense or meaning out of the data which involves consolidating, reducing and interpreting participant responses (see Merriam & Tisdell, 2016). After the transcript checking was completed, I followed six steps to analyze and interpret the data. I (a) organized the data into file folders by creating a

folder for each participant with their recording and transcription, (b) explored the data using the initial or first process of coding, (c) after the data was coded using the first process, I used the codes to develop a more general category of the data by identifying patterns and themes, (d) represented the findings through narratives and tables, (e) interpreted the meaning of the findings by reflecting on the results and on the literature that informed the findings and, (f) conducted strategies to validate the trustworthiness of the findings (see Creswell, 2012; Lodico et al., 2010).

Coding Procedures

According to Creswell (2012) coding is a qualitative research process where the researcher makes sense out of the data, divides the data into segments, labels the segments, examines codes for overlap and redundancy, and uses the codes to form themes. It involves the examination of the data to identify patterns, themes or categories that emerge from the data (Lodico et al., 2010). I used open coding in the first phase of coding for this study. During this first phase of coding, I identified broad categories and then sub categories that provided more details about each category of the phenomenon being studied.

I used axial coding in the second phase of coding for this study. I grouped the core categories and properties from the open coding to identify patterns and themes based on the phenomenon being studied (Merriam & Tisdell, 2016). I used a spreadsheet to assemble the information in a form that depicted related categories to the phenomenon. At this point I was able to arrive at themes from the related categories in the axial coding. These themes are the findings of this research study.

Accuracy and Credibility

According to Creswell (2012) accuracy and credibility of the findings is of upmost importance in qualitative research. To assure accuracy and credibility of the findings I used rich thick description and peer review.

Peer Review

According to Merriam and Tisdell (2016) a peer reviewer is a person who has discussions with the researcher regarding the process of the study, the emerging findings from the raw data, and the tentative interpretations of the findings. Lodico et al. (2010) stated that a peer reviewer process is a credibility tool used to reflect on the researcher's biases and assumptions and it is vitally important for a researcher to discuss their reflection with a peer reviewer especially one who is a member of the group being studied. In this study I used a former Walden student who had conducted qualitative research, as my peer reviewer to validate that the data analysis was accurate, authentic and transparent. My peer reviewer examined the raw data, reviewed the open and axial coding, examined the final themes, read my analysis and findings, asked me questions on the process of the study and provided me with feedback on the data. She agreed with the analysis and findings.

Rich, Thick Description

I used rich, thick description as another strategy to ensure reliability and validity. Rich, thick description is one of the strategies used to promote validity and reliability in qualitative research (Merriam & Tisdell, 2016). According to Merriam and Tisdell (2016), rich, thick description is the act of providing adequate descriptions of the context

which allows the readers to determine if the findings are suitable or transferrable to their research context. I provided thorough detailed descriptions of the context throughout the data analysis. When it was necessary, I provided the exact words that were stated by the participants. In cases where I summarized the data, I ensured that the main points were stated. I conveyed what I learned about the phenomenon by providing a detailed description of the setting, the participants involved in the study, and the findings. In the analysis, I included adequate evidence presented in the form of quotes from particular interviews.

In cases where I summarized the data, I ensured clarity of information and that the main points were stated. In rich, thick description, the researcher conveys what has been learned about the phenomenon by providing a highly descriptive detailed description of the setting, the participants involved in the study, and the findings, with adequate evidence presented in the form of quotes from particular interviews.

Data Analysis Results

The purpose of this research study was to explore factors that influenced instructors' use of the LMS in accordance to the LMS usage policy to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning. The three research questions that guided this qualitative research study were:

1. How do faculty members from the School of Business perceive that the system quality influenced their use of the LMS in accordance to the LMS policy?

2. How do faculty members from the School of Business perceive that their self-efficacy influenced their use of the LMS in accordance to the LMS policy?
3. How do faculty members from the School of Business perceive that the system quality, their self-efficacy, and the facilitating conditions influenced their use of the LMS in accordance to the LMS policy?

The findings provide college administrators with information about participants perceptions of factors that influenced their use of the LMS for teaching and learning. The findings also provide information for administrators to use as guide to develop the necessary interventions and support needed for faculty members to utilize the LMS as outlined in the policy.

Table 1 shows how many participants were full-time, how many were part-time and their years of service. Five of the participants were full-time and six were part-time. Seven of the participants interviewed taught at the college within 2 to 5 years, two taught within 6 to 9 years and two taught over 10 years.

Table 1

Demographic Data of Participants

Participants	Full-Time	Part-Time	Number of years participants taught at the college
P1	X		(10^{+})
P2	X		(2 - 5)
P3	X		(2 – 5)
P4	X		(2 – 5)
P5	X		(10+)
P6		X	(2 – 5)
P7		X	(2 - 5)
P8		X	(6 - 9)
P9		X	(6 - 9)
P10		X	(2 – 5)
P11		X	(2 – 5)

Results of the Analysis

The analysis of interview responses from the faculty members revealed six themes. Table 2 describes the themes and sub-themes that were derived from the data collected from the faculty members.

Figure 2

Major Themes and Sub-themes Derived from the Interview Data

Themes
1. How participants from the School of Business perceived the system quality of the LMS a. Participants from the School of Business perceived that the system quality worked for them in their teaching practices b. Participants from the School of Business perceived there were issues with the functions, speed, contents and interaction capability of the LMS.
2. How participants from the School of Business perceived their self-efficacy when using the LMS in accordance with the LMS usage policy
3. How participants from the School of Business perceived the facilitating conditions for their use of the LMS
4. How participants from the School of Business perceived they used the LMS beyond the basic requirements of the college LMS policy for students' success
5. Participants perceived they used the LMS because it was a requirement by the college and it plays a significant role in education
6. Participants' recommendations and suggestions to the administrative team about the use of the LMS

Theme 1: How Participants From the School of Business Perceived the System Quality of the LMS

System quality is defined by the conceptual framework as the quality related to the functions, speed, features, contents and the interaction capability of the LMS (Fathema et al., 2015). The first research question asked how faculty members from the School of Business perceive that the system quality influenced their use of the LMS in accordance to the LMS usage policy. Two sub-themes emerged from the analysis. These sub-themes were (a) participants from the School of Business perceived that the system

quality worked for them in their teaching practices and (2b participants from the School of Business perceived there were issues with the functions, speed, contents and interaction capability of the LMS.

Subtheme 1: Participants From the School of Business Perceived That the System Quality Worked for Them in Their Teaching Practices

Data analysis showed that all participants perceived that the system quality was sufficient for them to facilitate online teaching. When instructors began to conduct their classes online due to COVID 19, they had the option to choose a virtual platform to host their synchronous online classes. Some available options for virtual platforms that instructors chose to host synchronous classes were Zoom, MS Teams, WebEx and Bongo. During the data collection period, the college had integrated Bongo virtual platform as the default virtual classroom in the LMS for instructors to host their synchronous online classes. Although Bongo virtual platform was integrated in the LMS, the college recommended MS Teams as another option for instructors to use as their virtual platform for synchronous learning. Most participants preferred MS Teams virtual platform above Bongo virtual platform and selected it as their main platform to host their classes. MS Teams virtual platform, however, was not embedded in the LMS virtual classroom as a function like Bongo virtual platform. Instructors who used MS Teams had to share the link to the students or add the platform themselves to the LMS. Although one participant in this study continued to use virtual platform other than Bongo and MS Teams, the college expectation was for all instructors to use either Bongo or MS Teams virtual platform for instruction. As a result, Bongo virtual platform and MS Teams virtual

platform were the primary ones used for virtual learning by the instructors in the School of Business. Therefore, in this analysis I discuss participants perceptions of using both virtual platforms through the LMS for teaching. In this sub-theme, I discuss participant perceptions of the interaction capability of the LMS for teaching and learning, participants perceptions of the functions, features and content of the LMS for teaching and learning and participant perceptions of the speed of the LMS for their teaching practice.

Participant Perceptions of the Interaction Capability of the LMS

All participants described how the interaction capability of the LMS worked for them during COVID 19 pandemic to facilitate synchronous learning. All participants used Bongo or MS teams' virtual platform provided through the LMS to facilitate their synchronous online classes. They stated that they used the virtual platform to provide live lectures and immediate responses to students' questions when teaching synchronous classes. All participants perceived that the interaction capability of the LMS was of sufficient quality for them to record live lectures and make them available to students in the content section of the LMS. Participant 5, for example, explained how the interaction capability of the LMS was of sufficient quality for synchronous online teaching:

> I was able to use MS Teams through the LMS to host weekly synchronous classes, to deliver content and facilitate online activities. I was able to record the live meetings and post them for students who did not attend the synchronous sessions.

Participant 4 stated that she used the chat feature in MS teams to facilitate discussion during synchronous classes. All participants perceived that the interactive capability of the LMS worked for them in their teaching. They used PowerPoint slides, videos, or whiteboard to provide course content to students during the synchronous online lectures. During these lectures, the participants and their students were able to communicate with each other using their cameras and microphones. When the students had questions about the content of the course, the participants would allow students to either use the microphone to ask questions or type their questions in the chat box of the virtual classroom for the participants to answer. Overall, all participants used either Bongo or MS team's virtual platform to present live lectures, record the live lectures, provide immediate feedback to students' questions, facilitate live discussions, and share course content.

Participants 1, 2, 3, 4, 6, 8, 9 and 10 perceived that the interaction capability of the LMS was of sufficient quality to facilitate asynchronous learning. Participant 6 perceived the discussion forum was of sufficient quality to facilitate asynchronous learning as she was able to use the class discussion forum outside of class hours to answer students' questions and provide feedback to students on important concepts that the students needed to focus on. Participant 1 stated that he used the discussion forum asynchronously for students to share their ideas on a topic, to disseminate content information to students, and to further elaborate on concepts when he needed to. Participant 4 stated that she posted the recordings from the synchronous lectures in the LMS for students to access in case they were not able to attend class or needed to review

the lectures. Participants 1, 2, 3, 4, 6, 8, 9 and 10 perceived that the content section of the LMS to post course outlines, students' activities, resources, videos, and assessments for students to access at their own time, facilitated asynchronous teaching. For example, Participant 3 stated

> I'm using the content section as an asynchronous tool where students will access the content on their own time, rather than doing it synchronously, while I'm teaching. I used it for asynchronous communication like posting announcements or as a repository for content. It's very good and works extremely well.

The interaction capability of the LMS also worked for Participants 1, 2, 3, 4, 6, 8, 9 and 10 to connect with students asynchronously through email, announcement and the calendar to provide course information such as assignments due dates, class activities, holidays, or special events to students. For example, Participant 5 stated that she was able to use email to connect one-on-one with students especially since the COVID-19 lockdown when instructors were not able to see the students in a face-to-face class. In conclusion, these 8 participants perceived that the interaction capability of the LMS to facilitate asynchronous learning was of sufficient quality to facilitate teaching and learning.

Participants' Perceptions of the Functions, Features and Content of the LMS

Participants 1, 3, 4, 6, 8, 10 and 11 perceived that the LMS functions, features and content supported their virtual teaching practices by allowing them to create assessments, access learning resources and stay connected with students. Participant 6 perceived that the LMS allowed her to create and administer assessments. Participant 6 stated, "I have

built a question library… some of my assessment questions were usually drawn from a library pool. I have quite a big pool now so I randomized the tests and randomized the question orders, and no one gets the exact same test." Participant 6 stated "I found that the LMS provided flexibility during online teaching, especially for having the cameras on for the students to be able to have a visual connection with instructors as they talked". The email has a video and a voice feature that instructor can use when sending emails. Participant 11 stated that when he is sending email to students, he added a video to his email message to make it more interesting. Participant 11 perceived that the video and voice features are great tools to use in emails, especially during the lockdown due to COVID-19 pandemic, because the features made the emails more human. Participant 11 perceived that the external tool function of the LMS was of sufficient quality for instructors to obtain the e-textbook, test banks, and other learning resources directly from the publisher through the LMS. In conclusion, these 7 participants perceived that the LMS functions were of sufficient quality to create multiple versions of assessments, access learning resources directly from the publisher, connect with students synchronously and or asynchronously.

Although Participants 7 and 8 used MS Teams, they used the Bongo virtual platform for synchronous teaching and perceived it worked well. Participant 7 and 8 stated they used Bongo because it was the LMS virtual platform. These participants said they could share their screens, have students view the content from a PowerPoint during the lectures, and record the live sessions for students to watch at any time at their own pace. Participant 8 perceived that the system was of sufficient quality because it allowed

her to present lectures synchronously, use the live chats and have cameras on during the synchronous class. In summary, there were two participants who perceived that the LMS virtual classroom feature, Bongo, worked for them because they could share their screen during lectures, record the lectures, and interact with students through live chat.

Participants 1, 3, 4, and 10 chose MS teams as their virtual classroom and stated that they were able to add it to the LMS menu bar so students could access their virtual class directly from the LMS. These participants perceived that being able to access the virtual classroom directly from the LMS was convenient for them and the students. Participant 4 stated, “I put MS Teams as an icon in the LMS menu bar so that when students click on the menu it takes them to the MS teams window I created for students”. Participant 10 stated, “I set up a link to MS teams from the actual LMS, so students can see it on the toolbar at the top and just click on it to get to it”. Participants 1, 3. 4 and 10 perceived that it is more convenient for students to access the virtual classroom directly from the LMS which they are already using, rather than from a separate browser. Overall, these 4 participants expressed that they were pleased with the convenience for them and their students to easily access MS teams directly through the LMS.

All participants perceived that there were functions, features, and contents of the LMS for teaching that they could apply in their teaching practices. Participant 7 perceived that when he used the LMS features and contents to present live lectures, videos, PowerPoint presentations, discussions, and upload course materials to the content page they were of sufficient quality. Participant 7 also perceived that the LMS features provided opportunities for learning, to engage students, and to deliver course content

through a variety of ways. Participant 11 perceived that the LMS features and contents provided options for instructors to communicate with students via emails or announcements. Participants 4 and 11 used both the email and announcement feature to communicate the same message to students. Participant 4 perceived that the announcement feature of the LMS was of sufficient quality because she was able to create announcements and select the dates when she wanted them to be available to students. Another feature of the LMS that Participant 6 and 9 perceived had worked for them in their teaching practices was the sandbox. The sandbox is a fully-functioning course shell in the LMS that instructors used as demo to practice the functions, speed, features, and contents of the LMS. Instructors used the sandbox to practice uploading course materials into the course, posting announcements, creating assessments, adding questions, creating discussions and trying out other LMS features and contents from the instructor mode or from the student mode to see how they look when presented. Participant 6 stated that when instructors are using the sandbox to practice the different functions, contents and features in the LMS, there is a LMS setting that allows no one else to see what instructors are posting in their sandbox. Participant 6 stated for example,

> I discovered some new LMS tools while using the sandbox. Sometimes they work and sometimes they don't. The great thing about the sandbox is, if instructors do try out new LMS tools and they don’t work, they haven't broken their whole course for a semester. They just have to go back in and say, you know what, we're not going to click on that button, or that's not a tool we're going to use.

Participant 9 stated “I just went through all the options that were available in the sand box and clicked on every single one of them. I didn’t even know what some of these do. When I click on them, I said Hey that is really neat and tried it”. In summary, four participants perceived that the LMS had some features and content that provided them with the opportunity to facilitate learning, and allowed participants to discover and learn different tools they can apply in their teaching practices within the LMS environment.

Subtheme 2: Participants From the School of Business Perceived There Were Issues with the Functions, Speed, Contents and Interaction Capability of the LMS

Data analysis showed that although all participants perceived that the system quality worked for them during their teaching practices each participant stated that they had some issues with the LMS. I will discuss (a) participants’ perceptions of the issues they had with the interaction capability of the LMS regarding the virtual platform for students’ interaction (b) participants’ perceptions of the issues they had with the features and functions of the LMS as they felt it was limited, and (c) participants’ perceptions of the speed of the LMS regarding connection issues.

Participants’ Perceptions of the Issues They Experienced with the Interaction Capability of the LMS Regarding the Virtual Platform for Student Interaction

Participants 1, 2, 3, 6, 7, 8 and 11 switched from Bongo Virtual platform to MS Teams because they perceived the system quality was better for communicating offline with students, for creating small groups for students’ interactions, and for creating group video presentations. These participants stated they started using Bongo, the default virtual platform in the LMS, as their virtual classroom but, later decided to use MS Teams

virtual platform. These participants switched from Bongo virtual to MS Teams because they perceived the features, functions and contents were better for students' engagement and interaction in an online learning environment. These participants stated that they started using Bongo virtual platform for synchronous lessons given it was the default LMS feature for virtual classroom. They stated that the college chose Bongo as the default but when they discovered its limitations, they either switched fully to MS Teams virtual platform or continued using Bongo as their primary virtual classroom. The participants stated that the limitations they had with Bongo were: unable to stay connected with the students outside of class, unable to create small groups and sub-groups for student's interaction, and unable to use video for group presentation. The participants who continued to use Bongo virtual stated that they used MS teams to complete tasks they were not able to do in Bongo. For example, Participants 3, 7 and 11 stated they were able to create groups and sub-groups in MS Teams, for students to interact in small groups and those functions were not in Bongo. These participants perceived that the small group interaction was "a great experience" for students especially in the absence of the physical classroom. Participant 7 for example stated that MS Teams is a better collaboration tool because (a) when he is not in class students can still join MS Teams and share their ideas and (b) in MS Teams he can create groups and subgroups to meet and interact with small groups of students. Participant 3 perceived that the feature in MS Teams to create small groups was a critical feature and stated that it's something that a virtual classroom should have. Participant 7 stated that he selected Bongo initially to keep the students in the same LMS environment but, when he found

that he was unable to use the platform to stay connected with students outside of class hours, he used the MS teams' component feature to stay connected. Participants 1, 2, 3, 6, 7, 8 and 11 switched from Bongo virtual platform to MS Teams because they perceived that the features that were in MS Teams such as communicating offline with students, creating groups and sub-groups for students' interactions, and creating quality video presentations were not provided by Bongo.

An issue that participants faced was that they needed to use more than one virtual platform in their teaching or had to switch from one platform to the other because one platform did not have all the interactive tools they needed. For example, Participants 1, 2, 3, 6, 7, 8 and 11 perceived that neither Bongo or MS Teams had all the interactive features they needed and they either had to switch from one platform to the other or use both. Participant 7 and 11 stated that they used Bongo as their primary virtual platform for weekly interactive virtual classes but when they needed an interactive feature for example, communicating with students outside class hours and using the video for quality group presentation, they used MS Teams. Participant 11 stated that the video group presentation quality in Bongo was not as good as MS Teams and, therefore, he allowed students to use MS Teams video for group presentations. Participant 3 stated:

> For my synchronous learning I know that there's the virtual classroom, called Bongo. I've used it, but I've opted to use other tools, instead, either zoom or now MS Teams because, those other tools offer much more flexibility.

Participants 1, 2, 3, 6, 7, 8 and 11 perceived MS Teams has the feature to stay connected with students outside of class hours and facilitate small group presentation which Bongo

doesn't have. Participant 7 stated that Bongo provided a report of the number of minutes students logged on, the number of chats each student did which allowed him to identify students who are not being engaged and reach out to them to participate. Participant 7 stated that MS Teams also recorded the amount of time the students logged on for but it doesn't show how many chats each student did. Participants 3, 7, 8 and 11 stated that there were aspects of Bongo virtual that they liked such as the polling feature which was not in MS Teams. These participants stated that they used the poll to get feedback from students, to promote students' interaction or to reinforce the content. For example, Participant 3 stated:

> The only thing I liked in Bongo was the live polling and that would be one of the features of virtual classroom that I wish was in zoom or MS Teams that I used. In Bongo, I can do the polling very easily and in a very impromptu way, where it might just be something I didn't plan in advance, but I want to kind of poll the mood of the class, get their input, and students seem to really like that. That would be one of the features of virtual classroom that I wish was in MS Teams.

Participant 3 also stated that MS Teams had a polling app that can be installed but he would have to set up the polls in advance, which is not as convenient as the Bongo virtual platform he was currently using. Participants 1, 2, 3, 6, 7, 8 and 11 perceived that neither of the virtual platform has all the tools they needed to facilitate teaching and learning in an online learning environment.

Participants' Perceptions of the Issues with the Features and Functions of the LMS

The learning management system that the college used was D2L and Participants 2, 4, 5, 6 and 9 who taught at other institutions had used other LMS such as Canvas and Blackboard and compared their experiences of previous systems with their current experience with D2L. These participants perceived that although the D2L LMS they are now using at the college is more user friendly than other LMS they had used, they wished some of the features in the other LMS systems were also in D2L. For example, Participants 2, 4, 5, 6 and 9 stated that the quality of the D2L LMS features and content were sufficient but wished the LMS had additional features. Participant 5 expressed that they wished the LMS had more features or offered more flexibility. Participant 9 wished the course link validator feature available in Canvas was in the D2L LMS at the college. She stated that if instructors had links to copy from a previous course, the course link validator would test all the links at once so instructors could know whether any links are broken. Participant 9 stated that's a feature the LMS is missing that she would like to see, but other than that the LMS system quality was okay. Participant 6 stated that the LMS had some excellent tools that instructors used to share ideas, concepts, and engage students but he wished there were other tools such as a video camera with a real time chat function which was needed for students' presentation assignments. Participant 2 wished the D2L LMS at the college had the parent children feature that uploads course materials and announcements to different course sections at once. The parent children feature would allow him to select one class as the parent and the other classes as the children. Then, he could put all the materials or announcements on the parent class and they would automatically copy or go to the children's classes. He stated that he asked the LMS

support team about this feature because it was important to him but, they told him that unfortunately, it was not available in the college D2L LMS. Participant 2 stated that instructors teaching more than one section of the same course, had to go to each class individually to make announcements and upload course materials. Participant 2 stated that it is unfortunate that the parent children feature is not on the LMS because it would have made his life easier. Overall, the 5 participants perceived that the system quality was sufficient; however, they wished there were more features to facilitate teaching and learning.

Participants 3, 5, 6, 9, and 10 perceived that some of the LMS contents such as assignment, gradebook, and intelligence agent features were not intuitive. Participants 3, 5 and 10 perceived it was not easy to learn how to use these tools without having to go to the LMS support team for help or to their website to download a PDF with a series of instructions on how to use the tools. Participant 3 for example stated, “It’s not really easy without having to go to the LMS support team or their website and download a PDF with a series of instructions on how to do it.” Participants 5 and 6 stated that using the assignment feature in the LMS to create assessments was not intuitive. Participants 3, 5 and 6 perceived it is very time consuming to create an assessment in the LMS. Participant 6 stated “there are certain things that are not as intuitive as they should be. For example, setting up tests, sometimes you have to go three or four steps when one step could do”. When setting up and grading assessments, Participants 3 and 5 stated they had to reach out to the LMS support team for help or research the steps to understand how to use the assignment features effectively. Participants 3, 5 and 6 perceived that the grading feature

of the LMS was problematic. For example, when students submitted their assignments, the assignments are graded automatically. The automatic system is set up in a way so that non-multiple-choice questions require the teacher to re-grade the questions because there is no automatic system for those. Participant 6 stated that she explained several times to the students that the initial grade they will receive when they submit their assignment will not be the final assignment grade. Although Participant 6 informed the students of the grading system, she continued to receive emails and complaints from students that they are disappointed with the grade they received. Participant 6 perceived that this happened because the artificial intelligence instruction feature that is set up to mark students work is very literal. Therefore, after every test, she had to regrade students' work because the artificial intelligence feature only identified the specific response given as correct and did not recognize variations. Participants 3, 5 and 9 perceived that the Gradebook was not intuitive. Participant 3 stated that even though he used the Gradebook every semester, after several semesters of using the content and features of the gradebook, he had to go back and reference some of the instruction PDFs or go to the LMS support team for assistance because using the gradebook was not intuitive. Participant 3 and 5 stated that it was very easy to make errors when setting up Grade book. Participant 3 stated that he had to manually input values in the Grade book and if an error occurred while inputting values, it could be complex to resolve. Participant 5 stated "when you update your gradebook or you accept assignments, it is so easy to make mistakes and mess everything up". Participant 3 stated that when he is setting up gradebook, he had to double check the instructions each time to ensure that all features are selected, the gradebook is connected

to the calendar, and the assignment folder is properly connected. Participant 3 stated, “I really like it but it is not super intuitive”. Participant 9 stated “when I work with new instructors, the LMS is overwhelming for them. It's not as intuitive for new instructors and it was not intuitive for me in the beginning but it is intuitive for me now”. Participant 9, however, stated that after a while, new instructors got used to the tools and found them easy to use. Participant 9 stated that she wished the intelligent agent feature, that she used to send automatic email to students reminding them to sign in to the course if they were late, to complete missed assignments, and to send warning signals if they were failing, could be a little bit more intuitive. Overall, these 5 participants’ (3, 5, 6, 9, and 10) perception of the LMS features such as Gradebook, the intelligent agent, and the assessment tool is that they were not intuitive.

Participants’ Perceptions of the Speed of the LMS

Results of this study show that 2 participants found the speed of the LMS an issue. Participant 1 reported that he had connection issues when submitting grades. He stated that this usually happens when almost everyone is submitting the grades at the same time and when this happens the system becomes slow or goes down. Participant 3 stated that the speed of the LMS could be quicker.

Theme 2: How Participants From the School of Business Perceived Their Self-Efficacy When Using the LMS in Accordance with the LMS Usage Policy

Self-efficacy is defined by the conceptual framework as a faculty member’s judgement or confidence he/she has in his/her own capability to operate, navigate, or work with the LMS (Fathema et al., 2015). In most instances participants perceived they

were confident using the LMS. Other times they perceived they were not confident in their capability to use the LMS.

Participants Perceived They Were Confident Using the LMS

Participants 1, 2, 3, 4, 7, 8, 9 and 11 perceived they were comfortable using some features of the LMS. These participants perceived they were very comfortable using the content section of the LMS to create modules and upload course information for students to access. Participant 8 stated that she was confident using the LMS to organize the contents, rearrange the order of modules, add descriptions and rename topics on the content page. Participants 7, 9 and 11 stated that they were confident in their ability to use the communication tools such as the email, announcements and calendar because, as they explained, those tools were the easy ones to use. Participants 7 and11 stated they felt very confident using the LMS for engaging students, creating class discussions, adding posts to the discussions, and responding to students' posts. Participant 11 stated that after years of experience, he felt confident using the LMS to engage students in the course. For example, he said he was comfortable using polling and the chat feature to engage students. He also said that some students emailed him with positive feedback about his use of the LMS to engage them in the course which helped to build his confidence. Overall, participants perceived they were confident using the content page, class discussion, and communication tools such as email and announcement in their teaching practices.

Participants 1, 2, 3, 4, 7, 8, 9, 10 and 11 gave several reasons why they were comfortable and confident when using the LMS for teaching and learning. Participants 1,

2, 3 and 8 perceived they were comfortable using the LMS because they had previous experience using similar tools. Participants 4 and 6 stated that they had used D2L LMS when they were students so, they were very comfortable using it as an instructor because the interface was the same. Participants 3, 7 and 11 stated that their previous experience and continuous use of the LMS as instructors, made them feel confident using the system. Participants 7, 9, 10 and 11 perceived that the more they used the LMS tools, the more confident they become and once they were comfortable, using the system became natural for them. Participant 7 was comfortable using the tools because as he explained, he was naturally capable of using the tools in the LMS. For example, Participant 7 stated that based on his many years of experience working with technology, he felt capable and confident using the LMS to facilitate small group interactions. He further stated,

> When I come across any difficulties using the system it doesn't freak me because I am technology savvy enough to resolve the issue. I typically can pull this stuff off without using the LMS support team. I've got a high level of confidence in my ability to use technology.

Participant 11 stated that after many years of experience using the LMS, he felt confident using the polling and chat room features to engage students in the course. Participants 2, 3, 6 and 11 stated that the positive feedback and comments they received from students showed that they appreciated the information delivered through the LMS and this helped to build their confidence to use the LMS to engage students in the course. For example, Participant 6 stated that the positive feedback she received from students made her feel confident to explore new tools in the LMS. Participants 1, 2, 3, 4, 7, 8, 9, 10 and 11

perceived that the PD sessions they had received that taught them to use the LMS helped them feel comfortable using it. Overall, the 9 participants perceived that their previous experience either as a student or instructor using the LMS, students' feedback, PD and their continued use helped them feel comfortable and capable using the LMS in their courses.

Participants Perceived They Were not Comfortable Using the System

Participants 1, 2, 3, 5, 6, 7 and 11 perceived that they did not use some of the LMS tools because they were not confident using them. Participant 1 stated that he did not use the personalized group email feature to communicate with students because, he did not feel confident using it. Participant 1 stated that when sending group messages to students, he preferred to personalize the group message meaning that when students received the message, it used their individual names. Participant 1 stated that he tried using the email feature to send personalized group messages to students but did not feel confident. Therefore, he explained, he only used the announcement tool to communicate with students because, it was easier to personalize the messages. Another tool that Participant 1 avoided using, even though he said it was a great tool, was the intelligent agent. He stated "I think not using it, is a lack of confidence because there are some little technical things that you have to do". Participant 3 stated that he felt nervous using the LMS to host course content due to previous experience he had working at an institution He said after he spent a lot of time putting the course content in the LMS, the institution changed from one LMS system to another and he lost all his content. Participant 3 said he lost all his course content because of the change and had to rebuild all his course

materials. Since then, he only used PowerPoint to host his content. Participant 3 stated that he felt more comfortable using the PowerPoint to present his content than the LMS and, moreover, if the LMS is down, as long as the projector is working in the room, he wouldn't need an internet connection to present the PowerPoint slides. Participants 2 and 4 stated that they did not use the Bongo virtual platform because they were not confident using it. Participants 5 and 7 perceived they were not confident using the video feature in the LMS. For example, Participant 5 stated that she was not motivated to use the video tool in the LMS because she was not confident using it. Participant 7 stated that if he was to use the video tool, he would need assistant from the LMS support team because he was not confident using it. Participant 5 stated that she didn't use the LMS quizzes tools to create quizzes because she was not good at it. Participants 6 and 11 who did not use some of the LMS tools because they perceived they were not confident using them, stated that they were interested to learn but they couldn't afford to take the time off from work to attend the PDs. Participant 11 stated the LMS had some great tools and he wished he could learn how to use them but he can't afford the time to attend the PD sessions. Participants 6 and 11 stated they can't afford to take the time off from their other job to attend the PDs to learn how to use the LMS tools because the college doesn't pay them to attend the PDs. Overall, 8 out of 11 participants explained that they did not use some of the LMS tools because they were not confident in their ability to use them.

Participants 3 and 5 perceived they were not comfortable using the tools in the LMS to promote students' engagement. Instead of using the tool in the LMS they used tools that were not in the LMS and provided students with the links. These participants

used flip grid for students to create video presentations rather than the video tool in the LMS. Participants 3 and 5 used Quizlet to create practice quizzes rather than using the quizzes feature in the LMS. These participants perceived they were more comfortable using the Quizlet to promote students' engagement because of its interactive features. The students could complete the questions individually, in small groups or play live as a class which the students enjoyed. Participant 3 stated that he felt comfortable using Quizlet to encourage students to work collaboratively in teams as this is a very important skill for his class. For example, Participant 3 stated:

> In a lot of my courses, it's important for students to learn to work collaboratively in a team. In the live Quizlet the students will be in groups of four. Each group comes together with their laptops and then Quizlet will throw up one of the questions. The correct answer is only on one student in the group's laptop, so they have to work together to solve it.

Participant 5 stated that she was more comfortable using external tools for videos and quizzes because she found those in the LMS complex to use. Participant 5 perceived she was more comfortable using external tools such as HP five, Quizlet, and Pro prof to facilitate students' assessment than the quizzes feature in the LMS and she was more comfortable using Flipgrid as the video for students' presentation, than the video tool in the LMS. Participant 5 stated that she was using the external tools several years before she started teaching at the college and is now comfortable using them. Participants 3 and 5 stated that they won't use the video and quiz tools in the LMS because they seem complicated and they already know how to use the external ones. Participant 5 stated "I

felt more comfortable continuing using those external tools than to learn new ones". Participants 3 and 7 stated that they were confident using the external tools to engage the students and perceived it would be difficult to switch to those features in the LMS given that they have been using the external ones for so long and are comfortable using them. These participants stated that they had to pay from their personal budget to use the external tools but they did it because the tools worked for them better than those in the LMS. In conclusion, Participants 3 and 5 perceived that they were more comfortable using external tools for students' interaction and engagement than those provided by the LMS.

Theme 3: How Participants From the School of Business Perceive the Facilitating Conditions for Their Use of the LMS

The conceptual framework defines facilitating conditions as the availability of related resources such as technical help, internet infrastructure, hardware, software, training, and online help to work with the LMS (Fathema et al., 2015). Some available facilitating conditions that participants identified were training, technical help from the LMS support team, online resources made available by the LMS support team, and internet infrastructure. How participants perceived that the available facilitating conditions helped them to utilize the LMS in their teaching practices, and the difficulties they had with the available facilitating conditions are described in this theme.

Participants 3, 4, 6, 8 and 10 explained that after they were hired by the college, they attended an orientation. At this orientation they were introduced to the LMS as the online course management system and learned that the college provides instructors with a

support team which in this research will be called the LMS support team. The LMS support team is responsible to plan and supervise all professional developments (PD) related to the LMS which includes the initial training that all newly hired instructors received at the orientation. Participants 3, 6, 8 and 10 stated that during the orientation the LMS support team provided PDs on how to use some basic features of the LMS such as the announcement, assignment, gradebook, class list, awards, content, custom widgets, discussions, email, grade submission, instructor student view, intelligent agents, sandbox, and video. Participant 4 stated that at the orientation she learned some features of the LMS from the support team which was an advantage because she was able to apply the skills that she learned to her teaching practice. Participants 6 and 8 stated that the basics she learned at the orientation were useful. Participants 3, 4, 6, 8 and 10 perceived that the training they received at the orientation was helpful because it made them aware of the LMS and the tools they can use to assist them in their teaching practices.

Participants 1, 4, 6, 8, 9, 10 11 stated that the LMS support team has available training and PD sessions for instructors to use the LMS. Participants 1 and 4 stated that they attended PD sessions with the LMS support team to support their use of the LMS. These participants stated that the PDs are usually interactive and would be about a particular feature or tools that instructors need to know to enhance their LMS use. Participant 4 stated that most of the things she knows about the LMS she learned from the PD sessions. She stated that some of the PDs were self-directed. Instructors can go online and complete them independently. Participant 4 stated that she used the LMS support team when she is struggling and is in need of help. Participants 6 and 8 stated that the

support received from the LMS support team was useful. Participant 8 stated that the LMS support team trained her to organize the content tab, to enter midterm grades and to set up gradebook with weighting according to the course outline. Participant 10 stated that he became aware of the quiz function during a PD session as well as how to connect and link the MS Teams' classroom from the LMS. In conclusion, Participants 1, 4, 6, 8, 9, 10 and 11 perceived that the training they received to use the LMS helped them to use the LMS.

Participants 2, 5, 9, and 10 described how they applied what they learned from the PDs to their teaching practices. Participant 2 stated that he used the college email or the email in the LMS to communicate with students because he was advised at one of the workshops to use the college approved emails. He stated that he received information from the workshop that when instructors used the college email to communicate with students the emails can be tracked in the future by the college. Participant 5 stated that anytime she attended the workshops, she came away with good ideas that she incorporated in her class to engage students. Participant 9 stated that he chose to use the content tool to provide course content to students because it was shown to her during the orientation training. Participant 10 stated that she chose to use MS Teams because she learned how to use it at a PD session which helped her become comfortable using it. She stated that she used the LMS video because she attended a PD session about how to use the video. Participant 10 stated that she started using the quiz tool to do in-process assignments after she learned about it in a PD session. Participant 10 used the survey tool because she learned about it from watching the video from the LMS support team's

website. In conclusion, the data revealed that when Participants 2, 5, 9 and 10 attended PDs or training and learn something new, they applied what they learned in their teaching practices.

Online Resources

Participant 3, 5, 7 and 11 stated that they used available online resources that show instructors how to use the LMS tools. Participants 1 and 3 stated that when they needed assistance to use the LMS, they searched Google for assistance. Participant 3 stated he used external tools such as YouTube, Kahoot, poll and mural with the LMS which he learned how to use from searching Google. Participants 3 stated that he used the LMS support team online tutorials and videos regularly and "they were fantastic". Participants 3 and 5 perceived that the sessions were very hands-on and helped him to understand how to use the LMS features. Participant 5 stated that she learned from the LMS support team online newsletter how to use the class list feature to send email to her entire class at once. Prior to that there was a limit on how many students she could email at a time. Participant 5 stated that the LMS support team provided help sheets to support instructors to use LMS tools. Participant 5 also stated that the LMS support team presented workshops about how to use different kinds of external tools like HP five, Padlet, Flipgrid, quiz etc. Participant 4 stated he used the LMS help menu which is a self-learning platform to import and export course content from one course to another, to navigate and learn about the learning environment, and to remind her how to use a tool. She stated that the help tool assisted her to learn how to use some frequently used features such as course discussion, assignment, quizzes and grades. Participants 3 stated

that the LMS support team provided a lot of self-serve online resources that provide tutorials regarding all the LMS features that he can access at any time. Participant 7 stated that the LMS support team provides several resources instructors can read and reference at any time. Participant 7 stated that there is an online MS Teams group created by the LMS support team for instructors to collaborate and learn from each other which he used and perceived to "be a fantastic and a great experience" for him. Participant 11 stated that everything in the LMS that he needs to know is on the LMS support team website. Participants perceived that there are available online resources that they could use to support their use of the LMS.

Technical Support

Participants 6, 7, 8, 10 and 11 used their colleagues as technical support to assist them to use the LMS. Participant 8 stated that he learned from his colleagues how to use the sandbox to navigate features in the LMS and how to use the quiz tool to create math quizzes. Participant 8 stated that colleagues told her that if she needed help on anything to let them know so he utilized the offered help. Participant 6 stated that he learned from his colleagues how to set up an announcement for a future date and how to get feedback from his students. Participant 6 and 11 perceived that sometimes the LMS support team are under a lot of pressure assisting instructors across the college which may cause them not to respond to instructors in a timely manner. These participants stated that as a result most times they went to their colleagues for assistance instead of the LMS support team. Participant 7 stated that he reached out to his colleagues for support sometimes but it was mostly to find out what technology they used in their teaching. Participant 7 stated that

sometimes he got direct answers or help from his colleagues. Participant 10 stated that she contacted her colleagues for help to use the LMS features and “they were great source of information”. Participant 9 stated that there is a MS Teams group chat made up of instructors and members from the LMS support team to support instructors who need help to use the LMS. Participant 9 stated that when she needed help to use the LMS, she posted her questions to the group. Participant 9 stated that whenever she posted her question in the MS Teams group chat any instructor who knows how to use the tool or a member of the LMS support team usually reply to her questions within a short period of time. In conclusion, when Participants 6, 7, 9, 10, and 11 needed help to use the LMS tools they often utilized their colleagues as technical support.

Participants 1 and 8 stated that the LMS support team was available to assist instructors with technical support when they needed help. Participant 1 stated that whenever he had difficulties with the LMS he contacted the LMS support team and they were always available and ready to provide assistance. Participant 1 stated that being able to easily access the LMS support team to ask questions about the use of the LMS made him felt comfortable using the system. Participants 6 and 9 perceived that the LMS support team is very eager and willing to answer their questions and after they leave the sessions if they still have questions, they can reach out to the LMS support as many times as they need to. Participants 6 and 9 stated that the LMS support team members are easily accessible either through MS teams, telephone, or in person prior to COVID-19 and they are always ready to help. Participant 10 stated that she had an issue with gradebook and she sent the LMS support team an email. She stated that within two or three days they

assisted her virtually on MS Teams to fix the problem she was having with her gradebook. Participant 2, 3, and 8 stated that the LMS support team always provided immediate assistance to them whenever they reached out to them for assistance to use the LMS. These participants perceived that each time they needed help to use the LMS, support is always available from the LMS support team. Participants 2, 3 and 8 stated that the LMS support team is doing a "great job" providing immediate assistance to them to use the LMS. These participants perceived that the assistance they received helped them to communicate more efficiently to their students. Participants 2, 3 and 8 perceived they were satisfied with the help they received from the LMS support team. Participant 5 stated," I contacted the LMS support team multiple times and find they were phenomenal to get back to you". Participant 9 stated that rather than looking online for help she preferred to speak to the support team directly and when she contacted them, they were available. In conclusion, Participants 1, 2, 3, 5, 6, 8, 9 and 10 perceived that the LMS support team was available to answer their questions.

Participants 1, 2, 3, 6, 8, 9, 10 and 11 perceived they received technical assistant from the LMS support team to use the LMS for teaching and learning. Participant 10 stated that the support she got from the LMS support team and training were "phenomenal". Participant 1 stated that when he needed help with technical issues for example personalizing the assignments, the LMS support team taught him. Participants 1 and 6 perceived that they learned from the LMS support team how to use the content section of the LMS to store information for students to access. Participant 3 stated that he contacted the LMS support team several times when he needed help to use the LMS

features and he had taken courses with them as well. He stated that they are “absolutely fantastic, super helpful and good”. Participant 3 stated that the first time he set up quizzes the students were able see the grade they got but were not able to see which questions they got wrong. He stated that this happened because of the feature he selected when setting up the quiz and he was not able to correct it so he reached out to the LMS support team. He stated that the LMS support team was able to help him. They helped him to view the questions the students got wrong as well as to set up the quiz for students to see which questions they got wrong. Participant 9 stated that she attended a lot of the LMS support team sessions and she stated that she “just loved the LMS support team”. Participant 9 stated the LMS support team released a new exemplar course shell, supported by research, that instructors could use as guide to set up their courses in the LMS. Participant 9 stated that the fact that the college is introducing a course shell format that is supported by research made her feel confident using it. Participant 9 stated that the LMS support team provided instructions how to use the exemplar course shell. She stated that she used the instructions provided by the LMS support team to set up and or update information in all her courses. Participant 9 also stated that there was training available to instructors about how to set up their course shell based on the new exemplar. Participant 9 perceived that the available support offered by the LMS support team always worked for her specific situation and or needs. Participant 9 stated for example that the LMS support team available time for appointments usually worked for her schedule. She stated that she can make an appointment to meet one-on-one with the LMS support team or she can register for a PD training with other participants. Participant 9 stated that when she

met with the LMS support team, they answered her questions and provided additional support that she did not anticipate. She stated for example that the LMS support team assisted her to create a quiz in the LMS. She explained that she did not only receive technical assistance to create a quiz, she received help to select the ideal timing for specific type of questions, to decide on the number of questions to add, to set due dates, and to select the quiz format. Participant 9 stated that the LMS support team also provided information on how a flipped classroom should work. She stated that they told her she should not only post a video for students to watch. She should also provide the students with a set of questions about the video to evaluate whether the students gain understanding from watching the video. Participant 9 perceived she received both pedagogy and technical support from the LMS support team. Participants 2, 3 and 8 stated that the LMS support team has "good people" to assist them which made them feel confident using the system. Participant 8 stated that she found the available support from the LMS support team extremely helpful. Participant 8 perceived that the members of the LMS support team are very knowledgeable about the use of the LMS. Participant 11 stated for example:

> I was informed, originally of these tools and the value of these tools through the LMS support system. And if God lives anywhere in the LMS system it's through the LMS support team. They are excellent. I have taught at one university and three other colleges and nobody does it better than the LMS support team at this college, they're just wonderful people and there are a few who are superb.

Participant 11 stated that when he went to the LMS support team for help they listened keenly and then identified the problem. He stated that after they identified the problem, they explained or demonstrated the solution. After that, they asked him to practice doing the task to ensure he understood. Participant 11 stated," when you're doing it, and executing it, they're there with you to tell you where it might be going wrong so, it's a beautiful way of providing support". Participant 11 stated that they the college is very fortunate to have a very good outstanding LMS support team and this helped to build his confidence. Participant 11 stated that the LMS support team members would even come in your classroom and provide assistance if necessary. He stated that he needed assistance to create groups in the virtual classroom. He reached out to the LMS support team and one of the members joined his virtual classroom and assisted him. Participant 11 stated that when he goes to the LMS support team members for help, while assisting, they share stories of other instructors' experiences using the LMS. Participant 11 stated that they did not only share the successful stories of instructors' use of the LMS but they also shared the ones that did not go well. He perceived that this made him aware of how he should use or not use the LMS. In conclusion, Participants 1, 2, 3, 6, 8, 9, 10 and 11 perceived that the LMS support team did a "phenomenal" job helping them to understand and learn additional features which made them felt comfortable using the system.

Internet Infrastructure

Participant 4 stated that they needed a good internet connection to use the LMS at home. She stated that if students or participants should access the LMS from home they

would need to have high speed internet connection at their home to use the LMS. Participant 4 stated that good internet speed connection is basic to use the LMS. Overall, participant 4 perceived that they needed a good internet connection at home to access the LMS from their home.

Some Issues Participants Experienced with the Available Resources and Technical Support

Participants 6 and 10 perceived they had issues with available resources and technical support. Participant 6 stated that his experience was that the LMS support team sometimes asked him too many questions in order to answer his question. Participant 10 stated that she used the template that the LMS support team provided for instructors to set up their courses in the LMS to organize her courses. She stated that it was very time consuming to use the template to organize her courses. Participant 10 stated that she used the LMS support team template to set up and organize her courses in the LMS. Participant 10 stated that when she looked at the new template, she was not comfortable with the way in which the LMS support team used HTML with the template. Participant 10 perceived that it is a lot of work to migrate an entire course to a new template and she is not confident using the HTML to modify her content for it to be engaging. Participant 6 and 10 however perceived that in spite of their issues with the technical support and resources the intension of the LMS support team was good.

Theme 4: How Participants From the School of Business Perceived They Used the LMS Beyond the Basic Requirements of the College LMS Policy for Students' Success

The interview protocol was developed to answer the research questions regarding how participants perceived that the system quality, their self-efficacy and the available facilitating conditions influenced their use of the LMS beyond the basic requirements in accordance to the LMS usage policy. It is outlined in the LMS usage policy that instructors are expected to use the LMS beyond the basic requirement to provide feedback to students, make course content available in a variety of accessible formats to students, and promote students' engagement in learning.

Participants Perceived They Used the LMS to Receive Feedback From Students

Participants 1, 6, 9, 10 and 11 used several LMS tools to receive feedback from students. Participant 1 stated that he used the discussion forum for students to share their views on a topic anonymously. He stated that he used surveys to get feedback from students regarding their progress in the course. Participant 1 stated that after a lesson he used the quiz tool to provide questions for students to answer independently. He stated that at the end of the quiz he shared and discussed the answers with the entire class. Participant 6 stated that she used surveys to get feedback from students so she could learn what is working and what is not working for them. Participant 9 stated that she used surveys to collect feedback from students. Participant 10 stated that during COVID-19 the college was not able to administer the usual student feedback questionnaire survey so she used the survey feature of the LMS to collect feedback from students. Participant 10

stated that she used the feedback from the survey she conducted through the LMS to improve her teaching practices. Participant 11 stated that the LMS is "pretty good" and it is like an eight-speed machine that was "pretty well oiled" as he is now able to receive feedback from students through email, post course content to students, and record the content. Participant 11 stated that using the LMS to get feedback from students is important especially in an online teaching and learning environment. Participant 11 stated for example that when he is teaching in the physical classroom, he reads student body language to know if he is doing well as an instructor and if they are understanding. He stated that he is not able to read body language in an online class and that is the reason getting feedback from students is important to him. Participant 1, 6, 9, 10 and 11 perceived that they were able to use the LMS tools such as the discussion forum, the survey, the quizzing feature and the email to receive feedback from students.

Participants Perceived They use the LMS to Provide Course Information to Students

Participants 1, 2, 3, 4, 5, 9, 10 and 11 stated that they used the announcement feature in the LMS to communicate course information to students. Participant 1, 2 and 4 stated that they used the announcement tool to remind students of assignment due dates. Participant 2 stated that he used the announcement tool to remind students about upcoming activities like tests, or any general announcement that is important for them to know. Participant 2 stated that he used the announcement tool during the first week of class to introduce himself and to provide instructions to students how to join the virtual classroom. Participant 2 stated that he used the announcement tool to post information that he deemed important for students' success. Participant 10 stated that she used the

announcement to remind students to complete the end of semester feedback surveys, to inform them of available course content that she posted, and to remind students of upcoming college events. Overall, Participants 1, 2, 3, 4, 5, 9, 10 and 11 used the announcement to remind students of due dates, to make an introduction to the class, and to provide relevant course information to students.

Participants 1, 2, 5, 10 and 11 stated that they used the email to communicate course information to students. Participant 1 stated that he used email as a back-up to announce tests and assignments due dates. Participant 10 and 11 stated that they used the email to remind students of assignment due dates. Participant 2 stated that he used email to send a general message to the entire class. Participant 11 stated that he used email to notify and remind students of an upcoming lecture, to make corrections or changes to the lecture that is scheduled, and to reinforce the importance of attending a class or reviewing certain materials. Participants 1, 2, 5, 10 and 11 perceived the email worked for them to provide course information to students and remind them of assignment due dates.

Participants 3, 4, 5, 9, 10 and 11 used other LMS tools to communicate course information to students. Participants 3, 5, 9, and 10 stated that they used the calendar to remind students of assignment due dates. Participant 4 stated that she added a banner with the course title and the course code in the LMS so students can remember their course title and code each time they logged in. Participant 5 stated that she used the main page of the LMS to provide a weekly checklist for students. Participant 5 stated that providing all course information on the LMS helped students who were absent to access the course information. Participant 9 and 10 stated that she used the attendance tool to

keep track of students and to update them of their attendance record. Participant 9 stated that she used the intelligent agent tool during the first week of school to create messages to remind students who have not logged on to do so and to welcome those who have logged on to the course. Participant 9 stated that she used the intelligent agent to create a welcome message and a reminder for students. Participant 9 stated that when students logged on to their course, they would receive an auto welcome email from the instructor welcoming and thanking them for logging in and getting started with the course. On the other hand, students who did not log on would receive an auto email every seven days for the remainder of the course reminding them to log on. Participants 3, 4, 5, 9, 10 and 11 stated that they used LMS tools such as calendar, intelligent agent and or attendance to communicate course information to students.

Participants 6, 8 and 9 used the main page of the LMS to provide course information to students. Participant 6 stated for example that she pinned all relevant information at one particular section of the LMS main page so that students can always view it. She stated that there are several international students who attend the college so it is important that she use the LMS to organize the given course information for all learners. Participant 8 stated that she used widgets for important information that she wants the students to access throughout the course. Some examples of widgets that participant 8 used were an image of the calculator, picture of the text book, and a clock with both the local and the international time of students in the class. Participant 8 stated,

> When I use widget, the information will be there all the time but if I use announcements, it would be moving as a thread and would eventually get buried

> or lost. I use widget when I want them to see the information all the time when they log into the course.

Participants 6, 8 and 9 stated that she used widgets to customize the home page with important information that they wanted students to see each time they log into the LMS.

Participants Perceived They Used the LMS to Provide the Course Content to Students

Participant 5 stated that she used the LMS to provide several accommodations as well as multiple means of engagement to her students. Participant 5 stated for example that she used Flipgrid to provide feedback to students. She gave students the option to use Flipgrid for oral presentation instead of doing the presentation live or face-to-face. She posted videos and textbook links alongside the PowerPoint lectures in the content section of the LMS. She provided links for students to complete practice quizzes for their self-assessment. Participant 5 stated that she used Kahoot to stimulate class participation and interest. Participant 5 stated for example:

> When I'm providing course content in the LMS I used PowerPoint which included written information, animations for students to listen to the information, a movie for them to watch at their own pace and a voice recording of myself teaching or demonstrating the concept.

Participant 5 perceived that she used the LMS in a variety of ways to deliver course content. Participant 5 perceived that she used the LMS in different ways to provide accommodations for students' learning.

Participants 2, 3, 4, 6, 7, 8, 9, 10 and 11 perceived that in order to help students be successful in the course they posted their lectures and course materials in LMS system.

For example, Participant 2 stated that he put everything in the content section of the LMS such as PowerPoint with lecture, an overview of the week's activity, reading materials, learning videos, test and final exam. Participant 3 stated, "I do not use the LMS to deliver lesson in a synchronous way, it's more of a course hub, a repository for placing content for students to access". Participant 3 stated that he used the LMS as an asynchronous tool for students to access the content on their own time. Participant 3 stated he used PowerPoint, PDFs or videos to post course content. Participant 3 stated that he used the content section of the LMS to create a series of modules and supplementary modules to upload the weekly course content. Participant 4 stated that she used the LMS to provide weekly schedule for students to plan ahead or work at their own pace. Participant 4 stated that she posted weekly lessons and recorded lectures in the content section of the LMS for students to gain a deeper understanding of the lessons. Participant 6 stated she posted all the course content material such as course outline, the lecture slides, video links, articles, external resources in the LMS. She also posted a review of the previous week to summarize the key points. Participant 6 stated that she recorded the weekly lectures and posted them in the course content of the LMS. Participant 6 stated for example,

> On the LMS the students have a current week's lecture, high points of the previous week's lecture and a posted link where they can watch a video of that week's lecture. I gave them many opportunities to access course information.

Participant 7 stated that he used PowerPoint and YouTube videos he created to post the content in order to help students gain understanding of the concept. Participant 7 stated that he posted case study and news board as course content in the LMS. Participant 8

stated that she used the content section of the LMS to post the course notes, the recorded lectures, the formula sheets, the course outline, the information discussed in class, or the information she wants students to access. Participant 8 stated that she used sub-modules to keep the content well organized. She stated for example that she put the lecture notes in one module and then resources in another module so that it's easy for the students "to find exactly what they are looking for". Participant 9 stated that she always creates a welcome and getting started module in the content section of the LMS with information about the instructor, course outline, classroom format, textbook, assignment due dates, some college policies, learner support and interaction activities that students have to read through before any other course information is released to them. Participant 9 said, "It is like a conditional release, so the students have to read the getting to start section before it releases anything else so, once they click on everything in getting started then the rest of the course material will be displayed." Participant 10 stated that she used PowerPoint to create the content and then posted it in the LMS. Participant 10 stated that she used the content page in the LMS to post week by week lessons for students to access course information such as an overview of lessons, links with content information, class activities and practice questions. Participant 11 stated that he used the content section of the LMS to provide the course content to students on a weekly basis. He stated that in the content section he would post an introductory message, the week-by-week lecture in PowerPoint form, references to the lecture and links to videos that the students can use as resources to enhance learning. Participant 11 stated that after he recorded the live lectures that were delivered through the virtual classroom, he downloaded and modified them. He

then copied the modified recorded lectures to the course content of the respective week. Participant 11 stated that he used the LMS to provide information in multiple formats to give students various ways of remembering the content. Participant 11 stated for example that he used the LMS to provide the course material to students which included a summary of the lesson in note form, he used the virtual platform to provide live lectures, and he used the content section to post the recordings from the live lecture. Participants 2, 3, 4, 6, 7, 8, 10 and 11 used the content section of the LMS to provide course content to students.

The LMS support team created a model course called an exemplar for instructors to use as guide to create their courses in the LMS. Participant 9 stated that she used the exemplar that the LMS support team provided to create a module for each topic in her courses. She stated that in each module there is an overview, learning objectives and a chapter summary. Participant 9 stated that she added reading materials, handouts and links to videos that explained the concept. Participant 9 stated that she provided links with assignments and practice activities from the textbook publisher directly to the LMS. Participant 9 stated that she used the content section of the LMS to provide text book information on how to use the publisher's software, to provide a course tutorial, and to provide links related to the subject matter. Participant 9 stated that she used the content section of the LMS to bring students back to the LMS as often as possible because she doesn't want them to think they don't need the LMS for the course. Participant 9 perceived that the exemplar helped her to organize the content section of the LMS.

Participants 1, 3, 4, 6, and 8 used LMS tools other than the content section to provide course content to students. Participant 1, for example, stated that he used discussion forum to further explain content information to students and to discuss questions that students perceived to be challenging. Participants 3, 4 and 8 stated that she used announcements to reinforce what was taught in class. Participant 3, for example, stated that sometimes he used the announcement tool as a follow up to class discussions. For example, he would share a link, a video, or reading materials to improve students' understanding of the concept. Participant 3 stated that he used announcement each week to provide students with information as a follow up from lectures or to prepare them in advance for the next class lecture. Participant 3 stated

> There's one class that I teach, where we have weekly debates, and I would post an announcement of what the debate resolution would be, along with background materials for students to familiarize themselves on the topic. I posted YouTube videos or an article for them all to read in advance of the in-class debate.

Participant 4 stated that using the announcement to reinforce what was taught in class helped those who were absent to know what happened in class. Participant 4 stated that she also used the announcement to provide a help video to assist students to use the LMS. Participants 1, 3, 4, 6, and 8 used the announcement and discussion tools to provide course content and materials to students.

Participants Perceived They Used the LMS Beyond the Basic Requirements

Participants 9 and 11 perceived they used the LMS beyond the basic requirements to support student learning. Participant 9 stated that she enjoyed spending her time

learning more about the LMS and each semester she tried to learn something new to use in her class. Participant 9 stated," this semester is the first time I am trying the pop-up window". Participant 9 stated that he learned the feature by going through all the options that were available in the sand box. Participant 9 stated, "I didn't even know what some of these do. When I click on them, I said Hey that is really neat." Participant 11 stated that he used the LMS to motivate students to complete their assignments, to motivate students to attend and participate in class, and to help students manage their time. Participant 11 stated that he taught for 20 years before experiencing teaching with the LMS. Participant 11 stated that he is motivated to use the LMS beyond the basic requirement because he recognized how boring his class was in comparison to teaching with the LMS. He stated for example,

> What made me want to use the LMS was after 20 years of experience of being boring in the classrooms. Yes, I mean that's the truth. It's just a fact of life. It's like the disease of most lecturers is they think they're legends in their own mind, and they want to go on to a classroom and perform as if it is showtime when it's not. The biggest thing you have to do in learning is stop talking and get the students to learn in groups, which is the best way to do it and that was one of the big Achilles heels.

Participants 9 and 11 used the LMS beyond the basic requirement because they enjoyed using the LMS.

Participants Perceived They Used the LMS Because it was Convenient for Students

Participants 1, 2 and 10 stated that they used the email feature because it was convenient for students. Participant 1 stated for example that he used email as a backup tool to get information immediately to students. He stated that most students have their emails on their phone so if an email pops up in their inbox, they will see it right away rather than having to sign into the LMS to see the announcement. Participant 2 stated that he used emails and announcements frequently, at least once a day, because these are the news room for students to find out what is happening in their course. Participant 10 stated that she posted the answers to questions in the discussion forum when students ask her questions through emails that will benefit the entire class. These participants (1, 2 and 10) perceived that the email is a useful tool to use with students.

Participants 1, 2 and 10 perceived they used the LMS because it was convenient for students. Participant 1 for example stated that he used the quiz and discussion tools because they were easy for the students to use. Participant 1 and 2 stated that they used the content feature because it is a convenient place for students to find their course content. Participant 1 stated that for both online and face-to-face instruction he used the LMS to store course content because it allowed students to access information at their convenience. Participant 1 stated, “I just think it is just a pretty neat way to just have things there for students to see”. Participant 1 stated that he used the LMS to provide assignments and quizzes to students that he integrated from external resources so that students can find their assessments easily. Participant 2 stated that he customized his LMS home page to only show information he is using because it is easier for students to

locate the information that he wanted them to access. Participant 2 stated that he exported the audio animated PowerPoint in many different file formats to make it easy for students to have the material in note form to study. Participant 10 stated that she used announcement because it was a simple tool for students to receive immediate communication. Participants 1, 2 and 10 perceived that they used the LMS discussion forum, content section, external assessment tool and customized home page to make accessing content information and assessment more convenient for students.

Participants 4 and 10 used the LMS to provide alternate options for students to access course content and complete assignments because that was convenient for them. Participant 4 stated that she used the LMS to provide accommodation for every learner. Participant 4 stated that when using the LMS she designs the course with multiple means of representation to accommodate all types of learners including those with learning differences. For example, she posted the content with an audio content, a video and a PowerPoint to support all learning needs. Participant 10 stated that she gave students the option to submit their journal assignment as a word document or create a video. Participants 4 and 10 perceived that they used the LMS because it was convenient to use multiple means of representation to provide course content and assessment to all learners.

Participants Perceived They Used the LMS to Facilitate Students' Engagement

Participants 1, 3, 4 and 11 used the LMS to facilitate group interaction for student engagement. Participant 1 stated that he used the break out rooms for students to work together in groups. Participant 3 stated that he used break out rooms to facilitate group activities and collaboration. Participant 3 stated that she used mural which is an online

tool to facilitate group collaboration in her class. Participant 4 stated that she used the LMS to facilitate group work in an effort to promote students' interaction and engagement. Participant 11 stated that he used the break out room to engage students. These Participants (1, 3, 4 and 11) used the breakout room and mural to promote student engagement.

Participants 3, 4, 6, 10 and 11 used survey or polling through the LMS for student engagement and interaction. Participant 3 stated that he used online surveys or questionnaires like personality tests to facilitate students' engagement. Participants 4 and 10 stated that they posted links to polls or to any question survey in the content section of the LMS to engage students in the course. Participant 11 stated that he used polling in the LMS virtual classroom to engage students. Participant 11 perceived that he provided opportunities for students' engagement because there are insufficient classroom dynamics and interaction in an online classroom. He stated that "students' interaction is absolutely important in online learning". These Participants (3, 4, 6, 10 and 11) perceived that survey and or polling worked for them to facilitate students' engagement and interaction.

Participants 2, 3 and 4 used Kahoot as an interactive tool through the LMS for students' engagement. Participant 2 stated that he used Kahoot to engage students in the course content and to review material to prepare them for upcoming tests. Participant 2 stated that he had used Kahoot both in his face-to-face and online classes to review lessons. Participant 3 and 4 stated that they used Kahoot to review materials covered in the class. These Participants (2, 3 and 4) perceived that Kahoot worked for them as an interactive tool for student engagement.

Participants 2, 3, 4, 6, 8, 9, and 10 used the discussion forum as an interactive tool for students' engagement, problem solving, and interaction. Participant 2 stated that he used discussion forum to engage students in problem solving. Participant 2 stated that he posted word problems in the discussion forum for students to solve and to share their solution. Participant 3 stated that he used the discussion forum for students to share their work on an assigned activity with the class. Participant 3 stated, "I help facilitate a discussion by posting questions, encouraging different students to post their question to other students, encourage students to respond to something that another student said in the room, rephrasing something that somebody said to present it from a different angle in order to encourage further discussions. Participant 4 stated that she used the discussion forum for students to introduce themselves at the beginning of the semester and encouraged them to use the forum to discuss group assignments. Participant 6 stated that he used the discussion board for ongoing dialogue on key concepts, for students to ask questions, and to increase students' engagement. Participant 8 stated that she used the discussion tool sometimes to engage students in dialogue. Participant 9 stated that she used discussion post for students to answer questions she created from the reading materials. Participant 9 stated that he used the discussion board to facilitate weekly discussions on the course topic they are working on. Participant 9 stated for example,

> I make the discussion post about the topic but in a personal way. I let students use a personal example so that it's not an answer they can Google, or get from somebody else. They have to first post before they can read any anybody else's discussion. Then they replied to at least two students' posts.

Participant 10 stated that she used the discussion tool to create weekly discussions about course topics, allow students to post questions they may have about the content and allow students to view responses to questions. Participant 10 stated that she encouraged students to post any question or concern they have in the discussion forum if they believe that the questions or concerns will benefit others in the course. Participants 2, 3, 4, 6, 8, 9, and 10 perceived that the discussion forum worked for them to facilitate students' engagement.

Participants 2, 3, 4 and 10 perceived they used videos as an interactive tool for student engagement. Participant 2 stated that he used YouTube in his face-to-face and online classes. He stated that sometimes he gave the students the YouTube video to watch as a classwork task or he gave them an assignment to create a YouTube video. Participant 3 stated that he used YouTube videos to engage students in the course content. Participant 4 perceived that she put a link to the recorded lesson in the content section of the LMS to facilitate student engagement. Participant 10 stated that she used the video tool for students to do an introduction video and share with the class. Participant 10 stated that she provided the links for the interactive tools to students through the LMS. Overall, these participants (2, 3, 4 and 10) used video to provide learning material or as an assignment tool.

Participant 3 stated that he facilitated class discussions in synchronous classes. He stated that during synchronous class he asked students questions and waited on them to reply. Participant 3 stated that facilitating a class discussion during online class can be challenging because most students preferred not to participate. He stated that he used

patience and determination to wait on the students to reply and after “an uncomfortable silence” they responded. Participant 3 stated that soon after one student replied other students would join the discussion which usually resulted in a “really good interactive discussion”. Participant 3 stated that another method he used to promote student engagement in the online class is the use of the camera. He stated that at the beginning of the semester he made it mandatory for his students to have their cameras on. Participant 3 stated that he made it mandatory for students to have their cameras on because those who have their cameras on are more engaged in the lesson and their grades tend to be better than those with cameras off. Motivating students to keep their cameras on and having live discussion worked for participant 3 to promote student engagement.

Participants 4 and 5 perceived that they used the award feature in the LMS to increase student participation. Participant 4 stated that she used the awards feature in the LMS to motivate students. Participant 9 stated that in previous semesters she had used the award feature to create awards for students who read all the content in a module. Participant 9 stated, “I give an award for reading all the content because in the LMS we can track if they view the content. Although we are not sure if they read each section thoroughly, we can tell if they click on each.” Participant 9 stated that she created topic modules with about six sub-modules and when the students view the module entirely, they received an award. Participant 4, 5 and 9 perceived that the use of the award feature in the LMS motivates students.

Participants 4 and 10 used other interactive tools to engage students. Participant 4 stated that she used podcast and multimedia to engage students in learning. Participant 10

stated that she used nearpod.com as another interactive tool for student engagement. Participant 10 stated that she converted the PowerPoint that has the content to the Nearpod interactive software. She stated that when the PowerPoint is converted to Nearpod she is able to add interactive activities similar to Kahoot to engage students in the lesson. Podcast, multimedia and Nearpod are examples of interactive tools that worked for participants 4 and 10.

Participants Perceived They Used the LMS to Facilitate Student Assessments

Participants 4, 6, 7, 9, 10 and 11 used several LMS tools to facilitate student assessments. Participant 4, 6 and 9 stated that they used the quiz feature to create question banks and quizzes. Participant 6 stated that she used the quiz function in the LMS to provide self-assessment quizzes for students to assess what they have learned from the lecture and to prepare for tests. Participants 4 and 10 stated that they gave students an assignment to create a video on a particular topic. Participant 4 stated that she used the live videos and the virtual lab in the LMS for students to submit assignments. Participant 4 stated that she gave students the options to hand write assignments, take a picture and upload as a PDF, do voice record or type the assignments. Participant 4 stated that she used the assessment tool in the LMS to upload student's grades and provide feedback. Participant 4 perceived that when she used the LMS to provide students with their grades and feedback they can observe their progress in the course and take the necessary steps to improve their grades. Participant 4 stated that students have a deadline to drop a course without their GPA being affected. Therefore, she used the LMS to provide students with continuous updates of their grades so they can drop the course

before the deadline if they perceive they will not do well. Participant 4 stated that she gave students two options to submit their lab assignments. The students can do a live demonstration with her or create a video and post the link in the assignment. Participant 4 stated that she used the LMS to create groups for students' project assignments. She stated that she also used the assignment folder in the LMS for students to submit their group assignment progress reports. Participant 4 sometimes used the rubric feature in the LMS for assignments. Participant 7 stated that he used the LMS to supervise student progress to see how many assignments are completed and the amount of time they spend on each assignment. Participant 7 stated that when students missed their assignment submission dates, he used the announcement and email features to remind them. Participant 7 stated that he used email to reach out to students who missed multiple assignments and who were not attending class. Participant 7 used the announcement tool to provide assignment updates to keep students on task. Participant 8 stated that the LMS has a feature to add external learning tools. Participant 8 stated that she used the external learning tools to connect to the textbook publisher's test bank to create assessments for students. She stated that after she created the assessments, she added them to the course and when the students do the assessments their grades go directly to the gradebook. Participant 10 stated that she used the rubric tool to communicate assignment expectations to students. Participant 11 stated that he used the poll to create multiple choice or yes and no quiz questions as a reinforcement activity to emphasize what was taught. Participant 11 perceived that after each polling activity the students would self-assess themselves by examining what aspects of the lesson they did not comprehend. He

stated that the main objective of the polling questions is to provide students with practice questions to prepare for tests. Overall, participants 4, 6, 7, 9, 10 and 11 used the email, announcement, quiz, assignment folder, gradebook, videos, and polling to facilitate student assessments.

Theme 5: Participants Perceived They Used the LMS Because it was a Requirement by the College and it Plays a Significant Role in Education

During the data analysis, data analysis revealed that participants perceived they used the LMS because they were forced by the college use it and because it benefits student learning.

Participants Perceived They Used the LMS Because it is a Requirement by the College for Them to use It

Participants 1, 2, 3, 4, 5, 6, 9 and 11 perceived that they used the LMS because they were informed by the college that they should use it. Participant 1 stated that he used the LMS because the college has a policy requiring its use. Participant 1 stated that he used the virtual platform because he did not have an option. Participant 1 stated for example, “we were forced in 2020 during Covid-19 pandemic to move to remote learning and we used the virtual classroom because we were in the situation where we needed a remote environment.” Participant 2 stated that he used the LMS because it is the college expectation for him to use it. Participant 2 stated that he used the LMS announcement and email to communicate with students because these are the methods that the college approved for him to use to communicate with students. Participant 3 stated that he used the LMS gradebook because the college required him to use it. Participant 4 perceived

that they were forced to use the LMS for teaching due to the COVID-19 pandemic. Participant 4 stated that she teaches lab-based courses and prior to the pandemic all labs were face-to-face. However due to the pandemic they were forced to use the LMS to accommodate virtual labs. Participant 5 stated that he used the LMS because it is a requirement by the college. Participant 5 stated that she used the calendar feature because the college expects instructors to use it to communicate due dates to students. She used the course content because the college expects instructors to use it to provide course materials to students. Participant 5 perceived that she communicated with students through email rather than phone call because that is the formal communication method that the college provided for her to track record of communications with students. Participant 6 stated that she used the LMS because the college expects her to use it. Participant 9 perceived she used the content section of the LMS to provide course content to the students because it's required by the college. Participant 9 stated for example, "I put the content in the LMS because it provides the tools that I need but the main reason is because the college tells me I have to". Participant 11 perceived that he used the LMS because the college expected him to. Participant 11 perceived that he was not motivated by any factors to use the LMS; he used the LMS because the college mandated that he should use it. Participant 11 stated for example,

> "I didn't get much of a promotion to encourage me to use the LMS. I only got a statement occasionally from the coordinator or the executive in charge of the faculty implying that I should make sure I use the LMS".

Overall, Participants 1, 2, 3, 4, 5, 6, 9 perceived that they used the LMS because they had no other options and it was given to them by the college as a mandate for them to use to provide learning instructions to students.

Participants Perceptions of the use of the LMS in Education

Participants 4 and 11 perceived that the use of the LMS plays an effective role in teaching and learning. Participant 4 perceived that the use of the LMS made her more effective in providing learning support to students. Participant 4 stated that with the LMS she is better able to communicate with students than when she teaches without the LMS. Participant 4 stated that prior to her experience of teaching with the LMS, students had to attend class to get the lecture notes but with the LMS they can access the lecture notes even when they are absent from class. Participant 4 stated that, "the use of the LMS provided us with a broader perspective of education and greater flexibility". Participant 4 perceived that there are advantages to teaching with the LMS. Participant 11 perceived that there are pros and cons with the learning management system but it is an added value for students' success. Participant 11 perceived that the LMS should not only be used when classes transitioned to online learning. Participant 11 stated that when the college returns to face-to-face teaching the instructors should still post lectures, post content, send reminders and send emails. Participant 11 stated that these online practices should continue when they return to face-to-face instruction because "the LMS is an indispensable additional resource to enhance the learning for students and the learning outcomes that are necessary to achieve objectives so that students get value for money".

Participant 11 perceived that the college management leadership team should be more involved in promoting the value of the LMS among faculty members. Participant 11 stated that if faculty members are allowed to interact with each other and share their stories about how they use the LMS, the value of the LMS would be strengthened among faculty members. Participant 11 perceived that the LMS support team is doing a great job but to promote the value of the LMS more action is needed from the college leadership team. Participant 11 stated for example,

> "The LMS support team job is to tell you when the ship is taking off in space, if it's steering in the right direction, and if you're having a problem how to fix it. To get you to get on and board the ship, you need another kind of promotion and I didn't think that much was there in that area."

Participant 11 perceived that there were not many occasions for faculty members to learn from each other or share success stories of their use of the LMS and he would like the college leadership team to make it happen.

Theme 6: Participants Made Recommendations and Suggestions to the Administrative Team About the use of the LMS

The data analysis revealed that participants perceived that the administrators need to integrate more features in the LMS to better support their teaching needs. Participants perceived that the LMS features for facilitating students' engagement and learning were limited. Participants made several recommendations for the administrative team to improve their use of the LMS for teaching and learning.

Participants 3, 5 and 8 stated some recommendations for the administrative team regarding the expansion of the LMS. Participant 3 stated that he would like the LMS to be fully integrated with MS Teams to utilize functions such as attendance. Participant 3 stated for example "I know that MS Teams has the capability to be connected to the LMS … and that would be great." Participant 3 also stated that the college should make the interface of the LMS mobile friendly because it is more convenient for some students to use their mobile devices to access the LMS. Participant 8 perceived that she needs more interactive tools in the LMS to engage students in the course content, especially for her math courses. Participant 8 stated that some students will never participate in class discussions or use the discussion post to share their math ideas. Participant 8 perceived that having interactive tools for students to practice and share their mathematical understanding anonymously may help those who does not participate to become involved. Participant 8 perceived that this may help students who have math anxiety, who have not done the subject for many years and feel insecure about their learning ability to participate in class activities. Participant 5 stated that the college should make it a priority to have a software that is accessible for both faculty members and students who have learning disabilities. Participant 5 perceived that it is important for the college to have an organized and standardize LMS that supports students' learning, students' engagement, and equity. Participants 3, 5 and 8 perceived that there should be added features to the LMS such as MS teams and interactive learning tools to facilitate students learning, students' engagement and equity.

Participant 4 stated that she is concerned about her privacy using the LMS to teach students. She stated that she created videos to explain the course content and she would not want those videos to be shared. Participant 4 stated that she is aware that students post information in their social media but she wouldn't want them to share her videos in social media. Participant 4 stated that she asked her students for a written consent that they would not share her videos in social media and if students maintain that privacy, she would have no problem using the LMS. Participant 4 stated for example,

> "I don't want my videos to be posted because sometimes I show my face. Even though the students don't show their face, I show my face because I want them to feel comfortable that I am not a robot teaching them."

Participant 4 stated that given she has now been teaching with the LMS she would not want to return to teaching without the LMS. Participant 4 perceived that if she should return to teaching without the LMS it would become inconvenient and problematic. Therefore, although participant 4 is concerned about her privacy when using the LMS she preferred to teach with the LMS.

Participants 5 and 8 stated that she would like the LMS to have more tools for student interaction. Participant 5 stated that some of the current LMS tools are complicated. Participant 5 stated that although she perceived that some of the LMS tools are complicated she does not want a recommendation to be made to the administrators that they need to develop more PDs because that is not her reason for stating that the tools are complicated. In addition, there are already sufficient PDs. Participant 5 stated for example that the quiz tool is not intuitive and the college needs to get a better one.

Participant 5 perceived that the LMS does not have the evaluation and assessment tools to effectively engage student learning. She stated that the LMS only has an assignment Dropbox to keep students organized. Participant 5 perceived that engagement tools such as Kahoot and Flipgrid need to be integrated in the LMS to engage the students. Participant 8 stated that she would like to know what other options besides discussion and breakout rooms she can use to engage students in the lessons. Participant 8 stated that most students do not participate in the discussion and breakout room activities. Participant 8 stated that students only complete activities that will be graded and if there is no incentive for completing the learning activity, they won't do it. Therefore, participant 8 wants to know how she can use the LMS to motivate students to engage in learning as they find the course difficult and only complete activities that will be graded.

Participants 5 perceived that the college should have more features in the LMS to accommodate diverse learners. Participant 5 perceived that the college management needs to provide more opportunities for instructors to access course content through the LMS. Participant 5 stated that the e-textbooks she used for content through the LMS belong to the textbook publisher resources. Participant 5 stated for example, "to provide content, I want the college management to better support the library, purchase LinkedIn learning for videos, and have E-campus textbooks. Participant 5 stated, "the LMS is a platform so, I think the college needs to continue to support the external tools such as resources for course content".

Participants 4 and 5 perceived that all instructors should be using the LMS more to support their teaching practice. Participant 5 stated that there should be consistency

among instructors as to how they used the LMS. Participant 5 perceived that all instructors should be using the core course shell that the LMS support team provided. Participant 5 stated that when students logged into the LMS they should first see all their courses listed at the same place and when they click on each course faculty should be using the same design as the one provided by the LMS support team. Participant 5 perceived that faculty members should be organizing the course content by week for the students. Participant 5 perceived that all instructors should be using the grade book, the assignment folder and the calendar. Participant 5 stated, “I think it's important that we have some consistency with how we are using the LMS because the students have a ridiculous number of courses with a ridiculous number of assignments and due dates”. Participant 4 perceived that instructors would attend the available training to use the LMS if it became mandatory for all instructors to use the LMS for teaching. Participants 4 and 5 perceived that if the use of the LMS among instructors to provide instruction, assessment and student engagement was monitored, instructors would attend the available training to become comfortable using the system.

Participant 6 stated that she would recommend that the college conduct a part two of the orientation training for part time faculty. Part-time faculty members attend the college on the days and hours when they are assigned classes. Participant 6 stated that part-time faculty would love to learn more about the LMS and the LMS training he had at the new employer’s orientation was helpful. Participant 6 perceived that the college should offer the part time faculty members part 2 of the orientation with pay. Participant 6 stated that lifelong learning is valuable therefore the college should offer more than a

one-time training with pay to part-time faculty members to learn how to use the LMS in teaching. Participant 6 stated that part time instructors are assigned different courses and different courses sometimes require the use of different LMS tools. Participant 6 stated,

> "We might be assigned a new course to teach that requires the use of a tool that we learned about three years ago in our orientation, but we've never used it since then, and now we are expected to use it again. I truly think refreshing is very useful."

Participant 6 perceived that although the LMS support team is excellent and has a lot of online training and resources for instructors to access information, "as with any other repository of information", she sometimes finds it difficult to locate exactly what she is looking for. Participant 6 stated that if she should attend a live training session, she would receive information and immediate feedback directly "from someone in real time". She stated that in a live training session even if she is not sure about what exactly she is looking for, when she talks to the person who is doing the training, they would be able to understand and provide immediate support. Participant 6 perceived that it is important for part-timers to be given the opportunity to receive continuous training with pay to use the LMS.

Participant 11 perceived that the greatest success in the use to the LMS is improvement and the college leadership team can play a significant role to make this happens. Participant 11 stated that if any improvement is needed with the LMS it should begin with the administrative leaders. Participant 11 stated that the administrative leaders need to better promote the use of the LMS among faculty members by providing them the

opportunity to meet in groups and share their experiences about their use of the LMS. Participant 11 perceived that the ‘group dynamics will improve instructors use of the LMS. Participant 11 stated that he would like for the leaders to bring faculty members together to learn from each other. Participant 11 perceived that he would benefit from group interactions with other faculty members talking about what works and what doesn't work for them when they are using the LMS. Participant 11 perceived that he would benefit more from engaging in group interactions with other faculty members about the use of the LMS rather than be left alone to figure it out or to go to the LMS support team for help.

Discrepant Cases

In conducting a research study, I was aware that discrepant data may appear during the data collection and analysis process. I did not identify any discrepant data during the data collection and analysis process.

Evidence of Quality

This qualitative research study has followed necessary procedures to ensure accuracy and credibility of the findings. I followed the ethical protocols required by the institution Research Ethics Board (REB) and Walden University’s Institutional Review Board (IRB) prior to and during the collection of data. I conducted interviews using the interview protocol that I developed to guide the interview. I used the recording feature on the virtual platform to record each interview. During the interview I documented my observations. I also documented my thoughts or ideas that developed as the data emerges. I transcribed each interview and compared the transcription with the recording to ensure

accuracy. I then conducted a transcript check with each participant for them to check whether the transcript accurately reflects what they said in the interview. I used a peer reviewer to validate that the data analysis is accurate, authentic and transparent. Lastly, I used rich, thick descriptions in this study to ensure reliability and validity.

Answering the Research Questions

The problem that this study addressed is that instructors from the School of Business at a large 2-year college located in Canada were underutilizing the LMS to provide feedback to students, to make course content available in a variety of accessible formats to students, and to promote student engagement in learning as required by the LMS policies. In order to address this problem, I conducted a qualitative study to explore factors that influenced instructors' use of the LMS in accordance to the LMS usage policy to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning in accordance to the LMS policy. state purpose here. The data analysis revealed six themes: (a) how participants from the School of Business perceived the system quality of the LMS, (b) how participants from the School of Business perceived their self-efficacy when using the LMS in accordance with the LMS usage policy, (c) how participants from the School of Business perceived the facilitating conditions for their use of the LMS, (d) how participants from the School of Business perceived they used the LMS beyond the basic requirements of the college LMS policy for students' success, (e) how participants perceived they used the LMS because it was a requirement by the college and it plays a significant role in education, and (f) participants' recommendations and suggestions to

the administrative team about the use of the LMS. The themes provided an understanding of how faculty members from the School of Business perceived that they were influenced by the system quality, their perceived self-efficacy and the facilitating conditions to use the LMS in accordance to the LMS usage policy.

Research Question 1

The findings of my study revealed that participants perceived that the system quality such as the functions, speed, features, contents and the interaction capability of the LMS worked for them during their teaching practices to (a) provide course content to students, (b) communicate course information to students, and (c) engage students in the lessons. The findings revealed that participants used either Bongo virtual platform or MS Team's virtual platform to present live lectures, record the live lectures, provide immediate feedback to students' questions, facilitate live discussions, and share course content. The participants perceived that the interaction capability of the LMS to facilitate asynchronous learning was of sufficient quality to facilitate teaching and learning, during COVID 19. The findings show that the participants perceived that the LMS functions were of sufficient quality to create multiple versions of assessments, access learning resources directly from the publisher, connect with students synchronously and or asynchronously. The findings revealed that participants perceived that the LMS features, functions and content were of sufficient quality to facilitate assessments, access external learning resources, connect with students live or stay connected with students through emails.

The findings show that although all participants perceived that the system quality worked for them during their teaching practices, each participant perceived they had an issue with either the interaction capability, features, functions or speed of the LMS. The findings from the discussions revealed that participants wanted additional features in the LMS to support teaching practices. Some participants stated that they wanted the course link validator feature and the parent children feature that uploads course materials and announcements to different course sections at once be implemented in the LMS. The findings revealed that participants perceived they wanted MS Teams virtual platform to be integrated in the LMS because the features worked for them. The participants perceived that MS Teams works well to collaborate with students, create quality videos, communicate with students offline, create small groups for students' interactions, and create group video presentations. The data revealed that participants wanted a virtual platform that is efficient and integrated in the LMS for both asynchronous and synchronous teaching. They perceived they wanted a virtual platform that would allow them to stay connected with the students outside of class, to facilitate small groups interaction, to facilitate the use of video for students to create group presentation, to show the name of students who attend class, to show the number of minutes students logged on for, and to check the number of messages each student wrote. The findings revealed that participants perceived they should have the opportunity to access course content resources such as LinkedIn learning for videos, and E-campus textbooks through the LMS. The findings revealed that participants perceived that if more interactive functions could be added to the LMS to facilitate students learning, students' engagement and

equity as well as to better support teaching practices then they would be more motivated to use the LMS in accordance to the LMS policy.

The findings revealed that participants perceived that the Gradebook, the intelligent agent, and the assessment tools are important features they need to make their teaching practice more effective but these features are not easily understood without getting help from the LMS support team or a colleague. Participants perceived they would have used the intelligent agent and assessment tools more but they did not find them easy to use. The college required the participants to use the Gradebook to submit grades but each time they are using it some participants stated that they had to seek help from the LMS support team or use the guide.

The findings revealed that participants did not use the intelligent agent because they found it difficult to use. The findings further revealed that participants perceived that the LMS should be compatible with mobile phones for students' convenience. The findings revealed that participants perceived that if students could access the LMS on their phone while roaming it would be more convenient for the students. Overall, participants perceived that the system quality influenced their use of the LMS.

Research Question 2

The findings show that most of the participants perceived they were confident using the LMS to provide course content to students, to communicate with students and to promote students' engagement. The findings show that participants perceived they were confident using the content page, class discussion, and communication tools such as email and announcement in their teaching practices. This study findings show that

participants perceived they were comfortable and confident utilizing the LMS in their teaching practices and that they used the LMS beyond the basic requirements to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning. The findings from this study showed that participants were confident because they either had prior experience using the LMS, they had been using it for a while or were naturally technology savvy.

The findings revealed that participants with perceived self-efficacy to use the LMS were motivated to use the LMS beyond the basic requirement to (a) utilize the discussion forum, survey, and quizzing features to receive feedback from students, (b) use the announcement feature in the LMS to remind students of due dates, make an introduction to the class, and provide relevant course information to students, (c) use the calendar, intelligent agent and or attendance to communicate course information to students, and (d) use the widgets to customize the home page with important information that they wanted students to see each time they log into the LMS. The findings revealed that participants perceived self-efficacy motivated them to use the LMS beyond the basic requirements to provide course content to students in a variety of accessible ways. The findings revealed that in addition to uploading the course outline, PowerPoint with lecture slides, test and final exam to the content section of the LMS, these participants uploaded an overview of the week's activity, reading materials, learning videos, recorded lectures, articles, external resources, textbook links, assignment due dates, some college policies, learner support and interactive activities, class activities and practice quizzes in the LMS to support students' success. The participants perceived they were comfortable

using the LMS beyond the basic requirements because of their previous experience or they perceived they were naturally technology savvy.

The findings revealed that some participants did not use the LMS to promote students' engagement because they did not know how to. They perceived they were not confident using the LMS to promote students' engagement because they were not comfortable using the tools and preferred to use external tools that they perceived did the same job or even better than those in the LMS. These participants explained that they did not use the LMS engagement tools because they preferred to use the external ones such as flip grid and Quizlet as they felt more comfortable using them. They used flip grid for students to create video presentations rather than the video tool in the LMS and Quizlet to create practice quizzes rather than using the quizzes feature in the LMS. They stated that they had been using flip grid and Quizlet for many years and it would be difficult to stop using them. The participants perceived that if they should replace flip grid and Quizlet for features in the LMS they would have to attend PD sessions to learn how to use those features in the LMS. Overall, participants perceived self-efficacy influenced their use of the LMS.

Research Question 3

The findings showed that participants perceived that facilitating conditions such as training and PDs to learn basic LMS features such as announcement, assignment, gradebook, class list, awards, content, custom widgets, discussions, email, grade submission, instructor student view, intelligent agents, sandbox, and video made them aware of the tools which led to their use of the LMS. The findings revealed that

participants perceived that the available facilitating conditions made them feel comfortable using the LMS. When they attended PDs to learn how to use the exemplar to organize the content section of the LMS they became comfortable using it. The findings show that some participants perceived that the administrators should (a) plan paid LMS training for part-time faculty members and (b) provide all faculty members the opportunity to learn from each other how they utilize the LMS in their teaching practices.

The findings revealed that participants found that the training they received at the new faculty orientation to learn how to use the LMS, was useful. The participants explained that the training they received at the orientation made them aware of some basic LMS features such as announcement, assignment, gradebook, class list, awards, content, custom widgets, discussions, email, grade submission, instructor student view, intelligent agents, sandbox, and video and the tools they can use to assist them in their teaching practices. The participants stated that they were able to apply the skills they learned at the orientation to their teaching practice.

The findings revealed that participants perceived that instructors should use the LMS more to provide instruction, to facilitate assessment and to engage students in the course. For example, participants perceived there should be consistency among faculty members use of the LMS with the course shell design, gradebook, assignment folder, calendar and organizing the content by week. The findings show that participants perceived that many faculty members are not taking advantage of the LMS training and PDs so if the college monitor faculty members use the LMS to provide instruction, to facilitate assessment and to engage students in the course then this may motivate faculty

members to attend the available LMS training and PDs. These participants perceived that all instructors should be using the core course shell that the LMS support team provided and organizing the course content by week for students to have some consistency across their courses. These participants stated that there should be consistency among faculty members in the use of the grade book, the assignment folder and the calendar and that administrators should make it become mandatory for all instructors to use these tools at all time.

The findings revealed that some participants perceived that the college should continue offering part-time faculty members LMS training, with pay, as they did at the new faculty orientation. They perceived that LMS training with pay for part-time faculty members should not be only offered at new faculty orientation but it should be continuous. One participant stated that it is important for part-timers to be given the opportunity to receive continuous training with pay to use the LMS. Participants explained that part-time faculty members usually attend the college during their assigned teaching hours that they are paid for and should be compensated when they return for PDs. One participant stated that although the LMS support team has available PDs the times are not convenient for part-time faculty members to attend without being paid.

The findings revealed that some participants asked their colleagues for help when they needed technical assistance to use the LMS. These participants explained that when they needed help to use the LMS tools they often asked their colleagues for support. Participants perceived that the administrative leaders need to better promote the use of the LMS among faculty members by providing them the opportunity to meet in groups

and share their experiences about their use of the LMS. One participant explained that if faculty members are given the opportunity to meet in groups and share their LMS experience among themselves, the ‘group dynamics’ will improve his use of the LMS, he will learn from other instructors, and benefit from group interactions with other faculty members.

Interpretation and Discussion of the Findings

The conceptual framework that grounds this study is the expanded technology acceptance model (TAM) developed by Fathema et al. (2015). Fathema et al found that three external factors, system quality, perceived self-efficacy, and facilitating conditions were significant predictors of faculty, in higher education institutions, use of the LMSs Fathema et al. stated that post-secondary institutions made considerable investment in the LMS to facilitate teaching and learning however, faculty members did not use the LMS to its fullest capabilities. Fathema et. al posited that for instructors to use the LMS to its fullest capabilities the quality of the system is paramount, instructors perceived self-efficacy to utilize the LMS is necessary and institutions providing the ideal facilitating conditions to support instructors use is relevant. The findings of this study were related to the conceptual framework. The findings in my study revealed that system quality, perceived self-efficacy and facilitating conditions are related to participants use of the LMS. For example, participants perceived they used the LMS functions because the system works for them in their teaching practices. When they found that the quality of the system was limited or had issues, they avoided using the system. The findings revealed that the participants were influenced by perceived self-efficacy to use the LMS. For

example, the participants used the LMS features they were comfortable and confident using. The findings show that participants did not use features they perceived difficult to use because they were not comfortable using them. For example, some participants perceived they did not utilize the assessment and intelligent features in the LMS because they found them difficult to use. The findings further show that the facilitating conditions influenced instructors use the LMS. For example, participants stated that the PDs and support they received from the LMS support team made them aware of the LMS features they used in their teaching practices.

The review of literature examines system quality, perceived self-efficacy and facilitating conditions as three main factors that affected instructors' use of the LMS. The findings in the literature review show how these factors influenced instructors' behavior to use the LMS.

System Quality

System quality refers to the functions, tools, interface, contents, navigation speed, and interaction capability of the LMS (Fathema et al., 2015; Rucker & Frass, 2017). Fearnley and Amora (2020) found that system quality directly affected instructors perceived usefulness, perceived ease of use and behavioral intention to use the LMS in their teaching practices. Drange and Kargaard (2017) found that during synchronous classes, instructors were able to use the LMS to provide immediate assistance to their students and immediate responses to their questions. Washington (2019) stated that instructors perceived that asynchronous communication tools such as email, discussion boards, and announcements were beneficial LMS tools because by using these tools they

were able to communicate with individual students as well as the entire class at any time outside the face-to-face classroom environment. The results of my study show that all participants perceived the LMS was of sufficient quality for them to provide teaching instruction asynchronously and synchronously. Participants perceived that during their teaching practices they were able to use the communication tools and content features to (a) provide course content to students, (b) communicate course information to students and (c) to engage students in the lessons. The ease of use of the LMS systems such as the features, interface, easy access, and availability of the technology tools were some of factors that influenced instructors use of the LMS (Rucker & Frass, 2017; Washington, 2019). Fearnley and Amora (2020) found that system quality directly affected teachers in higher learning perceived usefulness, perceived ease of use and behavioral intention to use the LMS in teaching practices. Research shows that the ease of use of the LMS tools, the interface, easy access, and availability of the technology tools were some of the system quality factors that influenced instructors use of the LMS (Rucker & Frass, 2017; Washington, 2019). Instructors usually used the LMS tools that they found less difficult to use and more effective (Cantabella et al., 2018). The findings in this study show that participants perceived that some tools such as Gradebook, the intelligent agent, and the assessment tool were difficult to use. Participants perceived they did not use the intelligent agent and assessment tools because they were difficult to use and only used the Gradebook because it was mandatory for them to use it to submit grades. Bove and Conklin (2019) found that some instructors were motivated to use the LMS because they found the tools useful. Deschaine and Whale (2017) found that the LMS at a post-

secondary institution worked well for the majority of users however, it did not work well for those who live in the rural areas with limited bandwidth capabilities or in areas of unreliable internet connectivity. The findings in my study show that participants perceived that some students living in remote areas had difficulties accessing the LMS because the internet connection was poor. Participants perceived that if students can easily access the LMS on their phones it would be more convenient for those living in remote areas to easily access the LMS and the college should therefore implement a mobile version of the LMS. Research findings shows that faculty members responded that there was a need for improved functionality of the LMS to make their teaching more effective (Hammond et al., 2018). The findings in my study revealed that participants perceived they needed more functions in the LMS to support their teaching practice. Drange and Kargaard (2017) stated that there were limitations with the tools because they were not effective to accommodate for their needs of teaching and students learning. The findings in my study show that participants perceived that the LMS functions are limited for student interaction.

Perceived Self-efficacy

According to Zheng et al. (2018) self-efficacy is the belief of an instructor in his/her ability to use LMS for teaching effectively and achieving instructional goals in an online learning environment. The findings in this study show that participants perceived they were comfortable using the LMS tools to provide course content to students, to communicate with students and to promote students' engagement. Zheng et al. (2018) found that an increase in instructors perceived self-efficacy positively correlates to an

increase in their confidence to use the LMS. The findings in this research shows that the participants who utilized several LMS features in their teaching practices expressed that they were comfortable using the tools. Research shows that perceived self-efficacy had strong and direct influence on teachers in higher education perceived usefulness and perceived ease of use which means they found the features useful and easy to use. One participant stated that she tried to learn a new LMS tool each year to use in her teaching practice because she is confident in her ability to learn to use the tool on her own. The findings in this study revealed that instructors used the LMS beyond the basic requirements if they were comfortable with the tool. Instructors who were confident in their ability to utilize the LMS perceived the LMS useful and easy to use (Fearnley & Amora, 2020). Salisbury (2018) found that instructors who were not confident using the LMS tools avoid using the tools. The findings in this study revealed that instructors used the LMS beyond the basic requirements if they were comfortable with the tool.

Facilitating Conditions

Facilitating conditions are resources such as technical and training support, incentives, orientation and workshops used to support instructors use of technology for teaching and learning (Scherer et al., 2018; Strawser et al., 2018). The findings in this study show that participants who attended the training, PDs and got assistance from the LMS support team found them useful because they were able to apply the skills, they learn to their teaching practices. Results show that part-time instructors were interested in attending the available training and PDs to improve their use of the LMS but perceived the times were not convenient for them and they were not able to attend without pay. The

findings in this study further revealed that participants sometimes used their colleagues as technical support to assist them to use the LMS and perceived that the administrative leaders need to better promote the use of the LMS among faculty members by providing them the opportunity to meet in groups and share their experiences about their use of the LMS. Research from the literature review found that facilitating conditions such as such as 24/7 LMS front desk access, group and one-to-one training, and professional development helped faculty members to use the LMS (Batista et al., 2017; Bove & Conklin, 2020; Washington, 2019). Support provided to faculty members to develop their technical skills to use the LMS, increased their use of LMS (Zheng et al., 2018). Results show that an increase in facilitating conditions such as technical support, increased educators frequent use of the LMS (Bervell & Arkorful, 2020). Research shows that leadership support of the LMS influenced instructors' adoption of the LMS tools in the classroom (Klein et al., 2019). Instructors valued the LMS for teaching and learning and wanted more training but did not attend the LMS training that the institution provided because the support schedule was not flexible enough to accommodate their personal schedules (Rucker & Frass, 2017). My study found similar findings as found in the literature review. My study findings show that part-time faculty perceived the scheduled time for PDs and training are not convenient for them to attend without pay. Research findings show that instructors perceived that faculty support for the use of the LMS was an issue and that they would prefer more faculty collaboration opportunities be made available for them to learn from each other (Hammond et al., 2018). The findings in this study revealed that participants perceived that administrator should provide all faculty

members the opportunity to learn from each other how they utilize the LMS in their teaching practices.

Conclusion

I conducted a qualitative study that examined external factors (system quality, facilitating conditions and perceived self-efficacy) that influenced post-secondary faculty members use of the LMS. The results revealed that participants perceived that the external factors system quality, perceived self-efficacy and facilitating conditions contributed to their actual use of the LMS for teaching and learning to promote students' success. Administrators had mandated that all faculty members (a) utilize the facilities of the LMS to support teaching and learning at the college, and (b) expand their use of the LMS beyond the basic requirements by developing their expertise in utilizing the LMS functionality to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning. The results in this study show the external factors system quality, facilitating conditions and perceived self-efficacy influenced all participants to use the LMS during COVID-19 pandemic to support teaching and learning. The results also reveal that the COVID-19 pandemic increase instructors actual use of the LMS to utilize the facilities of the LMS to support teaching and learning. Participants perceived that the emphasis that was placed on the LMS to support teaching and learning during COVID-19 pandemic should remain after the pandemic when they return to the face-to-face learning environment. The instructors perceived that the system was of sufficient quality for them to provide instruction and stay connected with students during the pandemic. The results show that

participants wanted more features such as MS Teams virtual platform, the course link validator feature and the parent children feature that uploads course materials and announcements to different course sections at once be added to the LMS. The findings show that participant wanted other features such as interactive learning tools, the LMS be compatible with mobile phones, and resources to access subject content be integrated in the LMS. Facilitating conditions such as training, support from the LMS support team and PDs were offered to support instructors use of the LMS. The findings further revealed that some participants perceived that part-time faculty members should be paid to attend the planned training and PDs. The results show that some participants perceived self-efficacy to use the LMS influenced their use of the LMS to provide instruction to students and promote students' engagement because they felt comfortable using the features of the LMS. Some participants use of the LMS to support teaching and learning were limited to the virtual platform and PowerPoint because they did not feel comfortable using other features of the LMS. Some participants perceived that the facilitating conditions influenced their perceived LMS self-efficacy to use the LMS because the training and PDs made them comfortable using the LMS. Results show that some participants expanded their use of the LMS beyond the basic requirements to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning. Other participants who did not utilize the functions of the LMS beyond the basic requirements perceived they needed opportunities to learn from their colleagues and for PDs to be planned to accommodate the need of part-time faculty members. The results further show that participants valued

the use to the LMS to support teaching and learning and required that administrators do more to promote its use, provide more functions and opportunities to develop their fluency to use the LMS functions for students' success as outlined in LMS policy.

I used the findings of this study to develop a policy recommendation paper for the academic administrators at the study cite who were assigned the responsibility to ensure that all faculty members at the college utilize the facilities of the LMS according to the LMS policy. The academic college administrators can use these recommendations as a guide to provide the necessary interventions that will enhance instructors effective use of the LMS for student success.

In section 3 of this study, I describe and discuss the proposed project and made recommendations that the college administrators can use as guide to provide the necessary interventions to faculty members regarding their use of the LMS according the LMS policy. In section 3, I provide an overview of the project. This includes a detailed description and specific goals of the project, rationale of the project, and a literature review to support the project genre. Finally, in section 3, I outline how the project will be evaluated and address implications, including social change at the study site.

Section 3: The Project

Introduction

After analyzing the data and having a discussion with my committee, I concluded that a policy recommendation paper was the best approach for my project based on the study findings. According to Zhang et al. (2021), a policy paper reviews research and practices, existing practices or policies and offers recommendations to improve those practices. Zhang et al. (2021) stated that it is necessary to develop efficient policy recommendation to help organizations improve their practices. The purpose of this policy paper is to make recommendations related to system quality, perceived self-efficacy and facilitating conditions as factors that influenced instructors use of the LMS. According to Zhang et. al. (2021) the purpose of a policy paper is to make recommendations based on study findings. The goals of the policy paper are to make college administrators aware of this study's findings and to make recommendations to college administrators based on the study findings. The policy paper will provide college administrators with policy recommendations that they can implement to improve faculty use of the LMS.

In this section, I provide an overview of the project, the purpose and goal of the project and a rationale that explains why the project genre was chosen. I include a review of literature related to the specific project genre, project description, project evaluation plan and project implications. This section also includes a discussion of possible social change.

Rationale

Administrators from the School of Business at a large 2-year college located in Canada implemented a LMS policy that required all faculty members to (a) utilize the facilities of the LMS to support teaching and learning at the college, and (b) expand their use of the LMS beyond the basic requirements by developing their expertise in utilizing the LMS functionality to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning. The administrators had little knowledge of factors that influenced instructors use of the LMS. I conducted a qualitative study and interviewed five part-time and six full-time faculty members to explore factors that influenced instructors' use of the LMS in accordance to the LMS usage policy to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning.

The findings revealed that participants perceived that the system was of sufficient quality for them to provide course content to students, communicate course information to students and to engage students in the lessons. The study findings show that participants perceived the LMS needed more features to facilitate students' interactions and to enhance their teaching practices. The results from the data indicated that participants wanted a mobile version of the LMS for students' convenience, MS teams be integrated in the LMS to facilitate students learning, and an e-campus library through the LMS for instructors to access instructional teaching and learning materials. The data

analysis showed that participant perceived that faculty members should use the LMS more for students' success.

Findings from the data analysis indicated that participants perceived that the PD support they received from the LMS support team made them feel comfortable using the LMS during their teaching practices. Some participants however perceived that part-time faculty members should be paid to attend the LMS training and PD. Participants perceived that all faculty members should be given the opportunity to meet in groups to share their LMS experience among themselves so they can learn from each other how they utilize the LMS in their teaching practices.

The results showed that some participants perceived that their self-efficacy to use the LMS influenced their use of the LMS to provide instruction to students and promote students' engagement. The findings further revealed that participants wanted continuous support from the LMS to use the grade book, the assessment features, and other interactive tools support their teaching practice because they are not confident using these tools. These findings led to my development of this policy paper designed to provide recommendations to school administrators regarding participants perceptions of the factors that influenced their use of the LMS to advance student learning.

Review of the Literature

In this section I review literature related to the project genre and recommendations of the policy paper. To develop this review of literature, I searched for recent scholarly articles from the following databases in Walden library: Education Source, ERIC, SAGE Journals, ScienceDirect, Academic Search Complete, and Thoreau

Multi-Database. I also searched Google Scholar. I used the following key search terms to locate peer reviewed journal articles published within the last 5 years related to the study findings: *White paper or whitepaper, policy development, position paper, LMS virtual platform, Instructors use of the LMS, training for Part time instructors or lecturers, training for adjunct or part-time faculty, learning management system, student engagement or student interaction, instruction or teaching, assessment, professional Development collaboration, university teacher collaboration, higher education or college or university, educators or instructors or faculty use of LMS, communication with students, how faculty value and use an LMS in teaching and learning, college students or university students or undergraduates, lecturers or professors or instructors or faculty,* and *college or university or undergraduate.* The search was concluded when the search terms yielded no new relevant articles published within the last 5 years. The topics covered in this literature review are (a) literature related to a policy paper (b) supporting research based on the study findings of factors that contribute to participants challenges to utilize the LMS in accordance to the LMS policy, and (c) literature regarding the recommendations.

Literature Related to Policy Paper Genre

Placinta (2021) noted that a policy paper makes recommendations on a topic of concern based on research and presents recommendations. Usher (2020) stated that policies do not normally state what should be implemented, rather, they create circumstances in which the range of options available in deciding what to do are narrowed or changed, or particular goals or options are set. Shannon (2019) stated that

creating a policy paper offered an opportunity to analyze existing policy and make recommendations based on the existing policy. A policy paper provides recommendations with the intent of improving previous existing policy by making any complicated realities in the existing policy formation clearer and simpler (Shannon, 2019). Overall, I learned from the literature that in the general process of writing a policy paper, the researchers first identify a specific problem, conduct research related to the problem, present the findings and then make recommendations that are clear and specific to those findings.

Six research studies show how the researchers followed the identified procedures and wrote policy papers to make recommendations for the intended audience. White et al. (2021) conducted a study of critical observations on and suggested ways forward for healthcare communication during COVID-19 and developed a position or policy paper. White et al. (2021) provided a summary of the key areas for development in communication in healthcare during COVID-19 based on findings. White et al. (2021) offered recommendations for improvement and a call to review policies and practice to build resilience and inclusive and equitable responsiveness in communication in healthcare. Baena et al. (2022) conducted a study t learn what is occurring in schools regarding the intersectionality *between* innovation and inclusion, and then made recommendations. They identified the problem, stated the results, and made some recommendations to generate positive synergies between the movements of innovation and inclusion. Gibbs (2018) examined the philosophical and psychological basis of the professional identity of teachers and the effects of misunderstanding and mistreating

teachers' beliefs in themselves. Gibbs (2018) stated the background of the problem, answered the research question and made recommendations concerning ways that educational psychologists might seek to change in order to challenge the dehumanization of education. Ellis (2017) examined a number of real problems that *task-based language teaching*, a form of instruction faces and stated the findings. Ellis (2017) developed a policy paper by first examining the problems encountered when the *task-based language teaching*, a method of instruction for teaching language, is used and then presented the findings. Ellis (2017) also stated the problem and purpose that lead to the development of the policy paper then made recommendations based on the findings. The California Association of School Psychologists adopted a position paper recommending the use of a multi-tiered system of supports for assisting students who are experiencing learning difficulties (Christo & Ponzuric, 2017). The position paper was based on a comprehensive evaluation using data from multiple sources such as response to instruction and intervention, direct observations across time and settings, record reviews, interviews, and direct assessment to identify the student's strengths and weaknesses in cognitive and academic skill areas (Christo & Ponzuric, 2017). Usher (2020), in his policy paper, first examined the historical development of primary geography within the Irish curriculum and then analyzed the current position and likely future of the subject. The results of the analysis were then presented as evidence of the problem followed by recommendations (Usher, 2022). Overall, a policy or position paper presents recommendations based on existing policy and or research findings with the intention of improving existing practice.

I used the findings from this study to development a policy paper for administrators at the study site. In this policy paper I provide administrators from the study site with clear recommendations supported by research findings with the intention of improving existing practices.

Supporting Research for the Policy Paper

I developed this policy paper based on my study findings that showed that the participants identified areas where the institution could improve instructors use of the LMS. The research I used in this policy paper are findings related to LMS features and administrative support that contributed to instructors' and students effective use of the LMS. These features and support are (a) having a mobile version of the LMS, (b) integrating a library in the LMS, (c) supporting instructors use of the LMS for instruction, (d) facilitating assessment, (e) using MS Teams as the LMS virtual platform, (f) supporting teacher collaboration, (g) using interactive resources for student engagement, (h) supporting part-time instructors and (i) providing extended hours for teacher support.

Research Supporting a Mobile Version of the LMS. The findings from my study showed that participants suggested that the college should make the interface of the LMS mobile friendly because it is more convenient for some students to use their mobile devices to access the LMS.

There are several examples that show the importance of institution having a mobile friendly LMS access for students. Annamala et al. (2021) found that students perceived that the LMS has limitations and that students wanted to easily access the LMS on their mobile phone as they do on their laptops. The results further show that students

wanted the use of a mobile communication platform for easy access to their grades and course contents (Annamala et al., 2021). The students wanted a mobile version of the LMS because they had challenges accessing interactive learning contents at their own time (Annamala et al., 2021). Karaoğlan and Fatma (2022) perceived that the easy installation of the Moodle mobile LMS on different mobile devices may have increased student satisfaction regarding their engagement and motivation in a mobile-based flipped classroom. The students were able to perform online and face-to-face mobile learning activities in the flipped classroom and the findings indicated that students' satisfaction, engagement and motivation in the mobile-based flipped classroom were high (Karaoğlan & Fatma, 2022). Bai (2022) found that although the computer was the major tool in learning, students had positive perceptions of using the mobile learning management system (m-LMS) app. Saroia and Gao, (2019) found there is a strong relationship with perceived ease of use (PEOU) and PEOU in turn, revealed direct influence on attitude toward students' intention to use the mobile LMS. Perceived usefulness remained the dominant mediating factor for students' intention to use the mobile LMS (Saroia and Gao, 2019). Ng et al. (2020) stated that mobile access to LMSs enables greater mobility and flexible learning. Ng et al. (2020) found that students utilized mobile access to the Moodle platform as a backup to supplement computer access. Results show that students were frequently accessing the LMS through their mobile late at night between midnight and 6 a.m. as well as 10 a.m. (Ortiz & Green, 2019). Results of factors predicting students' use of a mobile LMS show that for many students, mobile technology was their only means through which they could persist in taking courses while institutions offer

classes primarily in online modalities during the COVID pandemic (Antee, 2021). (Antee, 2021) stated that mobile technology adoption for online learning would be particularly relevant for lower income students with limited digital literacy skills and limited access. Antee (2021) stated that the findings show that students' continuous intention and their actual mobile usage have implications for how faculty and institutions may need to promote the usefulness of mobile technology for students to accept and adopt the technology. Ortiz and Green (2019) recommended that it would benefit the institution to look at the mobile support services it provides currently and attempt to improve on them and continuously verify they are updated with the latest information.

Research Supporting the Integration of a Library in the LMS. The findings from my study show that participants suggested that the college provide more opportunities for instructors to access course content through the LMS by better supporting the library, purchasing LinkedIn learning for videos, and having E-campus textbooks and continuing with supporting the external tools such as resources for course content. The participants perceived that they would have used the LMS more often if they could access their course content through the LMS as this would assist them with obtaining teaching materials and learning resources.

There are examples supporting the integration of a library in the LMS. Murray and Feinberg (2020) stated that an institution of higher learning integrated the library in the Canvas LMS to support students studying in-person, hybrid, or fully online. Murray and Feinberg (2020) further stated that after much discussions regarding the need for a library to be integrated in the LMS that it became evident to the online learning librarian

and the library director that the library needed to explore ways to integrate more with Canvas LMS. The need for the library to be integrated into Canvas courses enabled students to easily transition between their coursework and finding resources and services to support their studies (Murray & Feinberg, 2020). Murray and Feinberg (2020) stated that the librarians who worked with students would look for ways for students to easily find library resources and services online. Li (2021) found that librarians added the library resources and services to the menu bar of the LMS to make accessing course content from the library accessible through the LMS for faculty and students. The integration of a Library in the LMS increases instructors and students use of the library resources and services (Li, 2021). Li (2021) stated that the faculty were able to easily embed library resources into their courses, which led to an improved user experience and resulted in greater use of the library resources. Li (2021) further stated that the integration of the library in the LMS made the library resources more visible to users and the students were able to access and find information they needed more easily.

Research Supporting the Effective Use of MS Teams for Online Learning.

The findings from my study revealed that participants perceived they wanted MS Teams virtual platform to be integrated in the LMS because the features worked for them. The participants perceived that MS Teams works well to collaborate with students, take attendance, create quality videos, communicate with students offline, create small groups for students' interactions, and create group video presentations. The findings in this study further revealed that participants suggested that the college fully integrated MS Teams in the LMS to support their teaching and students learning.

There are several ways of using MS Teams for effective teaching and learning. Ranjan et al. (2021) and Çankaya and Durak (2020) found that Microsoft teams was one of the main tools used in the Covid 19 pandemic for students and teachers, from different higher education institutions. Rojabi et al. (2022) stated that one of the effective online learning platforms that can increase student engagement and motivation in online courses is Microsoft Teams. Rojabi et al. (2022) found that learners were involved in debates as a result of their participation in discussion forums through MS Teams. Results showed that the students gained a better comprehension and knowledge of language learning after using Microsoft Teams (Rojabi et al., 2022). The findings further revealed that students were highly motivated and enjoyed the online course due to its ease of use and fun features. The findings also showed that students appreciated the direct feedback during synchronous online meeting held in Microsoft Teams (Rojabi et. al., 2022). Microsoft Teams is a platform that provides videoconferencing capability and options to collaborate and message other group members within a team (Borror et al., 2021). Borror et al. (2021) found that Microsoft Teams has the capability functions to work and communicate with a group of individuals in a professional manner. The use of Microsoft Teams is best for professional communications and students can use Microsoft Teams for their project and or group assignment meetings rather than face-to-face (Borror et al., 2021). Microsoft Teams has features such as a chat feature for groups or one-on-one discussion, a place to view all the teams that participants may be a part of, a personal calendar that shows important dates and assignments, and assignments tab where teachers can post assignments for their students (Borror et al., 2021). Çankaya and Durak (2020) found that

Microsoft Teams has features such as video conferencing software, chat-based collaborative working platform, private messaging, calling, meetings, virtual classroom, assignments and quizzes. Teachers can keep track of their students' progress as well as easily access assignments students have completed (Borror et al., 2021). Microsoft Teams has other features such as screen sharing, virtual background changes, video calling, notifications relating to collaboration, reminders for upcoming meetings and set their meeting time for others to view (Borror et al., 2021). Microsoft Teams keeps everything the teacher may need on one platform, which allows students to view course materials and assignments and submit them when complete (Borror et al., 2021). If users have limited experience using Microsoft Teams, there are free resources such as training videos, meetings with instructors, and a blog answering frequently asked questions available to learn the software. The college had Bongo virtual platform integrated in the LMS and the participants stated they wanted the college to fully integrate MS Teams in the LMS because of its features.

Faculty Members use of the LMS to Provide Instruction, to Facilitate Assessment and to Engage Students in the Course

Findings from my study show that participants perceived that the use of the LMS should be used more among faculty members. Participants in my study perceived that faculty members should use the LMS more to support instruction, to provide assessment in their courses and to engage students in learning.

Research Supporting the use of the LMS for Instruction. There are variety of ways that instructors used the LMS to support instructions. Deschaine and Whale (2017)

stated that faculty members get to know the instructional capabilities that exist within their designated LMS and exploit the capabilities they have to increase student engagement, attention and participation. Instructors used the LMS to post instructional videos for students to watch, take notes, write a summary and post their questions for the professor to explain and clarify (Chen et al., 2019). Instructors used the LMS to assign video-watching, quiz-taking and video conferencing (Teng & Wang, 2021). Instructors used the LMS to provide students with unlimited access to recorded videos that allowed them to view the videos without downloading, allowed students to access learning contents, assignment scores, quizzes, and appointments with lecturers (Annamala et al., 2021). Baragash and Al-Samarraie (2018) found that instructors used the LMS to promote learning and enhance academic performance after their initial face-to-face class interaction. Instructors allowed students to use web resources and tools through the LMS to obtain quick and easy information to assist in their mastery of the course content (Baragash & Al-Samarraie, 2018). Results show that instructional practices such as creating a social climate, providing immediate and timely feedback, emailing, conferencing, hosting discussions (by creating discussion threads with appropriate topics), improving peer interaction and collaboration or teamwork, clarifying assignments, improving student–content interaction are examples of instructional strategies instructors used through the LMS (Vlachopoulos & Makri, 2019). Blakey and Major (2019) stated for example, that depending on the nature of the course, faculty members can involve students in a variety of ways by providing opportunities for them to (1) contribute their own goals to the course goals (2) serve as the instructors at some

point in a given course by creating microteaching videos, digital stories, web sites, collages, letters, or personal learning environments or depending on the nature of the course. Blakey and Major (2019) found that students are empowered and motivated when faculty members used the LMS to involve them in the pedagogy process. In conclusion, instructors used the LMS to (a) post instructional materials, content and or learning materials and (b) update grades to increase student engagement, attention and participation in the course.

Research Supporting the use of the LMS to Facilitate Assessment. Instructors used the LMS to facilitate different forms of course assessments (Emmanuel et al., 2019). Emmanuel et al. (2019) found that the LMS was used to provide three aspects of course assessments: coursework, final examination and final course score. Research findings show that instructors used the discussion forum as an assessment tool for students to contribute to class discussion and points are awarded towards the course work (Emmanuel et al., 2019). Reju and Jita (2020) stated that institutions employed both traditional and online modes of assessment practices as both modes have its own associated advantages. Reju and Jita (2020) recommended that the opportunity for students to express their mathematical skills be incorporated in the design of institution LMS. Reju and Jita (2020) found that students preferred traditional mode of test or exam over online because they could express their mathematical skills on paper to show the mathematical knowledge they have (Reju & Jita, 2020). Opportunities for students to express their mathematical thinking through problem solving should be accommodated in online assessment through the LMS by making the platform more interactive to meet the

students' learning needs (Reju & Jita, 2020). Reju and Jita (2020) further stated that institution should ensure they provide fast and reliable access to the internet and regular and exact feedback for the learners to be effectively assessed during their studies. Naomi et al. (2021) perceived that in addition to online assessments students' grades and feedback from assessments should be stored in the same location to make it more accessible for students to access both simultaneously. In conclusion, instructors use of the LMS to facilitate online assessment should be properly arranged to provide opportunities for students to express their thinking in writing, provide results with feedback in the same space and alleviate technical issues for submission.

Research Regarding the Importance of Institutional Leaders Supporting Instructors use of the LMS

Faculty members need to be aware of variety of ways they can utilize the LMS during instruction to engage students. Blakey and Major (2019) perceived that Administrators need to encourage faculty members to utilize the LMS consistently to facilitate student-led pedagogies such as cooperative learning, team-based learning, and problem-based learning (Blakey & Major, 2019). Blakey and Major (2019) stated that administrators should encourage faculty members to use the LMS in a meaningful way to adopt pedagogies that allow students to (a) connect their personal interests to course content as they are more likely to be interested in topics that involve them directly, (b) stimulate reality as students tend to be more engaged in activities that feel real to them, (c) create opportunity for authentic learning such as engaging in activities such as book reviews, digital storytelling, surveys, data analysis, or case studies that are

”contextualized” in real life, rather than “decontextualized” to the classroom, (d) implement activities such as short video lectures contrasted with active learning assignments, posting to a discussion board, uploading content to actively engage students in their learning, commenting on a content post and (e) engage students in activities such as accessing information, sharing information, contributing information, creating information, and presenting information (Blakey & Major, 2019). Overall, there are several methods of utilizing the LMS that administrators can promote among faculty members to improve their use of the LMS during instruction.

Research on Interactive Resources for Students' Engagement

There are several examples that show how instructors used the LMS in their courses for students' engagement and the effect it had on students learning. Chen et al. (2019) found that instructors use of the LMS for students' engagement and participation in learning had a positive impact on students' performance and reflective thinking capacity. Instructors used the LMS to engage students in passive learning activities such as viewing and clicking as well as in active learning activities that allowed them to do posting and submitting (Sul et al., 2022). Research findings show that instructors in the regular face-to-face classes facilitated students' learning by encouraging them to engage in LMS based learning activities (Baragash & Al-Samarraie, 2018). The findings from their study further revealed that students' engagement in the face-to-face environment had a significant positive effect on their engagement in the LMS as they were motivated in their face-to-face class to utilize the resources in the LMS (Baragash & Al-Samarraie, 2018). Teng and Wang (2021) found that the LMS influences student engagement more

significantly than the social networking systems. Teng and Wang (2021) stated that instructors should continue to use LMS more frequently and strategically in their teaching, so that it could exert better influences on student engagement. For example, students can upload their after-class project videos and be peer reviewed by other members (Teng & Wang, 2021). Baragash and Al-Samarraie (2018) found that learning delivery modes that promote students' engagement are major factors in sustaining students' learning performance and promoting lifelong learning. Blakey and Major (2019) stated that technology, including Learning Management Systems, can be used to support different types of student engagement among the digital learning community resulting in deeper and more meaningful learning. The LMS is a necessary tool that can be used by instructors to promote student engagement in their courses for student success.

There are examples of instructors' use of the LMS to engage students in the course content, the learning activities and the course assessments. Sul, et. al (2022) stated that the development of (a) online interactive lecture modules, (b) online tutorial problems (c) weekly assessed quizzes, and (d) laboratory activities such as pre-laboratory video recordings, (e) online report submission system and (f) an online marking rubric, significantly increase student engagement with the online resources. Results of the redesign of the LMS interface to uplift one of the most challenging undergraduate core courses improved students' engagement (Sul et al., 2022). Their study findings show that assignments were replaced with online quizzes, online booking for lab replaced manual booking, pre-laboratory video replaced some physical laboratory contact time, and online submission of laboratory report replaced hard copy submission (Sul et al., 2022). Sul et.

al (2022) found that the implementation of the various online activities through the LMS significantly increased student engagement in the course. Chen et al. (2019) found that instructors implemented a read-and-present learning activity through the LMS to promote students' engagement in the course. The students read an article and present a summary of the article to the class. At the end of presentation, the faculty member had a class discussion based on the presentation and provided feedback (Chen et al., 2019). Another strategy that instructors used to engage students in the LMS was to have students design an e-learning research project and then share that with the class (Chen et al., 2019). Zhen (2017) found that appropriately applying interactive technologies through the LMS fostered individualized learning, transformed students' learning attitudes in a positive way, facilitated student-student interaction and engagement as well as student-teacher interaction, allowed students to form independent learning ability, and improved the quality of teaching the course.

The use of the LMS to promote students' engagement can provide flexibility for students to engage in the learning activities anywhere at their own time. Sugden et al. (2021) stated that students engagement activities need to accommodate students' need for flexibility as their study habits become more mobile. Students used their mobile devices to access their online learning activities at variety of locations during study sessions in order to fit study into their daily routines (Sugden et al., 2021). (Kokoç, 2019) suggested that learning experience designers and instructors provide flexible e-learning environment which allow students to decide when and where they can learn, to encourage students' engagement with learning the content at their own pace, to complete learning

tasks depending on flexible deadlines and to enable flexible learning experiences. Sugden et al. (2021) stated that higher education sector needs to recognize (a) students' increasing need for flexible online learning activities that accommodate study around work and family commitments and (b) academics need to design online activities that are compatible with multiple devices. Sugden et al. (2021) found that students were engaged in online learning activities such as listening to a recording while driving or completing a quick activity while waiting to collect children. Sugden et al. (2021) stated that students studied in numerous informal settings for example, at home, at work, in transit, and in public places. Therefore, having online learning activities compatible with multiple devices were essential for them to be able to fit study into their daily routines Sugden et al., 2021). Kokoç (2019) stated that instructors should provide flexible navigation of learning to students in e-learning environments. This flexibility would allow the students to engage in leaning anywhere, within or outside the classroom, and at any time.

Salinda et al. (2016) discussed findings of how students were able to use their cell phone to engage in learning anywhere through the LMS. Salinda et al. (2016) stated that a two-way text messaging system was integrated into a LMS to provide an interactive learning experience to the students. Salinda et al. (2016) further stated that a database that holds message information such as students' phone number, message body and user data header was integrated into the LMS. A specific port associated with the LMS was used to conceal and exchange data of a course unit. Software in the student's mobile device would then capture the message and sent the reply message back to the appropriate course unit which allowed both teachers and students to view messages sent and replies

received relating to the course (Salinda et. al., 2016). The findings from the study revealed that the system made a profound impact on improving the learning environment of a campus located in a mountainous region. The two-way text messaging system benefitted both the students and staff including those with physical disabilities who found it difficult visiting different schools to meet up with peers (Salinda et al., 2016).

Faculty members used the LMS to facilitate asynchronous discussions (Lewis & Ewing, 2016). Research findings show that asynchronous discussions significantly assured student achievement during online learning (Buelow et al., 2018). Buelow et al. (2018) found that students found certain aspects of online discussions and interactive assignments engaging, especially those that prompted them with thought-provoking questions, were related to real-world situations, invited them to share their opinions, listen to others perspectives and develop their personal perspectives. The research findings further reveal that online discussions enabled students to share their own opinions, have their voices heard, provide feedback, engage in dialogue and debate which contributed to their understanding of concepts in connecting a topic to their own knowledge (Buelow et. al., 2018). Buelow et al. (2018) stated that students found discussions disengaging when they were associated with burdensome requirements or amounted to routine busywork that failed to foster connections to other classmates or to course material or lacked practical application. Students preferred authentic discussion topics, and a relative number (not too many or too few) discussion assignments (Buelow et al., 2018). Vlachopoulos and Makri (2019) stated that peer interaction for collaborative learning, game-based learning activities, group projects, participation in threaded

discussions, peer moderation of discussions, and encouraging students to freely express their views are strategies that can help create an interactive learning environment.

Instructors used the LMS communication tools to promote student engagement. Kayode (2018) found that instructors use of the LMS communication tools in their courses significantly influenced students' engagement Kayode (2018) found that the more instructors used features such as my LMS, blogs, and private e-mails in teaching, the greater the students experienced efficient communication practices. Instructors used conversational devices such as chat room to engage students, to assess students' understanding of the lesson materials and to provide immediate feedback to students (Harunasari & Halim, 2019). Instructors efficient use of communication tools such as blogs, private e-mails, e-forum discussion and my LMS contributed to students' engagement in challenging discussion with peers, responses in other discussions, and challenging thinking contents (Kayode, 2018). Vlachopoulos and Makri (2019) stated that it is the educator's responsibility to implement discussions into the course design, facilitate application sharing, and create an interactive syllabus that promotes peer interaction. Vlachopoulos and Makri (2019) stated that organizing discussion groups, establishing a sense of learning community such as moderating discussions, promoting reflections, providing guidelines for collaborative tasks, and consistently encouraging students can maximize students' interaction. Vlachopoulos and Makri (2019) further stated that instructors can use other strategies such as implementing initial introductions and providing a description of expected outcomes to promote interaction between instructors and learners through the LMS. The LMS serves as an effective

communicative platform for teachers to hold discussion activities that allow for students to share their ideas or views and overall facilitate students' engagement (Teng & Wang, 2021).

Supporting Part-time Instructors

The findings from my study revealed that participants wanted the administrators to better support part-time instructors use of the LMS. My data analysis show that participants perceived that if administrators provide LMS support to part-time instructors based on their needs it would help to improve their use of the LMS in accordance to the LMS policy.

Research on Institution Support for Part-time Instructors. According to Snook et al. (2022), the needs of part-time instructors differ from other instructors and universities should therefore consider the differing needs for part-time educators to improve their teaching methods and thus student learning. Snook et al. (2022) stated that finding and talking to part-time instructors about their teaching needs are considered the first steps in providing effective PDs. Snook et al. (2022) further stated that finding out the specific needs for part-time instructors would allow institutional leaders to discover important differences and similarities between part-timers and other instructors that they need to address in an effort to support part-timers. Beaton (2017) found that there were part-time instructors who received support from institutional leaders which included being paid when they attended meetings or engaged in other forms of institution activities and having consistent access to formal professional development. Part-time instructors need professional development that will prepare them for teaching (Williams & Beovich,

2017). Gelman et al. (2022) found that an institution offered paid seminars two to three times per semesters to part-time faculty in an effort to honor their contributions to education and promote the quality of education they offer to the next generation. Topics presented at the seminars were created specifically to address the needs of part-time faculty (Gelman et al, 2022). Gelman et al. (2022) found that given the complex schedules of part-time faculty, scheduling in-person seminars pose challenges. Gelman et al. (2022) stated that the seminars were therefore offered alternatively between morning and evening sessions. Further, the presentations could be viewed remotely and were recorded for future viewing. Gelman et al. (2022) stated that providing a multi-faceted approach that fosters inclusion of part-time faculty, promotes professional development among part-timers, and provides concrete resources to support their teaching, does not only support part-time faculty but also serves students, the school and the profession. Bickerstaff and Ran (2021) found that institution of higher learning had disciplinary societies to consider whether they were reaching part-time faculty members. Bickerstaff and Ran (2021) found that some needs for part-timers were the following: navigating career pathways, improving teaching practice, strengthening research skills, wanting basic resources to do their job, receiving extra supports to combat the challenges of teaching evening sections, being fairly compensated and recognized for the work they do (Bickerstaff & Ran, 2021). Estel (2021) stated that post-secondary institutions should provide more opportunities for professional development to part-time faculties and that asking part-timers directly what they need can bridge gaps. Shulman (2019) stated that based on the mission and direction of each college and university, and of higher

education as a whole, all part-time faculty deserve fair pay. Thirolf and Woods (2017) stated that part-time faculty expressed feeling “nickel and dimed” when it came to the time they invested at the college and outside the classroom. As a result of the findings Thirolf and Woods (2017) suggested that rather than having all meetings mandatory for full-timers only, it should be mandatory for all faculty and be made a paid hour for part-timers. The findings revealed that part-time faculty expressed the desire to participate in more professional development however, the schedules of workshops and the lack of associated pay discouraged their participation (Thirolf & Woods, 2017). Thirolf and Woods (2017) discussed that a mid-sized community college in USA that experienced enrollment declines and tightening budgets like most community colleges across the country was still able to prioritize investment in part-time faculty support because they perceived that doing so supports better teaching and strengthens commitment to student success and to the college overall. Thirolf and Woods (2017) perceived that it is obligatory for colleges to provide access to valuable and relevant professional development opportunities for all faculty and it is important for a college to demonstrate that it values part-timers by paying them for engaging in professional development (Thirolf & Woods, 2017). Findings revealed that part-time faculty were paid an hourly rate for participating in professional development that were offered once per month and were also compensated to create and facilitate workshops for others (Thirolf & Woods, 2017). The findings further revealed that paid comprehensive full-day professional development opportunities was offered twice a year before semesters and multiple asynchronous online workshops were also offered to part-timers (Thirolf & Woods,

2017). Thirolf & Woods (2017) further stated that all workshops offered were based on what part-timers asked for and their needs. In conclusion, part time faculty were given the opportunity to attend paid seminars and professional development to improve their teaching methods, to promote the quality of education they offered and thus student learning. The topics that were discussed at the seminars, the time selected for the seminars and the decision to pay part timers to attend the seminar were decided on to support the needs of the part timers.

Supporting Teacher Collaboration

Result from my study shows that participants made recommendations for administrator to provide opportunities for faculty members including part-timers to collaborate with each other to discuss their use of the LMS in their teaching practices. Result from my study shows that participants perceived that collaborating with other faculty members during PDs regarding their use of the LMS would support their use of the LMS in their teaching practices.

Research on Supporting Teacher Collaboration in Higher Learning Institutions. Teacher collaboration in higher learning contributed to interactive learning engagement among faculty members (Packer, 2019). Part-time faculty members were given opportunities to collaborate and connect through highly interactive discussions where they shared teaching innovations and sought solutions to their problems and challenges in university teaching (Packer, 2019). Research showed that part-time faculty members preferred faculty development that provide opportunities to collaborate with each other and have breakout sessions than to have presenter-centered PDs (Packer,

2019). Packer (2019) found that for faculty development meetings, part-time instructors preferred to have opportunities to engage in highly interactive discussions because they perceived they learned from the interactions. Packer's research showed that through a teacher collaboration retreat 88.79%, part-timers learned new instructional strategies that they could use in the classroom and learned new skills to improve their teaching (Packer, 2019). Packer stated that 87.1% of part-timers responded that they made connections with either other part-time faculty, full-time faculty, and/or the institution as a whole through collaboration (Packer, 2019). Part-time faculty members stated they felt they were part of a teaching community after interacting with each other at the PD (Packer, 2019). Packer (2019) found that the opportunity to interact with peers brings multiple benefits to the professional development experience and allowed faculty members including part-timers to develop their skills through learning from each other. Packer also revealed that part-timers would like more full-time faculty involvement (Packer, 2019). As a result of teacher collaboration, instructors learned from each other, improved their teaching skills, made connections with other faculty members, and perceived they felt more connected with the institution.

Teacher collaboration fosters collaborative relationships among faculty (Noben et al., 2022). Noben et al. (2022) found that professional interaction in the workplace is an essential part of professional development and fosters collaborative relationships. Hontvedt et al. (2021) discussed that peer support and collaboration among teacher educators resulted in educators (a) sharing solutions to teaching-related problems, (b) providing personal and emotional support to peers, and (c) doing creative problem-

solving. Collaborations among educators drive the changes needed to design and develop a relevant education program (Webb et al., 2019). Through collaborations educators connected continuing professional education with curriculum development in an effort to focus on student needs and the expectations for their success (Webb et al, 2019). Collaborations in small group discussions among educators led them to build a network that keeps them abreast of changes and provides an avenue for their lifelong learning experiences (Webb et al., 2019). Noben et al., (2022) stated that teachers will build collaboration networks when they have more than 5 years teaching experience, work in the same area and attend collaborative meetings (Noben et al., 2022). Teacher collaboration among instructors fostered collaborative relationships, build network that keep faculty informed of changes, and focused on students need.

In summary, the literature showed that faculty integrated the LMS in their courses to support instruction, to facilitate student assessment and student engagement in the course. Students used their mobile phone to access the LMS because it was more convenient and therefore wanted their institution to provide them with a mobile version of the LMS. An institution integrated a library in the LMS to make the library resources more visible for faculty and students as well as easily accessible to find the information they needed. Integrating the library in the LMS increased students and faculty members experiences to search library resources within the LMS and the faculty members were able to easily embed library resources into their courses. The literature also showed that Microsoft Teams was one of the most preferred platforms among faculty members and was used to increase student engagement and motivation in online courses. MS teams has

several features such as: synchronous online meeting, virtual classroom, messaging, videoconferencing, calendar, assignments tab, quizzing, calling, screen sharing, virtual background changes, notifications relating to collaboration, reminders for upcoming meetings, organizer, and free resources such as training videos, meetings with instructors, and a blog answering frequently asked questions. The literature further revealed that administrators need to consider the needs of part-time educators, which are different from full timers, to improve their teaching methods. Part-time instructors need to have the opportunity to attend frequent professional development as full-timers with pay. Institution in higher learning provided frequent paid PDs to part-time instructors. Part-timers had the opportunity to collaborate among themselves as well as with full-timers. Teacher collaboration made faculty members felt they were part of a teaching community, learned new strategies they could use in the classroom, developed skills through working with each other and build collaboration network.

Project Description

The genre I chose for this study is a policy paper to be presented to the academic administrative team from the School of Business at the study site. The policy paper will describe the findings of this study and make recommendations to college administrators regarding participant perceptions of the factors that influenced their use of the LMS.

An invitation will be emailed to each administrator to attend the presentation of the policy paper. The date, location and time of the presentation will be included in the invitation. The presentation of policy paper will occur in a board room at the study site in

the School of Business. The presentation will include a brief description of the project, my study findings, and the recommendations.

A copy of the policy paper will be provided to the senior administrator and deans from the School of Business and the senior administrator from the department responsible to provide professional development and training to instructors. The policy paper will include the problem, a background of the problem, summary of the findings, evidence from both literature and research and the recommendations related to the evidence.

Resources and Existing Supports

A room with an overhead projector is needed for the presentation. To have this available, I will contact the senior administrator for permission to book the board room through the main office. I will email the invitation to each person who will be attending. I will also email a copy of the policy paper and the link for the evaluation at the end of the presentation to each attendee. I will contact the main office for the email address for each individual so I can email them the invitation to attend the presentation and the link for an evaluation. The meeting room with an overhead projector for the presentation of the policy paper will be provided by the study site. I will use my personal computer for the presentation. At the end of the presentation, I will hold a session for questions and answers for each attendee.

Potential Barriers and Solutions

In this sub-section I will describe some potential barriers and potential solutions for the barriers. One potential barrier maybe the difficulty of providing a mutual convenient time for everyone to attend in person. To deal with this barrier, I will provide

a meeting link to individuals who are unable to attend the presentation in person so they can view it when convenient. I will record the presentation and share the link with the necessary stakeholders so that those who were unable to attend can view at their convenience. Another potential barrier may be objection from the department that provides LMS training and professional development for instructors. They may say that the recommendations I am putting forward are already in place. To deal with this potential barrier, I will explain that research shows that some instructors are not aware of the existing LMS features and available support the institution offers to support their use of the LMS. If this barrier arises, I will inform the training and professional development department that it is, important to develop strategies to make instructors aware of what is available.

Proposal for Implementation and Time Table

The proposed date for the presentation of the policy recommendation paper is May 2023. In January-February of 2023, I will contact the most senior administrator from the School of Business and the leader of the research committee to discuss the date and time for the presentation and list of stakeholders that they recommend should be in attendance with the senior administrators. A copy of the policy paper will be provided to each individual prior to the presentation. The purpose is to give each individual the opportunity to prepare in advance so they can ask any question they may have at the presentation.

Roles and Responsibilities

My role as the researcher is to present the policy paper with clarity to the administrators. I will ensure that the findings of my study and recommendations outlined in the policy paper are clearly articulated. I will prepare a copy of the policy paper for each participant and extra copies I will deliver the presentation with confidence and clarity. I will facilitate a question-and-answer session at the end of the presentation. It is my role to provide clear response for each question.

Senior Administrator

It is the role of the senior administrator to approve my request for the proposed meeting room and email the office staff to make the room available for that time. It is also the senior administrator role to be in attendance and encourage the deans and other stake holders to attend the presentation.

Attendees

It is the role of the attendees is to attend on time, be engaged, ask questions if they need further clarification on any aspect of the presentation and complete the online survey at the end of the presentation.

Project Evaluation Plan

The goal-based evaluation of this project will be a survey following the question-and-answer session. The purpose of the survey is to determine whether the goals of the policy paper were met. The goals of the policy paper are (a) to make college administrators aware of this study findings and (b) to make recommendations to college administrators based on research findings from current literature and this study findings

of instructors' perceptions of system quality, perceived self-efficacy and facilitating conditions as factors that influenced their use of the LMS. I used Google Form to design a Likert scale survey on a scale of 1 to 5; completely agree, agree, neither agree nor disagree, disagree and completely disagree (see Appendix B). I will email a link of the survey to each participant. As soon as each respondent responds to the questions, I will receive immediate results which will reveal if the project goals were met.

Project Implications

This policy paper may have implications for the local community as well as the extended or lager community. The local community involves the School of Business at the study site and the extended or larger community would be other Schools and campuses belonging to the study site.

This policy paper may contribute to a better understanding of factors that influenced instructors use to the LMS and the support needed for instructors to use the LMS in accordance to the LMS policy. The recommendations and results given to the School of Business administrators may provide information to support intervention for instructors' effective use of the LMS for instruction. This project may contribute to social change at the study site by providing information regarding factors that influence instructors use of the LMS and recommendations based on study findings of strategies to enhance instructors use of the LMS for teaching and learning. This may increase instructors' ability in utilizing the LMS to promote learning resulting in an increase in students' engagement and learning success.

The findings and recommendations may benefit other Schools or departments at the study site as well as their extended campuses located within the region. This project may provide information to the administrators from the other Schools located at the study site and the study site extended campuses located within the region given that they all share the same LMS policy and exchange general information. The administrators at these locations can use the information to make informed decision and support interventions to promote instructors efficient use to the LMS.

Section 4: Reflections and Conclusions

Project Strengths and Limitations

I developed a policy paper as my project to apply the findings of the research study. One strength of this project is that it includes recommendations to the college administrators that can be applied in the School of Business and/or other schools or departments at the college. Another strength of this project is that the recommendations are supported by current literature. The third strength of this project is that it could contribute to social change if administrators use the policy paper to provide interventions that will allow instructors to utilize the LMS in their classrooms to provide learning opportunities so that students will become successful learners.

One limitation of this project is that faculty members—including those who participated in the research—will not be invited to the presentation of the policy paper. Another limitation is that the time to present the policy paper is limited. To address the limitation, I will send a copy of the policy paper to each individual who are invited to the presentation and to each participant who participated in the research study.

Recommendations for Alternative Approaches

A recommendation for an alternative approach would be to develop a professional development program. I did not choose to develop a professional development program because the data analysis revealed that participants expressed concerned that the recommendation based on this study findings should not be to offer more PDs. The results showed that participant perceived that offering PD was not the immediate solution for their problem regarding the use of the LMS. Another alternative approach would be to

present the policy paper to the administrative team from the LMS support team department. This administrative team would then work with the relevant college administrators to implement the necessary interventions to support instructors use of the LMS. I did not use this alternative approach because I will be inviting the LMS administrative team to the presentation with the intent for them to support the implementation on the recommendations.

Scholarship, Project Development and Evaluation, and Leadership and Change

Scholarship

Throughout this journey, I discovered that the path to success for a lifelong learner is determination with a positive attitude added to patience. My main challenge in completing this study was finding a research problem. I knew I wanted to do a research study in education technology because that was the only area in my career I felt was limited. For example, I was confident in content delivery, teaching techniques, classroom management and students' evaluation. However, I found it challenging incorporating technology including the LMS in my teaching practice as well as providing the necessary support to teachers. Finding a research problem on this topic was difficult. After several meetings with school leaders and college administrators I found interest in exploring factors that influenced instructors use of the learning management system to support instruction and student learning. My experience through this journey allowed me to gain valuable skills that has given me confidence to take on any research task related to education technology.

I have learned the purpose and process of completing a qualitative research study. As a researcher, I learned that prior to the start of a research, there must be evidence of a problem that needs to be addressed to fill a gap in practice. I learned how to develop a research problem. I learned how to search the literature and complete a literature review on the research topic in an organized manner. I gained more knowledge about the process of collecting and analyzing qualitative data. I better understood what it meant that the researcher should not be biased.

Project Development and Evaluation

After analyzing the data and discussing the results with my research chair and committee member, I decided that a policy paper would be the ideal genre for this project. I then developed this policy paper to present my research findings and provide recommendations to college administrators who are responsible for ensuring that instructors utilize the LMS in their teaching practice. I read widely and then wrote a literature review which was relevant for this policy paper. I am aware that a project has an evaluation component so, I used Google form to develop an evaluation with five questions and five responses for each question. The purpose of the evaluation is to determine whether the goals of the policy paper were met. The participants will be asked to complete the evaluation after the presentation.

Leadership and Change

Developing a policy paper made me aware that making changes in education is a process. I should carefully evaluate the existing policy, identify evidence that there is a problem in the current practice and collect data to gain more understanding of the

phenomena I am examining. Prior to making changes, I must investigate if there are similar practices to support my intended recommendation. When done, I should present my recommendations for change with all the supporting information that led to the recommendations. Overall, I learned how to take a scholarly approach to my professional work. I learned that I do not make changes because I am a leader but rather make changes because there is a need for change based on evidence.

Reflection on Importance of the Work

I conducted a qualitative study because I was exploring factors that influenced instructors use of the LMS. I decided on a basic qualitative given that I was collecting data from only one source, a sample of faculty members from the School of Business at the study college. The expanded technology acceptance model (TAM) by Fathema et al. (2015) grounded this study. I found that most studies that are grounded by TAM are quantitative studies but I did not conduct a quantitative study because it was not intended in my study to ask specific, narrow questions and collect quantifiable data. The development of this study helped me to better understand different reserch designs and how to select the appropriate design for my study. I decided on a project study because I was collecting data from one institution. I learned how to create interview questions that lead to rich thick data which is important for qualitative study. The data analysis led to the development of a policy paper. This policy paper is important because it has the potential to make college administrators aware of a problem regarding instructors' use of the LMS in accordance to the college policy. This policy paper is important because it provides recommendations to college administrators based on my study findings. The

recommendations are also supported by evidence from current literature. The administrators from the School of Business may use the policy paper to provide the necessary intervention to support faculty members effective use of the LMS for teaching and learning.

Implications, Applications, and Directions for Future Research

I developed this project to explore factors that influenced instructors' use of the LMS in accordance to the LMS usage policy to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning. The findings from this study showed that instructors were influenced by system quality, perceived self-efficacy and facilitating conditions to use the LMS in their teaching practices. For example, as a result of the system quality, they chose to use or not use the LMS and if they were confident using the LMS they used it beyond the basic requirement. The results show that the participants perceived that the PDs they attended and help they received from the LMS support team influenced their use the LMS. The data analysis further revealed that participants wanted opportunities to collaborate with each other to share their LMS experience so they can learn from each other how they utilize the LMS in their teaching practices. The findings also show that participants wanted the virtual library and MS Teams to be integrated in the LM as well as having a mobile version of the LMS. The findings were used to make recommendations to college administrators from the School of Business so that they can develop the necessary interventions to improve the faculty members professional practices and the overall student experience.

Because neither the college nor the School of Business has conducted research to understand factors that influenced faculty members to use the LMS in accordance to the LMS policy, the findings and recommendations from this study would be useful to provide the necessary LMS support to instructors. The findings of this study revealed the perceptions and experiences of 11 instructors from the School of Business. Although the findings of this study were not generalized beyond the School of Business, other schools or departments within the college could learn from this study. Positive social change could result from the School of Business administration using this policy paper to provide interventions that will allow instructors to use the LMS in their classrooms to provide learning opportunities so that students will become successful learners.

A recommendation for future research would be to conduct a study after the recommendations are implemented to find out how faculty perceived the effectiveness of the recommendations. Another recommendation for future research would be a study regarding students' perceptions of and their use of the LMS.

Conclusion

The problem I addressed in this study was instructors from the School of Business at a large 2-year college located in Canada underutilized the LMS in accordance to the LMS policy to provide feedback to students, to make course content available in a variety of accessible formats to students, and to promote student engagement. I conducted a basic qualitative study and interviewed 11 instructors from the School of Business. The purpose of the study was to explore factors that influenced instructors' use of the LMS in accordance to the college LMS policy. The findings revealed that participants perceived

system quality, self-efficacy and facilitating conditions influenced their use of the LMS in accordance to the LMS policy. I used the study findings to develop a policy paper for administrators at the School of Business.

Faculty members at the study college were devoted to student learning. The results from the data analysis show that faculty were focused on student learning. They wanted the students to be successful. The faculty wanted more opportunities for professional development so that they could become more effective teachers. The college has a role to play in overcoming the barriers that faculty face in becoming better teachers. In this study, the findings revealed that part-time faculty experienced barriers and need the college to assist them to overcome those barriers. Part-timers needed to be paid to attend PDs to become better teachers for their student. Part-time faculty needed time to interact with other faculty members to learn from each other how they use the LMS in their teaching practice for students' success. The suggestions that the participants gave in the data to support their use of the LMS were not for their gain but for their students' success. In conclusion, I commend the faculty members at the study college for their ardent work and dedication to student learning.

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Appendix A: The Project

Introduction

Research shows that faculty members in higher education tend to underutilize the learning management system for teaching and learning (Washington, 2019). Salisbury (2018) found that many instructors failed to use the blackboard learning management system (LMS) as part of their pedagogical practices and wanted to apply their face-to-face pedagogical practices and theories in Blackboard LMS. Some instructors refused to abandon their face-to-face classroom practices such as assessments and content delivery because they favored those teaching practices or were unaware of the distinctive features of the LMS and did not know how to adapt their practices to meet the needs of this new space (Salisbury, 2018). Sinclair and Aho (2018) found that there was insufficient use of LMS for pedagogy practice by most of the teaching staff, in two post-secondary institutions, because they were afraid to use the technology and had anxiety related to its adoption.

Research has shown that faculty use of the LMS is affected by system quality, perceived self-efficacy, and facilitating conditions (Fearnley & Amora, 2020; Zheng et al., 2018). The expanded technology acceptance model (TAM) by Fathema et al. (2015) defined system quality, perceived self-efficacy, and facilitating conditions. System quality is defined as the quality related to the functions, speed, features, contents and the interaction capability of the LMS. Perceived self-efficacy is defined as a faculty member's judgement or confidence he/she has in his/her own capability to operate, navigate, or work with the LMS. Lastly, facilitating conditions refers to the availability of

the related resources such as technical help, internet infrastructure, hardware, software, training, and online help to work with the LMS.

Fearnley and Amora (2020) found that perceived self-efficacy had a strong and direct influence on instructors' perceived usefulness and perceived ease of use of the LMS. In other words, instructors with positive beliefs about their ability to use the learning management system will accept it as both useful and easy to use (Fearnley & Amora, 2020). Salisbury (2018) found that instructors who were not confident using the LMS tools did not utilize the use of the tool. Radovan and Kristen (2017) found that instructors who were more confident of their knowledge of the LMS used the LMS more frequently for instructional practices than their counterparts. Zheng et al. (2018) argued that perceived self-efficacy motivated instructors to discover more instructional benefits of using the LMS. An increase in instructors perceived self-efficacy increased their confidence to use the LMS (Zheng et. al, 2018).

Bervell and Arkorful (2020) found that there was a significant relationship between facilitating conditions and perceive ease of use to use the LMS technology. An increase in facilitating conditions such as technical support and internet resources increased educators frequent use of the learning management systems for teaching and learning (Bervell & Arkorful, 2020). Klein et al. (2019) found that facilitating conditions such as organizational technology resources, and leadership support of the LMS influenced instructors' adoption of LMS tools in the classroom. Bove and Conklin (2020) found that providing training support such as 24/7 LMS front desk access, group and one-to-one training, helped faculty members to use the LMS. Washington (2019) found that a

professional development designed for instructors to learn to use features of Blackboard LMS in their teaching practices influenced instructors' use of the Blackboard LMS. The instructors applied the knowledge received from attending the professional development training directly to their use of the Blackboard LMS (Washington, 2019). Bervell et al. (2020) stated that facilitating conditions should be critically addressed while implementing LMS because of its direct effect on instructors' attitude towards their intentional use of the system.

Fearnley and Amora (2020) found that system quality directly affected instructors' perceived usefulness, perceived ease of use and behavioral intention to use the LMS. The results indicated that high system quality led to high perceived usefulness, perceived ease of use and behavioral intention to use the LMS (Fearnley & Amora, 2020). Scherer et al. (2018) found that perceived ease of use, significantly predicted behavioral intentions via attitudes toward technology. Results showed that instructors were more influenced to use the new LMS system because it was more stable; its interface was better than the previous LMS, and the system was easier to navigate (Rucker & Frass, 2017). Bove and Conklin (2019) discussed that although some instructors were motivated to use Blackboard because they found the tools efficient and time-saving, other instructors never utilized many of the LMS tools. The ease of use of the LMS tools, the interface, easy access, and availability of the technology tools were some of the system quality factors that affected instructors use of the LMS (Rucker & Frass, 2017; Washington, 2019).

Based on this research, I designed and conducted a study to explore factors that influenced instructors' use of the LMS in accordance to the LMS usage policy to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning. The study was intended to gain information for administrators from the School of Business so that they can develop the necessary interventions to improve the faculty professional practices and the overall student experience. To achieve this purpose, I conducted a basic qualitative study and interviewed 11 faculty members selected from a population of 223 full time and part time faculty members employed by the School of Business.

The Problem

The problem addressed in this project is that instructors at the School of Business were underutilizing the use of the LMS to provide feedback to students, to make course content available in a variety of accessible formats to students, and to promote student engagement in learning. Evidence that there was an underutilization of the LMS among faculty in the School of Business was supported by an administrator. The administrator estimated, based on observation and feedback from instructors that, only 20-25% of faculty members used the LMS in their classes to support or enhance student learning and engagement as outlined in the study college policy. Evidence that the problem existed also arose during a virtual faculty meeting that was held in 2020 to discuss online teaching practices during the COVID-19 pandemic. At this meeting, faculty members described and discussed the challenges they were experiencing teaching their face-to-face courses in a virtual format. For example, faculty members described difficulties engaging

students in the classroom activities such as in whole class discussions and small group activities. Instructor virtual faculty meetings in 2020 revealed that over 50% of instructors were using the entire three hours allotted for a course class session to lecture in an online environment. As well, many instructors provided course content through synchronous lectures using Microsoft blackboard or PowerPoint. According to the college LMS policy and procedure, 2019, the college had implemented a LMS policy for all for all instructors to (a) utilize the facilities of the Learning Management Systems (LMS) to support teaching and learning at the college, and (b) expand their use of the LMS beyond the basic requirements by developing their expertise in utilizing the LMS functionality to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning. The goal of the LMS implementation policy at the study college is to be in line with the college mission statement that states that faculty members demonstrate committed professionalism and high degree of competence in teaching. According to the LMS policy, the college expects instructors to use the LMS to provide an organized, consistent and timely course-related communication between the instructors and their students to assist with course administration while supporting student engagement, increase flexible learning opportunities, enable quality learning experiences and provide increased options for supporting student's engagement.

Rationale

The college implemented a LMS policy that required all faculty members to (a) utilize the facilities of the LMS to support teaching and learning at the college, and (b)

expand their use of the LMS beyond the basic requirements by developing their expertise in utilizing the LMS functionality to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning. The college had little knowledge of factors that influenced instructors use of the LMS. Therefore, I conducted a qualitative study and interviewed 5 part-time and 6 full-time faculty members to explore factors that influenced instructors' use of the LMS in accordance to the LMS usage policy to provide feedback to students, make course content available in a variety of accessible formats to students, and promote student engagement in learning.

The data analysis revealed that participants wanted (a) a mobile version of the LMS for students' convenience, (b) MS Teams to be integrated in the LMS to facilitate students learning, and (c) an e-campus library through the LMS for instructors to access instructional teaching and learning materials. The findings also showed that participants perceived that instructors should use the LMS more for students' success.

The data revealed that some participants perceived that part-time faculty members should be paid to attend LMS PD. Participants perceived that faculty members including part-time should be given opportunities to meet in groups to share their LMS experience among themselves. Results show that participants perceived that from collaborating among themselves they can learn from each other how they utilize the LMS in their teaching practices.

The findings further revealed that participants needed support to use the grade book, the assessment features, and other interactive tools to support their teaching

practice because they were not confident using those tools. The data analysis showed that participants wanted the course link validator feature and the parent children feature that upload course materials and announcements to different course sections be added to the LMS. The results of this study led to my development of this policy paper which is designed to provide recommendations to the college about participant perceptions of the factors that influenced their use of the LMS to promote student success.

Supporting Research Literature for the Recommendations

Research Findings About Mobile Version of LMS

The findings showed that participants perceived that the LMS should be compatible with mobile phones for students' convenience. Similar findings for the need of the LMS to be compatible with mobile phones are found in research. Findings from research show that students suggest that the functionality of the LMS be enhanced to be easily accessible on their mobile phones (see Annamala et al., 2021). Students wanted the use of a mobile communication platform for easy access to their graded scores and contents (see Annamala et al., 2021). The students wanted a mobile version of the LMS due to challenges related to the inconvenience of accessing interactive learning contents at any time (see Annamala et al., 2021). Karaoğlan and Fatma (2022) perceived that the easy installation of the Moodle mobile LMS on different mobile devices may have increased student satisfaction regarding their engagement and motivation in a mobile-based classroom. Their study results showed that the students were able to perform online and face-to-face mobile learning activities in the classroom and the findings indicated that students' satisfaction, engagement and motivation in the mobile-based classroom

were high (see Karaoğlan & Fatma, 2022). Bai (2022) found that although the computer was the major tool in learning, students had positive perceptions of using the mobile learning management system. Saroia and Gao (2019) found there is a strong relationship with perceived ease of use (PEOU) and PEOU in turn, revealed direct influence on attitude toward students' intention to use the mobile LMS. Perceived usefulness remained the dominant mediating factor for students' intention to use the mobile LMS (see Saroia, 2019). Ng et al. (2020) stated that mobile access to LMSs enables greater mobility and flexible learning. Ng et al. (2020) found that students utilized mobile access to the Moodle platform as a backup to supplement computer access. Research showed that students were frequently accessing the LMS through their mobile late at night between midnight and 6 a.m. as well as 10 a.m. (see Ortiz & Green, 2019). For students, mobile technology was the only means through which they could persist in taking courses while institutions offered classes primarily in online modalities during the COVID pandemic (see Antee, 2021). Antee stated that mobile technology adoption for online learning would be particularly relevant for lower income students with limited digital literacy skills and limited access. Antee stated that the findings show that students' continuous intention and their actual mobile usage have implications for how faculty and institutions may need to promote the usefulness of mobile technology for students to accept and adopt the technology. Ortiz and Green (2019) recommended that it would benefit the institution to look at the mobile support services it provides currently and attempt to improve on them and continuously verify they are updated with the latest information.

Recommendations Related to Providing a Mobile Version of the LMS

It is recommended that administrators at the School of Business:

- Develop a mobile version of the LMS.
- Promote the usefulness of mobile technology to students and faculty.
- After 6 months conduct an evaluation of the use of the mobile version by students and faculty and make improvements where necessary

Research Findings About Integrating a Library in the LMS

Results from my study show that participants wanted an e-campus library through the LMS for instructors to access instructional teaching and learning materials. Similar findings for the need of a library to be integrated in the LMS and the implementation are found in research (see Murray & Feinberg, 2020). Murray and Feinberg found that a higher learning institution integrated the library in the Canvas LMS for students who were enrolled in courses either in-person, hybrid, or online. Murray and Feinberg stated that after many discussions regarding the need for a library to be integrated in the LMS that it became evident to the online learning librarian and the library director that the library needed to explore ways to integrate more with Canvas LMS. Results show that the librarian and the library director perceived that the library was needed in the LMS for students to easily find resources and access online services to support their studies (see Murray & Feinberg, 2020). The findings further revealed that librarians who worked with students would look for ways for students to easily find library resources and services online (see Murray & Feinberg, 2020). Li (2021) found that the usage of library resources and services are strongly correlated to the integrations among library systems and LMS. All library resources and services were added to the menu bar in the LMS to make online

content more user friendly and accessible through the LMS for faculty and students (see Li, 2021). The integration of a library in the LMS increases students and faculty members experiences to search library resources within the LMS (see Li, 2021). Li stated that the faculty were able to easily embed library resources into their courses, which led to an improved user experience and resulted in greater use of the library resources. Li further stated that the integration of the library in the LMS made the library resources more visible to users and the students were able to access and find information they needed more easily.

Recommendations Related to Integrating a Library in the LMS

It is recommended that administrators at the School of Business:

- Implement an e-campus library that students and faculty can access through the LMS.
- After the implementation, promote the e-campus library among students and faculty members
- After 6 months, conduct an evaluation of the use of the e-campus library by students and faculty and make improvements where necessary.

Research Findings About Integrating MS Teams as the Virtual Platform in the LMS

My study findings show that participants want MS Teams to be integrated in the LMS to facilitate students' learning and their teaching practices. Findings on the effectiveness of MS Teams for teaching and learning are found in research. Ranjan et. al. (2021) and Çankaya and Durak (2020) found that Microsoft teams was one of the main tools used in the Covid 19 pandemic for students and teachers of higher education

institutions. Rojabi et al. (2022) stated that one of the effective online learning platforms that can increase student engagement and motivation in online courses is Microsoft Teams. Rojabi et al. (2022) found that learners were involved in debates as a result of their participation in discussion forums through MS Teams. Results showed that the students gained a better comprehension and knowledge of language learning after using Microsoft Teams (see Rojabi et al., 2022). The findings further revealed that students were highly motivated and enjoyed the online course due to its ease of use and fun features. The findings also showed that they appreciated the direct feedback during synchronous online meeting held in Microsoft Teams (see Rojabi et al., 2022). Microsoft Teams is a platform that provides videoconferencing capability and options to collaborate and message other group members within a team (see Borror et al., 2021). Borror et. al (2021) found that Microsoft Teams has the capability functions to work and communicate with a group of individuals in a professional manner. The use of Microsoft Teams is best for professional communications and students can use Microsoft Teams for their group assignment meetings rather than face-to-face (see Borror et. al, 2021). Microsoft Teams has features such as a chat feature for groups or one-on-one discussion, a personal calendar that shows important dates and assignments, and assignments tab where teachers can post assignments for their students (see Borror et. al, 2021). Çankaya and Durak (2020) found that Microsoft Teams has features such as video conferencing software, chat-based collaborative working platform, private messaging, calling, meetings, virtual classroom, assignments and quizzes. Teachers can keep track of their students' progress as well as easily access assignments students have completed (see Borror et. al, 2021).

Microsoft Teams has other features such as screen sharing, virtual background changes, video calling, notifications relating to collaboration, reminders for upcoming meetings and set their meeting time for others to view (see Borror et. al, 2021). Microsoft Teams keeps everything the teacher may need on one platform, which allows students to view course materials and assignments and submit them when complete (see Borror et. al, 2021). If users have limited experience using Microsoft Teams, there are free resources such as training videos, meetings with instructors, and a blog answering frequently asked questions available to learn the software.

Recommendations Related to MS Teams as the Virtual Platform in the LMS

It is recommended that administrators at the School of Business:

- Integrate MS teams in the LMS.
- After the implementation, promote the use of MS teams through the LMS among instructors.
- After 6 months conduct an evaluation of the use of MS teams by students and faculty and make improvements where necessary.

Research Findings About the use of the LMS to Provide Instruction, to Facilitate Assessment and to Engage Students

Participants perceived that the LMS should be used more by faculty members to support instruction, to provide assessment and to engage students in the course. Findings on instructors use to of LMS to support instructions, facilitate assessment and engage students are found in other research findings.

Research Supporting the use of the LMS for Instruction. The findings in my study show that participants perceived that all instructors at the college should use the LMS more to support instruction. There are several ways instructors can use the LMS to support teaching. Blakey and Major (2019) stated that administrators need to encourage faculty members to utilize the LMS to facilitate student-led pedagogies such as cooperative learning, team-based learning, and problem-based learning. Faculty members need to be aware of variety of ways they can utilize the LMS to engage students in the pedagogy process (see Blakey & Major, 2019). Instructors used the LMS to assign video-watching, quiz-taking and video conferencing (see Teng & Wang, 2021). Instructors used the LMS to provide students with unlimited access to recorded videos that allowed them to view the videos without downloading, allowed students to access learning contents, assignment scores, quizzes, and appointments with lecturers (see Annamala et al., 2021). Baragash and Al-Samarraie (2018) found that instructors used the LMS to promote learning during their initial face-to-face class interaction. Instructors allowed students to use web resources and tools through the LMS to obtain quick and easy information to assist in their mastery of the course content (see Baragash & Al-Samarraie, 2018). Research results show that instructional practices such as creating a social climate, providing immediate and timely feedback, emailing, conferencing, hosting discussions (by creating discussion threads with appropriate topics), improving peer interaction and collaboration or teamwork, clarifying assignments, improving student–content interaction are examples of instructional strategies instructors used through the LMS (see Vlachopoulos & Makri, 2019). Blakey and Major (2019) stated for example, that

depending on the nature of the course, faculty members can involve students in a variety of ways by providing opportunities for them to (1) contribute their own goals to the course goals (2) serve as the instructors at some point in a given course by creating microteaching videos, digital stories, web sites, collages, letters, or personal learning environments. Blakey and Major (2019) found that students are empowered and motivated when faculty members used the LMS to involve them in the pedagogy process.

Research Supporting the use of the LMS to Facilitate Assessment. The findings in my research show that participants perceived that instructors at the college should use the LMS to facilitate assessment. There are several ways instructors can use the LMS to facilitate assessment. Emmanuel et. al (2019) found that the LMS was used to provide three aspects of course assessments: coursework, final examination and final course score. Participants perceived that the LMS should be used more by faculty members to support instruction, to provide assessment and to engage students in the course. Result shows that instructors used the discussion forum as an assessment tool where students were awarded points toward there course work when they contributed to the class discussion. Reju and Jita (2020) perceived that the LMS should be used to facilitate math assessments that allowed the students to submit their math solutions. Reju and Jita stated that learning institutions should make the LMS platform interactive for math assessments. Reju and Jita perceived that math assessments through the LMS should provide students the opportunity to demonstrate their math skills when solving math problems. Naomi et al. (2021) perceived that students grades from assessments should be provided through the LMS along with feedback. Naomi et. al discussed that for

students' convenience and motivation to participate in their courses, they should be able to access their grades with feedback for all courses in one window, throughout the semester. Teng Wang (2021) stated that online assessment offered through the LMS should be properly arranged.

Research on Interactive Resources for Students' Engagement. This research showed that participants perceived that all instructors at the college should use the LMS more to facilitate students' engagement in the course. Instructors use of the LMS for students' engagement had a positive influence on students' learning (see Chen et al., 2019). Chen et al. (2019) found that instructors use of the LMS for students' engagement and participation in learning had a positive impact on students' learning design performance and reflective thinking capacity. Results show that instructors in the regular face-to-face classes facilitated students' learning by encouraging them to engage in LMS based learning activities (see Baragash & Al-Samarraie, 2018). Results further revealed that students' engagement in the face-to-face environment had a significant positive effect on their engagement in the LMS as they were motivated in their face-to-face class to utilize the resources in the LMS (see Baragash & Al-Samarraie, 2018). Students can upload their after-class project videos and be peer reviewed by other members (see Teng & Wang, 2021). Baragash and Al-Samarraie (2018) found that learning delivery modes that promote students' engagement are major factors in sustaining students' learning performance and promoting lifelong learning.

Recommendations Related to Instructors use of the LMS to Provide Instruction, to Facilitate Assessment and to Engage Students

It is recommended that administrators at the School of Business:

- Monitor instructors use of the LMS to support instruction, to provide some assessment and to engage students in the course.
- Monitor that instructors use the available course shell to organize their course, the grade book to update students' grade on a regular basis, the assignment folder to upload all assignments, and the course calendar to provide important dates.
- Evaluate the use of the LMS by students and instructors to provide instruction, to facilitate assessment and to engage students.

Research Related to Supporting Part-time Instructors

The findings from my study revealed that participants wanted administrators to support part-time instructors use of the LMS. Participants perceived that if administrators provide LMS support to part-time instructors based on their needs it will improve their use of the LMS in accordance to the LMS policy. There are several ways administrators can support part-time instructors which can result in their effective use of the LMS. According to Snook et al. (2022), the needs of part-time instructors differ from other instructors therefore, universities should consider the differing needs for part-time educators to improve their teaching methods and thus student learning. Snook et al. (2022) stated that finding and talking to part-time instructors about their teaching needs are considered the first steps in providing effective PDs. Results from research showed that part-time instructors received support which included being paid when they attended meetings or engaged in other forms of institution activities and having consistent access to formal professional development (see Beaton, 2017). Part-time instructors need

professional development that will prepare them for teaching (see Williams & Beovich, 2017). Gelman et al. (2022) found that institution offered paid seminars two to three times per semesters to part-time faculty in an effort to honor their contributions to education and promote the quality of education they offer to the next generation. Topics presented at the seminars were created specifically based on the needs of part-time faculty (see Gelman et al., 2022). Gelman et al. (2022) discussed that given the complex schedules of part-time faculty, when scheduling in-person seminars they should be alternated between morning and evening sessions, the presentations should be virtual and recorded for future viewing. In other words, there should be some flexibility in the schedule when planning PDs for part-time instructors. Gelman et al. (2022) stated that providing a multi-faceted approach that fosters the inclusion among part-time faculty promotes professional development among part-timers, and provides concrete resources to support their teaching. Gelman et al. (2022) further discussed that a multi-faceted approach that fosters the inclusion among part-time faculty does not only support part-time faculty but also serves students, the school and the profession. Bickerstaff and Ran (2021) found that an institution had a committee that monitored whether or not the institution was meeting the needs of part-time faculty members. Bickerstaff and Ran (2021) found that some needs for part-timers were: navigating career pathways, improving teaching practice, strengthening research skills, wanting basic resources to do their job, receiving extra supports to combat the challenges of teaching evening sections, being fairly compensated and recognized for the work they do (Bickerstaff & Ran, 2021). Estel (2021) stated that post-secondary institutions should provide more opportunities for

professional development to part-time faculties for all acceptable means of improvement and that asking part-timers directly what they need can bridge gaps. Shulman (2019) stated that based on the mission and direction of each college and university, and of higher education as a whole, all part-time faculty deserve fair pay. Thirolf and Woods (2017) stated that part-time faculty expressed feeling "nickel and dimed" when it came to the time they invested at the college and outside the classroom. As a result of the findings Thirolf and Woods (2017) suggested that rather than having all meetings mandatory for full-timers only, it should be mandatory for all faculty and be made a paid hour for part-timers. The findings revealed that part-time faculty expressed the desire to participate in more professional development however; the schedules of workshops and the lack of associated pay discouraged their participation (see Thirolf & Woods, 2017). Results showed that a mid-sized community college in USA that experienced enrollment declines and tightening budgets like most community colleges across the country was still able to prioritize investment in part-time faculty support because they perceived that doing so supports better teaching and strengthens commitment to student success and to the college overall (see Thirolf & Woods, 2017). Thirolf and Woods (2017) perceived that it is obligatory for colleges to provide access to valuable and relevant professional development opportunities for all faculty and it is important for a college to demonstrate that it values part-timers by paying them for engaging in professional development (see Thirolf & Woods, 2017). Findings revealed that part-time faculty were paid an hourly rate for participating in internal professional development that were offered once per month and were also compensated to create and facilitate workshops for others (see

Thirolf & Woods, 2017). The findings further revealed that paid comprehensive full-day professional development opportunities was offered twice a year before semesters and multiple asynchronous online workshops were also offered to part-timers (see Thirolf & Woods, 2017). Thirolf and Woods (2017) further stated that all workshops offered were based on what part-timers asked for and their needs.

Recommendations Related to Supporting Part-time Instructors

It is recommended that administrators at the School of Business:

- Involve part-time instructors in PDs that demonstrate a variety of interactive learning tools they can use through the LMS to engage students in learning whether they are delivering education face-to-face or remotely
- Pay part-time faculty members to participate in the available LMS PDs.
- Provide extended hours outside the 9:00 am to 5:00 pm hours to provide LMS support to part-time faculty members.
- After 6 months, evaluate part-time instructor participation in the available PDs and extended hours.

Research Related to Teacher Collaboration Among Instructors

Result from my study show that participants made suggestions for administration to provide opportunities for faculty members including part-timers to collaborate with each other to discuss their use of the LMS in their teaching practices. My study revealed that participants perceived collaborating with other faculty members during PDs regarding their use of the LMS would support their use of the LMS in their teaching practices. There are examples of teacher collaboration among faculty members and how

faculty members perceived they benefited from teacher collaboration. Packer (2019) discussed that part-time faculty members were given opportunities to collaborate and connect through highly interactive discussions where they shared teaching innovations and sought solutions to their problems and challenges in university teaching. Part-time faculty members preferred faculty development with opportunities to collaborate with each other and having breakout sessions than having presenter-centered PDs (Packer, 2019). Packer found that for faculty development meetings, part-time instructors preferred to have opportunities to engage in highly interactive discussions over having presenter-centered PDs. The research findings showed that through a teacher collaboration retreat 88.79% part-timers learned new instructional strategies that they could use in the classroom and learned new skills to improve their teaching (Packer, 2019). Findings revealed that 87.1% part-timers responded that they made connections with either other part-time faculty, full-time faculty, and/or the institution as a whole (Packer, 2019). Results reveled that part-time faculty members stated they felt they were part of a teaching community after interacting with each other at the PD (Packer, 2019). Packer (2019) found that the opportunity to interact with peers brings multiple benefits to the professional development experience and allowed faculty members including part-timers to develop their skills through learning from each other. Results showed that part-timers would like more full-time faculty involvement (Packer, 2019). Noben et al. (2022) found that professional interaction in the workplace is an essential part of professional development and fosters collaborative relationships. Findings showed that peer support and collaboration among teacher educators resulted into educators (1) sharing solutions to

teaching-related problems, (2) providing personal and emotional support to peers and (3) doing creative problem-solving (Hontvedt et. al, 2021). Results show that collaborations among educators drive the changes needed to design and develop a relevant education program (Webb et al., 2019). Through collaborations educators connected continuing professional education with curriculum development in an effort to focus on student needs and the expectations for their success (Webb et al., 2019). Collaborations in small group discussions among educators led them to build a network that keeps them abreast of changes and provides an avenue for their lifelong learning experiences (Webb et al., 2019). Faculty members appreciated opportunities to collaborate with each other as they perceived it helped them improve their teaching practices. Teacher collaboration in post-secondary institutions contributed to interactive engagement among faculty members.

Recommendations Related to Supporting Teacher Collaboration

It is recommended that administrators at the School of Business implement policies that:

- Provide opportunities for faculty members including part-time to meet in groups to share their LMS experience among themselves so they can learn from each other how they utilize the LMS in their teaching practices.
- After 6 months of implementation, conduct an evaluation of the teacher collaboration by faculty and make improvements where necessary.

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Appendix B: Policy Recommendation Paper and Presentation Evaluation

Thank you for attending this presentation of my policy recommendation paper. I am delighted that you took the time to attend this presentation physically or virtually. For those of you who will be listening to the recording of this presentation at a later date, thank you. I am now inviting you to complete the Google form evaluation I sent you to determine whether the goals of the policy paper were met.

Evaluation Questions

Please select one of the following responses on a scale of 1 to 5

1. The presentation of policy paper clearly outlined the study findings.
    a. Completely agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Completely disagree
2. The policy paper clearly outlined findings from literature of examples that either support the study findings or can address the study findings.
    a. Completely agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Completely disagree
3. The recommendations were clear
    a. Completely agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Completely disagree

4. After listening to the presentation and or reading the policy recommendation paper, I have a better understanding to provide the necessary interventions for instructors to improve their experience of the LMS to support teaching and learning.
    a. Completely agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Completely disagree
5. Overall, I would rate this policy recommendation paper effective.
    a. Completely agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Completely disagree

Appendix C: Interview Questions and Conceptual Framework

Research and Interview Questions Matrix

Research Question	Interview Questions	Conceptual Framework
Introductory Questions	1. What LMS tools do you use in your classes to communicate with your students? (Probe participants to list the tools including email, announcement etc. and explain how they used the tools to communicate with students) 2. Could you please explain why you chose to use each of those LMS tools to communicate with your students? (Probe participants to identify what made them aware of the tools and what influenced them to use each tool) 3. What LMS tools do you use in your classes to provide course content to your students? (Probe participants to list the tools including bongo, teams etc. and explain how they used the tools to provide course content to students) 4. Why did you choose that specific tool to provide course content to students? (Probe participants to identify what made them aware of the tools and what	The three external factors, *system quality, perceived self-efficacy*, and *facilitating conditions* were significant predictors of faculty, in higher education institutions, actual use of the LMSs.

	influenced them to use each tool) 5. What LMS tools do you use in your classes to promote students' engagement? (Probe participants to list the tools and explain how they used the tools to promote students' engagement) 6. Why did you choose that specific tool to promote students' engagement? (Probe participants to identify what made them aware of the tools and what influenced them to use each tool)	
RQ1. How do faculty members from the School of Business perceive that the system quality influenced their use of the LMS in accordance to the LMS usage policy?	7. How does the system quality such as the functions, internet speed, interactive tools, features, and contents of the LMS influenced you to use of the LMS to communicate with students? (Probe participants to give examples) 8. What problems do you have with the system quality when communicating to your students? (Probe participants to give examples) 9. How does the system quality such as the functions, internet speed, interactive tools, features, and contents of the LMS influenced you to use of the LMS to	*System quality*, an external factor, positively affects perceived usefulness of the LMS, faculty members' attitudes toward using LMS, and their perceived ease of use of LMS. While perceived ease of use affects perceived usefulness, perceived usefulness and perceived ease of use directly influenced instructors' attitudes toward using the LMS. Instructors attitude and perceived use then influenced behavioral intensions to use the system which in turn influenced instructors

	provide course content to your students? (Probe participants to give examples) 10. What problems do you have with the system quality when providing course content to your students? (Probe participants to give examples) 11. How does the system quality such as the functions, internet speed, interactive tools, features, and contents of the LMS influenced you to promote students' engagement in your classes? (Probe participants to give examples) 12. What problems do you have with the system quality to promote students' engagement and interaction in your classes? (Probe participants to give examples)	actual use of the LMS.
RQ2. How do faculty members from the School of Business perceive that their self-efficacy perceptions influenced their use of the LMS in accordance to the LMS usage policy?	13. How confident were you using the LMS features, functions and content to communicate your students? (Probe participants by asking what made you so confident/or why were you not confident?) 14. How confident were you using the LMS features, functions and content to provide course content to your students? (Probe	*Perceived self-efficacy, another external factor that influenced instructors LMS usage, is defined as* a faculty member's judgement or confidence he/she has in his/her own capability to operate, navigate, or work with the LMS. Faculty members perceived self-

	participants by asking what made you so confident/or why were you not confident?) 15. How confident were you using the LMS features, functions and content to promote students' engagement in your classes? (Probe participants by asking what made you so confident/or why were you not confident?)	efficacies, positively affects their perceived ease of use and their perceptions of the usefulness of LMS. Perceived usefulness then directly affects instructors' attitude towards using the LMS and behavioral intentions to use the LMS while perceived ease of use directly affects attitude towards using (ATT) the LMS and ATT directly affects actual use of the LMS.
RQ3. How do faculty members from the School of Business perceive that the facilitating conditions influenced their use of the LMS in accordance to the LMS usage policy?	16. When you need help to use the LMS features, did you have availability of resources such as technical help, training, and online help etc. to assist you to use the LMS? (Probe participants to identify all the available assistance they are aware of.) 17. Have you contacted or utilized any of the available assistance to help you to use the LMS features? (Probe participants to give examples) 18. If you had utilized the available assistance to assist you to use the LMS for teaching, how did the assistance you received helped you to use the LMS to	*Facilitating conditions*, the third external factor that influenced instructors LMS usage, refers to the availability of the related resources such as technical help, internet infrastructure, hardware, software, training, and online help to work with the LMS. *Facilitating conditions* has a significant positive effect on faculty members' attitude (ATT) toward using LMS. ATT then had direct influence on behavioral intention to use which directly influenced instructors actual use of the LMS.

	communicate to students? (Probe the participants to give examples of what they are satisfied with and what they are not satisfied with) 19. How helpful did you find the availability of the resources such as technical help, training, and online help to assist you to use the LMS to provide course content to students? (Probe participants to give examples of what they are satisfied with and what they are not satisfied with) 20. How helpful did you find the availability of the resources such as technical help, training, and online help to assist you to use the LMS to promote students' engagement? (Probe participants to give examples of what they are satisfied with and what they are not satisfied with)	