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Engagement in E-learning Courses Amongst First-Year, Nontraditional Community College Students

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Walden University
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Abstract

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Project Study Submitted in Partial Fulfillment

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Abstract

At a rural community college in Western Canada, the number of nontraditional e-learning students has increased to over 50% of the total student population; however, there is lack of understanding about how nontraditional students become engaged in e-learning courses. The purpose of this study was to investigate what teaching and learning strategies contribute to first-year, nontraditional students' behavioral, emotional, and cognitive engagement in e-learning courses. Engagement contributes to retention and completion. The theoretical base for this explanatory sequential mixed methods case study with a qualitative focus included Garrison, Anderson, and Archer's community of inquiry model for the quantitative portion. The conceptual framework for the qualitative portion was based on Kearsley and Shneiderman's theory of student engagement. Out of 149 e-learning students invited to participate in Dixson's Online Student Engagement survey, 31 self-identified nontraditional students completed the survey. Quantitative data were analyzed using Kendall's tau-*b* to determine the associations between online engagement strategies and students' own assessment of their engagement. Resulting were no, low, and moderate associations. Qualitative data from open-ended survey questions produced deeper understanding of students' engagement through themes of cognitive presence, social presence, teaching presence, institutional presence, and meaningful learning. In one-on-one interviews, 7 faculty members provided further understanding of students' engagement themed as teaching presence, cognitive presence, and meaningful learning. The qualitative data analysis process involved both provisional and in vivo coding. The positive social change implications include the potential to improve e-learning engagement and increase program completion rates for marginalized students.

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Table of Contents

List of Tables

List of Figures

Section 1: The Problem

The Local Problem

Understanding how e-learning students become engaged in their courses is important to improve educational practice. E-learning students are learners who take some or all of their courses via the Internet without face-to-face interaction. These courses can be asynchronous, in which students are expected to progress on their own with minimal instructor support; alternatively, these courses can be synchronous, in which students are expected to participate in live, daily lectures offered via technology and can interact with their instructor or peers (Mayadas, Miller, & Sener, 2015). According to a data analyst at the study site, despite subject matter experts and experienced e-learning instructors, students in programs offered only via e-learning were more likely to be unsuccessful in their program of studies compared to face-to-face students, according to unpublished data. Researchers have shown that student engagement influences student satisfaction, retention, and successful completion (Hanover Research, 2014; Kizilcec & Halawa, 2015; Quaye & Harper, 2015; Ward & Wolf-Wendel, 2014). Thus, engagement in the e-learning modality is also critical to student learning (Dixson, 2015). However, no specific pathway exists to help practitioners understand the complexity of what engages e-learning students (Hope, 2017). Investigating what teaching and learning strategies contribute to first-year, nontraditional students' behavioral, emotional, and cognitive engagement in e-learning courses may produce a better understanding for scholar practitioners and college executives about e-learning student engagement, and this knowledge may lead to improved educational practices.

Researchers have varying understanding and varying perceptions of what constitutes student engagement (Bundick, Quaglia, Corso, & Haywood, 2014; Deschaine & Whale, 2017; Fredricks, Filsecker, & Lawson, 2016; Kahn, 2014; Kahu, 2013). For this study, e-learning student engagement was defined using behavioral, emotional, and cognitive engagement definitions: Behavioral engagement was defined as actions performed by e-learning students in their online courses (Clark & Mayer, 2016); emotional engagement was defined as "the extent to which a student feel positively about a class, such as by enjoying it, feeling comfortable and interested, and wanting to do well" (Cooper, 2014, p. 365); and cognitive engagement (presence) was defined as the extent to which learners construct meaning in their learning environment (Garrison, Anderson, & Archer, 2000). According to Clark and Mayer (2016), engagement is central to successful learning, provides meaningful interaction between the student and the learning environment, and promotes learning goal achievements.

At the local site where I conducted the study, many e-learning first-year students were considered nontraditional, as many as 50% or more (see Vladicka, 2015). According to a data analyst at the study site, for the 2017–2018 academic year, nontraditional students comprised approximately 50% of the student body. These data aligned with Vladicka's (2015) reported observations regarding the study site. Schuetze (2014) and Vladicka indicated that nontraditional students were increasingly accessing postsecondary education, so this phenomenon extends beyond the local college. For the purpose of this study, nontraditional students were identified by one or more of the following characteristics: adult students with diagnosed or undiagnosed learning barriers, working single parents, married students with dependents, students working full-time, students of low socioeconomic background, students entering training after a few years

outside of high school, adult students who failed to graduate high school but returned to upgrade courses before entering postsecondary programs, or students older than 24 (Hixon, Barczyk, Ralston-Berg, & Buckenmeyer, 2016; Phillips, 2015; Rao, Edelen-Smith, & Wailehau, 2015; Schuetze, 2014). Many nontraditional students belong to more than one of these identifiers (Kahu & Nelson, 2017). Developing a better understanding of students' engagement in e-learning may provide educators with insight as to how to increase first-year, nontraditional students' engagement, persistence, and success in the e-learning modality.

Rationale

Evidence of the Problem at the Local Level

In colleges, retention is an important outcome for programs. According to Vladicka (2015), college executives noted retention as an important concern because of its connection to graduation. Engagement was shown to contribute to retention (Meyer, 2014a, 2014b). At Western Canada College (a pseudonym), there was a measured difference between retention in face-to-face programs compared to the some of the e-learning programs, between 10% to 40%, according to a data analyst at the college. According to the executive vice-president at the study site, though many Western Canada College (WCC) programs include a form of e-learning, such as companion sites where materials are stored for easy access to students, only three programs within the local site were offered primarily through the e-learning modality. These three programs were (a) the Academic Upgrading College Preparation program (b) the Educational Assistant program, and (c) the Early Learning and Childcare program. Of the three programs, the Academic Upgrading College Preparation program had the lowest completion rate within the institution, less than 50% in the 2016–2017 academic year, according to a WCC data analyst and

unpublished college completion data. The College Preparation program was intended to rebuild student skills for those who may have been away from training for a few years, or for students who had not previously achieved their desired postsecondary program entrance requirements.

In addition, according to a WCC data analyst, there was a lower retention rate in the college's first-year e-learning programs compared to second-year e-learning programs. Meyer (2014b) indicated that engagement is an important component of retention, while Dudley, Lui, Hao, and Stallard (2015) found engagement to be significantly impactful for underprepared and part-time students. Thus, a lack of student engagement may have contributed to student attrition, negatively affecting e-learning program retention rates.

Furthermore, according to the associate vice president of student services at the study site, despite subject-matter expert instructors, some retained students reported discontent with their e-learning classes in student learning evaluation surveys. No local data had been generated regarding what constitutes engagement strategies for first-year, nontraditional e-learning students. However, approximately 50% of e-learning first-year students in the local setting are nontraditional, according to Vladicka (2015), the findings from the unpublished data system accessed by the WCC associate vice president of student services and a WCC data analyst, and unpublished college point-of-entry surveys from 2017–2018, according to the WCC manager of institutional analysis.

Understanding student engagement in e-learning courses remains underdocumented (Bigatel & Williams, 2015; Deschaine & Whale, 2017; Hew, 2016). However, researchers have concluded that e-learning student engagement increases the likelihood of student success (Freeman & Wash, 2013; Kahu, 2013; Lumpkin, Achen, & Dodd, 2015; National Survey of

Student Engagement, 2015). As evidenced in the problem at the local level and professional literature, there remained a gap in practice to understand what first-year, nontraditional e-learning students find engaging. Thus, the purpose of this explanatory sequential mixed methods case study was to increase understanding of what teaching and learning strategies contribute to behavioral, emotional, and cognitive engagement of first-year, nontraditional students in e-learning classes, using quantitative student surveys with qualitative open-ended questions and faculty interviews.

Evidence of the Problem From Professional Literature

E-learning is an increasingly accessible modality for students. Student enrollment in at least one e-learning course has increased significantly in recent years (Allen & Seaman, 2014). However, students in e-learning courses continue to have higher attrition rates than in traditional face-to-face courses (Allen & Seaman, 2014; Betts & Heaston, 2014; Boton & Gregory, 2015; Doe, Castillo, & Musyoka, 2017; Fetzner, 2013; Hachey, Conway, & Wladis, 2013; Kizilcec & Halawa, 2015; Stevenson, 2013; Xu & Jaggars, 2014; Yuan & Kim, 2014). According to Hachey et al. (2013), this higher attrition rate is often 7% to 20% over traditional on-campus programs, although Doe et al. (2017) stated that this attrition rate might be as high as 25%. Though e-learning courses are more accessible, if these courses have higher attrition rates, they do not provide the desired results of helping more students obtain postsecondary goals.

Student engagement in traditional educational settings influences student learning as evidenced in the brief review of professional literature. In the e-learning environment, student engagement is also necessary for effective learning to occur (Hew, 2016). As previously mentioned, student engagement has been highly researched, but a better definition is required for

the e-learning modality. Researchers have not yet clearly defined what e-learning engagement is (Bigatel & Williams, 2015; Deschaine & Whale, 2017; Hew, 2016). With a better understanding of engagement in this modality, practitioners who design and deliver e-learning classes and programs have an increased potential to incorporate engagement strategies that impact educational success, persistence, and completion (Bigatel & Williams, 2015). Thus, additional e-learning engagement research may benefit practitioners.

Nontraditional student engagement requires deeper study. Trowler (2015) suggested that institutional staff define nontraditional student engagement for institutional convenience rather than for an understanding of these students. Trowler found that future researchers should try to better understand "variously engaged students who define themselves as nontraditional" (p. 309). Because of the impact of engagement on student learning, it is necessary for faculty to foster diverse and engaging learning environments to better support diverse student populations (Quaye & Harper, 2015). According to Strange and Cox (2016), postsecondary institutional staff focused on "selecting winners" and instead should put effort into creating opportunities for success for all students who enter (p. 227). To create a positive and transformative opportunity for diverse students, practices may need to change (Strange & Cox, 2016; Vladicka, 2015). However, there is little accountability to ensure change in practice is occurring (Quaye & Harper, 2015). Thus, providing a better understanding of nontraditional student engagement may also benefit faculty in addressing student needs.

There were several reasons to justify research about first-year, nontraditional e-learning student engagement. First, there is a greater risk of attrition amongst first-year students than those students in subsequent years (Ruffalo Noel Levitz, 2017; Tinto, 2013; Willcoxson, Cotter,

& Joy, 2011). Moreover, attrition is generally higher in e-learning settings than in traditional settings (Allen & Seaman, 2014; Betts & Heaston, 2014; Boton & Gregory, 2015; Fetzner, 2013; Hachey et al., 2013; Kizilcec & Halawa, 2015; Xu & Jaggars, 2013; Yuan & Kim, 2014). Second, nontraditional students are increasingly accessing postsecondary programs (Schuetze, 2014; Vladicka, 2015). Furthermore, nontraditional learners often comprise online student cohorts and are at greater risk for attrition (Shaw, Burrus, & Ferguson, 2016). Third, engagement in e-learning classes may be more important than in face-to-face classes, given that there is less opportunity to be engaged with the institution. E-learning students feel more isolated and disconnected than traditional students (Meyer, 2014b). Fourth, as e-learning student enrollments increase, so does the number of students with varied learning needs, which may include diagnosed and undiagnosed learning barriers (Rao et al., 2015). These nontraditional students may require alternate strategies for engagement in e-learning classes. Finally, as the demand for e-learning continues to grow, institutional staff should develop a better understanding of how technology integration affects student engagement (Albert, Blanchard, Kier, Carrier, & Gardner, 2014; Hope, 2017; Schmidt, Hodge, & Tschida, 2013; Shattuck & Anderson, 2013). Continued research could potentially provide information to improve student engagement.

The review of literature revealed the need for continued research in first-year, nontraditional e-learning student engagement. Researching what teaching and learning strategies contribute to engagement, with both students and faculty, may provide insight into improving e-learning strategies and increasing behavioral, emotional, and cognitive e-learning student engagement at the study site. This study, then, has the potential for faculty and staff to improve e-learning program and service deliveries.

Definition of Terms

The following definitions assist readers in understanding significant terminology used throughout this study.

Attrition: The withdrawal from e-learning courses (Hart, 2012).

Behavioral engagement: Actions performed by e-learning students in their online courses (Clark & Mayer, 2016).

Cognitive presence (engagement): The extent to which students construct meaning in their learning environment (Garrison et al., 2000).

Collaboration: Learning that occurs in a group context (Kearsley & Shneiderman, 1998).

Community college: In Canada, postsecondary schools that grant certificates, diplomas, or advanced diplomas, and offer technical, applied arts, or applied science programs (Simon Fraser University, 2018).

E-learning: Courses delivered via the Internet that do not require face-to-face interaction; these can be either asynchronous online, where students are expected to progress on their own with minimal instructor support via online tutorials; or synchronous, where students are expected to participate in live, daily lectures offered via technology (for example Blackboard/Collaborate), interacting with the faculty and peers in the live, online environment (Mayadas et al., 2015).

E-learning student engagement: Online classroom engagement using behavioral, emotional, and cognitive engagement definitions provided in these definitions of terms (Clark & Mayer, 2016; Cooper, 2014; Garrison et al., 2000; Mayadas et al., 2015).

Emotional engagement: The extent to which students feel "positively about a class, such as by enjoying it, feeling comfortable and interested, and wanting to do well" (Cooper, 2014, p.

365). However, students can "feel considerable angst, frustration and even anger over some aspects of the course or about some content and be very emotionally engaged" (M. Dixson, personal communication, October 2018).

Experiential learning: The process of knowledge construction where a learner experiences, reflects, thinks, then acts (Peterson & Kolb, 2018).

Learning strategies: Thoughts of and activities performed by learners that influence how learners process information (Mayer, 1988).

Meaningful learning: Students are engaged through "interaction with others and meaningful tasks" (Kearsley & Shneiderman, 1998, p. 20*).*

Nontraditional students: Adult students with one or more of the following characteristics: students with diagnosed or undiagnosed learning barriers, working single parents, married students with dependents, students working full-time, students of low socioeconomic background, students entering training after a few years outside of high school, adult students who failed to graduate but are returning to upgrade before entering postsecondary programs, or students older than 24 (Hixon et al., 2016; Phillips, 2015; Rao et al., 2015; Schuetze, 2014).

Persistence: The ability to complete an e-learning course despite adverse circumstances or obstacles (Hart, 2012).

Self-directed learning: Students use their own efforts to increase their "knowledge, skill, accomplishments, or personal development" (Gibbons, 2002, p. 2).

Social presence: The ability of students to present themselves as real people in their learning environments (Garrison et al., 2000).

Teaching presence: The design of the educational experience including selection, organization, and presentation of course content, learning activities, and assessments. In addition, it is the facilitation of the learning environment and experience to support and enhance cognitive and social presence (Garrison et al., 2000).

Teaching strategies: Techniques teachers use to help students become independent and strategic learners (Alberta Learning, 2002).

Significance of the Study

E-learning is an important component of WCC programming. Many of its programs use e-learning as part of a delivery method, and several programs offer classes only via e-learning, including the College Preparation, Early Learning and Childcare, and Educational Assistant programs. In the broader educational setting, students are accessing online learning opportunities due to course flexibility or due to geographic, family, or work-related factors (Hachey et al., 2013; Vladicka, 2015). However, if e-learning classes are lacking engagement strategies, there is a higher likelihood of student attrition (Stone, 2015). Without mitigating attrition as much as possible, opportunities provided by college e-learning programs will be irrelevant.

The study findings may assist WCC faculty and administration to better understand what teaching and learning strategies contribute to behavioral, emotional, and cognitive engagement for first-year, nontraditional students in e-learning and gain insight towards improving e-learning courses. According to Mayer (2014a), an evidence-based approach can be used to design effective e-learning environments. A desired outcome from this study was to inform study site decision-makers about how to improve e-learning programs and policies that may, overtime, change e-learning student success rates. Of additional note, this study has the potential to

contribute to social change by increasing postsecondary completion of previously marginalized individuals. For example, students who previously attempted e-learning postsecondary programing but then withdrew may have increased potential for completion upon return if they become more engaged in their learning. In addition, students who were limited by personal circumstances (such as geographic, familial obligations, work obligations) may experience better programming and an increased opportunity to complete their postsecondary goals. In addition, sharing the study insights locally and at conferences may assist current and future practitioners in improving e-learning engagement strategies.

Research Questions

Designing a study to better understand what teaching and learning strategies contribute to behavioral, emotional, and cognitive engagement for first-year, nontraditional students in e-learning courses has the potential to benefit e-learning practitioners because there is a need for continued research in e-learning engagement (Chakraborty & Nafukho, 2013; Hope, 2017). Using a mixed methods approach could generate more information than either method alone. In the mixed methods study, data generated were both quantitative and qualitative. A mixed methods design serves to triangulate data in terms of methods and perceptions. Data were compared to confirm or reject results (see Creswell, 2014). In alignment with the study problem and purpose, in this study, I investigated which teaching and learning strategies contributed to behavioral, emotional, and cognitive engagement for first-year, nontraditional students in e-learning courses.

The following research question (RQ) guided the quantitative portion of this study:

RQ1: As measured by the Online Student Engagement Scale (OSE), is self-assessed behavioral, emotional, and cognitive engagement associated with learning strategies that promote behavioral, emotional, and cognitive engagement amongst first-year, nontraditional e-learning students?

Kendall's tau-*b* was used to analyze the gathered data to determine if an association exists between the two ordinal variables (see Laerd Statistics, 2018).

For the qualitative portion of the study, as recommended by Creswell and Poth (2017), several research questions were used to narrow the focus of the study:

RQ2: How do first-year, nontraditional e-learning students in a community college describe their behavioral, emotional, and cognitive engagement?

RQ3: How do faculty describe behavioral, emotional, and cognitive engagement amongst first-year, nontraditional e-learning students in a community college?

RQ4: How can teaching strategies be used to increase first-year, nontraditional e-learning students' behavioral, emotional, and cognitive engagement?

The resulting quantitative data obtained earlier from the student surveys were further investigated with qualitative RQ2, RQ3, and RQ4. For the qualitative portion, the OSE also had open-ended questions to provide data addressing RQ2 and RQ4; finally, semistructured interview questions were aligned with RQ3 and RQ4 and provided data for deeper understanding of quantitative results.

Review of the Literature

The articles examined during the literature review were accessed via electronic databases through the Walden University Library. I also accessed Google Scholar to find possible articles

and then located the full texts in the Walden Library. The databases included Academic Research Complete, ERIC, Thoreau, Sage Online, ProQuest Central, and Science Direct. Open educational sites regarding online learning also provided useful articles, including *American Journal of Distance Education*, *Journal of College Student Development*, *Journal of Educators Online*, *Online Learning Consortium*, *Online Journal of Distance Learning Administration, Teachers College Record,* and *TechTrends*. A variety of recent, scholarly texts were used to provide additional information. Walden's collection of dissertations also provided helpful information. Key words and phrases used to query between the years of 2015 and 2020 included the following: *impact of engagement on learning, online learning, e-learning, online instruction, online education, blended learning, nontraditional learner, adult student, college student, impact of student characteristics, impact of teaching presence,* and *impact of institutional presence.* From many of the studies, I also completed additional exploration using the studies' reference pages. Themes that emerged from the literature review included the impact of engagement on learning, the impact of student characteristics and behaviors on engagement, the impact of teaching presence on engagement, and the impact of institutional presence on engagement. Literature associated with these themes is presented and critically analyzed here in relation to my study after the theoretical foundation and conceptual framework is described.

Theoretical Foundation and Conceptual Framework

A theoretical foundation and conceptual framework can be used to support doctoral research to better enable the scholar practitioner in producing an effective mixed methods study. According to Creswell (2012), quantitative researchers seek to test a theory and select instruments to collect data before the study commences; alternatively, qualitative researchers

seek deeper understanding of a central phenomenon. For this study, using a mixed methods approach allowed me to better understand the complex social phenomenon of first-year, nontraditional, e-learning students' engagement. A theoretical foundation for the quantitative portion and a conceptual framework for the qualitative portion are included in the description.

Theoretical foundation. For the quantitative portion of this study, I used Garrison et al.'s (2000) community of inquiry (CoI) model. The CoI model emphasized social presence, teaching presence, and cognitive presence (Garrison et al., 2000). Cognitive presence is one of the basic elements to postsecondary student success (Garrison et al., 2000). Social presence supports cognitive presence and is directly linked to finding fulfillment within the learning cohort, contributing directly to student persistence and success (Garrison et al., 2000). Teaching presence includes the online course design and its learning environment facilitation to support and enhance student cognitive and social presence (Garrison et al., 2000). Garrison et al. found one of the challenges facing educators is in creating a CoI in the online environment. Garrison et al. also determined that the educational experience should involve collaborative communication to construct meaningful and worthwhile knowledge for each individual participant.

Conceptual framework. For the qualitative portion of this study, I used Kearsley and Shneiderman's (1998) theory of student engagement. Kearsley and Shneiderman's theory of student engagement emphasized meaningful learning, collaboration, and experiential and self-directed learning, which are components of constructivism, situation learning theories, and andragogy. This theory was intended as a conceptual framework for technology-based learning and teaching (Kearsley & Shneiderman, 1998) and implied effective student e-learning was collaborative, project-based, and authentic. Students must meaningfully engage with activities

and others in the learning environment (Kearsley & Shneiderman, 1998). By using an in-depth qualitative approach, this study helped capture the diversity of the experiences (see Kahu, 2013). Table 1 shows how the theoretical foundation and conceptual framework are aligned with the RQs and instrument questions.

Table 1

Framework Alignment With Research and Instrument Questions

Framework	Framework concepts	Research question	Instrument question
Garrison et al. (2000) community of inquiry model (CoI)	Social presence	RQ1, RQ2, RQ3, RQ4	OSE #8, 9, 10, 12, 13, 16, 17, 18, 20, 23, 24; Interview question set 3, 4
	Teaching presence	RQ2, RQ3, RQ4	OSE #3, 5, 6, 8, 9, 12, 16; 22, 23, 25; Interview question set 1–4
	Cognitive presence	RQ1, RQ2, RQ3, RQ4	OSE #4, 8, 9, 10, 11, 14, 15, 19, 21, 22, 26; Interview question set 1, 2, 4
Kearsley and Shneiderman's (1998) theory of student engagement	Meaningful learning (constructivism)	RQ1, RQ2, RQ3, RQ4	OSE #1–24, 26; Interview question set 1, 2, 4, 5
	Collaboration (situated learning theories)	RQ1, RQ2, RQ3, RQ4	OSE #12, 13, 16, 17, 18, 21; 23, 24, 26 interview question set 3
	Experiential and self-directed learning (andragogy)	RQ1, RQ2, RQ3, RQ4	OSE #1–13, 16–18, 21–24, 26; Interview question set 1–3

Although numerous approaches to researching student engagement exist, I undertook this study to better understand the complexity of how nontraditional e-learning students become engaged in their courses. In a review of the broader problem, constructs that emerged from the literature included the complexity of defining engagement, the impact of engagement on learning, the impact of student characteristics and behaviors on engagement, the impact of teaching presence on engagement, and the impact of institutional presence on engagement. A summary table of the literature review is provided in Appendix B (see Table B1).

Review of the Broader Problem

Defining student engagement. Student engagement is an important part of successful college programming. Researchers have indicated that active student engagement contributes to student success and retention (Kahu & Nelson, 2017; Kahu, Stephens, Zepke, & Leach, 2014; Tinto, 2014). Through engagement, students acquire skills, knowledge, personal growth, and experience academic success (Kahu, 2013). However, diverse factors influence engagement, including student, institutional, and societal contextual factors (Kahu, 2013). Problematically, current discourse indicates a vague definition of what constitutes being engaged (Bundick et al., 2014; Deschaine & Whale, 2017; Fredricks et al., 2016; Kahn, 2014; Kahu, 2013). For example, one definition explained engagement as the positive interconnection among increased student study, increased feedback from faculty, and deeper learning (Meyer, 2014b). Alternatively, per the Great Schools Partnership (2016), student engagement is "the degree of attention, curiosity, interest, optimism and passion that students show when they are learning or being taught, which extends to the level of motivation to learn and progress in their education" (para. 1). Moreover, different components of student engagement exist, including behavioral, psychological, sociocultural, and holistic (Kahu, 2013). Because this abstract concept has been defined in various ways, the term *engagement* has been used interchangeably with *motivation* (Hew, 2016). Thus, a better understanding of engagement would be beneficial.

Along with a definitional lack of clarity, research engagement measurements are inconsistent. Deschaine and Whale (2017) indicated that there are numerous ways being used to measure and define student engagement. Bundick et al. (2014) stated that this discrepancy was due to the lack of "broad conceptual framework" for understanding student engagement at the

classroom level and how teachers might promote it (p. 1). Kahn (2014) posited that researchers have failed to adequately provide a theoretical explanation of student engagement and the role of students play in shaping their own engagement. Varied definitions and frameworks make it difficult to compare engagement across studies, and study results often provide little explanation for deeper understanding (Fredricks et al., 2016). Of consideration, Bennett and Kane (2014) evidenced that students' interpretation of questionnaire items could impact responses. A clearer understanding of engagement, then, has the potential to produce better engagement measurements and study results.

E-learning student engagement. Given the rise in e-learning, researching student engagement in this modality is an important area of study. Researchers have predominantly focused their studies on engagement, persistence, and completion with traditional rather than nontraditional college students (Bergman, Gross, Berry, & Shuck, 2014; Greenberg et al., 2013). Providing an e-learning focus may be beneficial because many institutional leaders have reported retention as an area of concern (Hixon et al., 2016). Thus, more research needed to be done on e-learning engagement to possibly improve persistence and retention in this modality.

The modality of e-learning adds to the challenge of better understanding. In e-learning classes, students require more independence and higher technology proficiency (Rao et al., 2015). With less immediate instructional guidance, success for the at-risk student may be impacted (Rao et al., 2015). Differing skills and expectations for the e-learning environment likely exist when students come from diverse backgrounds, and nontraditional students might be hindered by oversimplified engagement strategies (Czerkawski & Lyman, 2016). Researchers

have also stated that current retention and engagement practices are often ineffective (Leeds et al., 2013). With additional research, more effective approaches may result.

As evidenced, the term engagement can be subjective; problematically, as stated earlier, e-learning engagement had also not been clearly defined (Bigatel & Williams, 2015; Deschaine & Whale, 2017; Hew, 2016). Engagement does not necessarily equate to participation, does not equate to attendance, and is impacted by the culture created by the instructor in an e-learning course (Deschaine & Whale, 2017; Stella & Corry, 2013). Instructor presence, humor, feedback, activities, and types of resources all influence e-learning engagement (Hew, 2016). Though many face-to-face resources and practices can be successfully adapted in e-learning, a "one size fits all approach" does not adequately address individual needs for learning or engagement (Gillett-Swan, 2017, p. 21). Therefore, additional research may provide better understanding regarding the e-learning classroom culture.

A further complication was that identifying e-learning engagement proves more complex than how it might first be considered. Many e-learning students participate from home and thus are affected by distractions not found in face-to-face environments (Deschaine & Whale, 2017). For on-campus e-learning students, traditional engagement factors, including collaborative learning, campus environments, and participation in extracurricular activities, may not be applicable to at-home e-learning students (Bigatel & Williams, 2015; Hew, 2016; Kahu, 2013). Thus, e-learning engagement researchers should strive for consistency between measurements for at-home e-learning students and on-campus e-learning students. Practitioners who design and deliver e-learning classes and programs must better understand modality engagement strategies to impact educational success, persistence, and completion (Bigatel & Williams, 2015).

Additional research, then, may provide better clarity and engagement measurement understanding.

Nontraditional student engagement. Regarding nontraditional student engagement, previous research has revealed a vague understanding. Researchers indicated motivational differences increase nontraditional student achievement, engagement, and persistence (Johnson, Taasoobshirazi, Clark, Howell, & Breen, 2016). Conversely, Kahu (2013) indicated educational environments inherently favour dominant social and cultural groups, contributing to poor retention of nontraditional students. Dudley et al. (2015) stated community college students were more likely to have increased at-risk characteristics and may be less academically prepared. Trowler (2015) argued that the nontraditional student is poorly equipped for higher education compared to traditional students. However, higher education's changing demographics show nontraditional students, as identified by a variety of factors, becoming the student majority in many institutions (National Center for Educational Statistics, 2018; Phillips, 2015; Schuetze, 2014; Vladicka, 2015). In the study setting, this percentage may be as high as 52% (see Vladicka, 2015). By developing a better understanding of nontraditional students' engagement in e-learning, there is potential to increase first-year, nontraditional students' engagement, persistence, and success in the e-learning modality.

Through better understanding of the characteristic and demographics of e-learning, nontraditional students' characteristics and demographics, practitioners can potentially improve learning opportunities for these students. According to Schuetze (2014), and the National Center for Educational Statistics (NCES, 2018), a nontraditional student can be defined by the following: family status (married with dependent children, or single parents); employment status

(either part or full-time); and certification status (lacking either high school or equivalency); and entry status (delayed entry for several years after high school). In addition, NCES (2018) indicated these characteristics can be strongly interrelated, for example familial responsibilities could require part or full-time employment while attending school. NCES (2018) also developed a scale that identified nontraditional students as minimally, moderately, or highly nontraditional, dependent on the number of nontraditional characteristics students demonstrated.

Other easily defined populations also exist, such as underrepresented groups (indigenous populations, cultural minorities, learners with disabilities, or from remote locations). However, these students should not be assumed to have the same learning needs as other nontraditional students (Schuetze, 2014). Phillips (2015) included nontraditional students as those who did not enter postsecondary immediately after high school, may be of lower socioeconomic background, may represent a different population (such as cultural diversity), or may enroll in a different model of participation (such as part-time or online). Bates (2012) specifically identified other nontraditional groups. These groups included remote minority populations, military members with extended periods of off-campus deployment, and athletes whose travel schedules may affect regular on-campus attendance (Bates, 2012). Thus, the e-learning modality provides educational opportunities for a very diverse student body.

The benefits of e-learning for nontraditional learners, however, also brings challenges. Firstly, the characteristics of nontraditional learners, according to Hixon et al. (2016), make e-learning desirable for this cohort, but their characteristics also create challenges to their ability to persist. Kahu and Nelson (2017) agreed and purported nontraditional students are more at-risk for attrition. In addition, e-learning is increasingly accessed by students with more varied,

nontraditional characteristics (including diagnosed and undiagnosed learning barriers), and faculty are seeing a wider variety of student learning needs (Rao et al., 2015). Although students with nontraditional characteristics may be more predictive as at-risk, none of these characteristics are causes of success or failure (Kahu & Nelson, 2017). Having a better understanding of nontraditional learner engagement could provide benefit to the study site, given the impact of engagement on student learning.

The Impact of Engagement on Learning

Student engagement is an important construct in postsecondary educational andragogy. Astin's (1999) theory of involvement emphasized active student participation in the learning process to maximize student gain. However, merely exposing students to content or courses does not necessarily produce educational gain (Astin, 1999). Being involved in the learning process refers to the amount of energy, both physical (behavioral engagement) and psychological, that students expend in the educational journey (Astin, 1999). Although Astin's research focused on traditional learning environments, Astin concluded educators who focused their efforts only on course content and teaching techniques would not impact student learning as effectively as educators who encouraged student engagement with the learning content and environment. Engagement, then, is a significant aspect of higher education andragogy.

Other researchers have also indicated student engagement is necessary for effective learning to occur (Dixson, 2015; Hew, 2016; Kahu & Nelson, 2017; Meyer, 2014b). According to Dixson (2015), engagement in the online environment is critical given that students' feelings of isolation and disconnection are common. From the CoI framework (and social constructivist perspective), how students engage with content (cognitive presence), peers (social presence), and

the instructor (teaching presence) is paramount to active learning and crucial to student success (Dixson, 2015). Furthermore, engaged learning produces both short and long-term impacts, from student grades and behaviors to overall academic achievement and self-esteem (Hew, 2016). Overall, the literature review revealed several discussion points addressing the impact of student engagement on learning, including student persistence, retention, success, and overall college outcomes.

Persistence. Research discourse indicates student engagement impacts student persistence. Bigatel and Williams (2015) stated that high levels of student engagement connected with numerous educational practices and impacted positive educational success. Bigatel and Williams also indicated engaged students were more likely to be satisfied, perceived themselves to have increased their learning, and were more likely to persist. According to Bigatel and Williams, student engagement helped predict persistence and degree completion. Thus, student engagement is an important area of research because engagement relates to persistence.

Not surprisingly, engagement is also important for nontraditional students. Kizilcec and Halawa (2015) indicated nontraditional students' educational persistence was due to a combination of student backgrounds, academic variables (including study habits), academic outcomes (such as GPA), and psychological outcomes (such as engagement and satisfaction). Kizilcec and Halawa built on Tinto's (2013) attrition research and developed a persistence model for online programs and they addressed the additional complexities of nontraditional students' lives (Kizilcec & Halawa, 2015). For example, Kizilcec and Halawa found persistence and performance issues between students from different geographical locations and different genders, and they also found an important relationship between students' perceptions of their likelihood

of e-learning engagement and success compared to actual outcomes. Kizilcec and Halawa's observations regarding gender differences supported Astin's (1975) research regarding gender's influence on persistence. Further, Kizilcec and Halawa's research provided new evidence for targeted psychological interventions in e-learning and advocated to abandon a "one-size-fits-all model" (n.p.). Therefore, nontraditional students cannot be assumed to be engaged in the same manner as traditional students.

Abandoning a standardized approach to student engagement may have an important impact for this diverse, nontraditional cohort. For instance, Lietaert, Roorda, Laevers, Verschueren, and De Fraine (2015) posited a gender gap regarding behavioral student engagement. Alternatively, Kahu and Nelson (2017) indicated if postsecondary education was a cultural norm (for example, socioeconomic familial backgrounds), student engagement and persistence were more likely to occur. Kahu and Nelson cautioned, however, that institutional staff should not assume a deficit if nontraditional students had a cultural background that did not include postsecondary pursuit as cultural norm. Rather, the authors suggested encouragement could generate educational persistence and success (Kahu & Nelson, 2017). By specifically considering student diversity when researching engagement, students traditionally labelled at-risk may benefit the most in terms of persistence and retention.

Retention. Without student retention, college programming cannot be considered successful. Retaining students through their educational journey to graduation is a key concern for college leadership (Vladicka, 2015). According to Kizilcec and Halawa (2015), attrition in e-learning results from numerous sources, including time factors, personal motivation, isolation, lack of interactivity, insufficient skills, and hidden costs. Kizilcec and Halawa (2015) studied

attrition in online learning courses from over 100,000 students' self-reported and behavior data. Base on their findings, they concluded attrition decreased when students actively participated during the first week of the course (Kizilcec & Halawa, 2015). Increasing student engagement was instrumental in reducing attrition (Kizilcec & Halawa, 2015). In addition, targeted interventions and general changes to course content or presentation could lead to increased retention of learners (Kizilcec & Halawa, 2015). Addressing engagement, then, could influence retention.

Regarding a diverse student body, other factors may need to be considered. Kahu (2013) demonstrated that social and cultural biases within postsecondary settings tended to favour culturally dominant student cohorts and led to poor retention for nontraditional students. Boton and Gregory (2015) supported this problem and contended course designers often failed to address the diversity of learners in online courses. In addition, motivational strategies (such as positive messages) helped increase student satisfaction and completion rates (Boton & Gregory, 2015). Problematically, Xu and Jaggars (2014) substantiated that e-learning may serve to further marginalize those already considered at-risk; educational inequity may increase, rather than the desired opposite, without reflecting on the complexity of the diverse student body. Therefore, considering student diversity before targeting engagement in e-learning could increase student retention.

Success and college outcomes. Several studies showed how student success is related to retention (Bigatel & Williams, 2015; Deschaine & Whale, 2017). If students are not retained, students are unable to complete college programing. According to Bigatel and Williams (2015), engagement strongly predicted degree completion. Professional development for online

instructors that focused on engagement strategies could effectively impact student engagement and success (Bigatel & Williams, 2015). Comparing student perceptions of engagement with faculty perceptions of student engagement through further research may help educators gain greater insight to the relationship between engagement and student success (Bigatel & Williams, 2015). Deschaine and Whale (2017) agreed and contended that faculty could better understand the impacts of their initiatives on engagement through student feedback on the effectiveness of engagement strategies. Critically examining instructional behaviors through reflective practice could lead to improved student outcomes (Deschaine & Whale, 2017). However, first-year, nontraditional e-learning student engagement is complex in nature and comprised of several components, including e-learning student characteristics and behaviors.

The Impact of Student Characteristics and Behaviors on Engagement

External factors. External factors can impact student engagement and persistence. According to Bergman et al. (2014), socioeconomic status is positively correlated to student persistence and retention. As well, parental education, family support, and encouragement had a strong effect on persistence and student retention (Bergman et al., 2014). Students from cultural minorities were less likely to persist compared to those whose cultural identity matched the institutional majority (Bergman et al., 2014). Finances, familial support, employer support, family problems, childcare, and significant life events were major factors affecting students' engagement in their learning (Bergman et al., 2014). These authors, however, were not certain if age and gender impacted engagement and persistence (Bergman et al., 2014). In related observations, Kahu and Nelson (2017) evidenced that financial stresses, lack of access to technology off-campus, and lack of family support inhibited engagement. Therefore, a better

understanding of external factors may provide insight to student engagement opportunities. Besides external factors though, students' internal factors are also impactful.

Internal factors. Internal factors can also contribute to students' engagement levels. Course engagement is affected by students' goals, characteristics, skills, and behaviors. According to Kahu (2013), students' expectations, background, and personality can affect the instructor/student relationship. In addition, students' motivation directly affects course engagement. According to Mayer (2014b), successful leaners must be motivated to be successful. Chakraborty and Nafukho (2013) agreed and stated "motivated students tend to have engaging learning experiences" (p. 4). Thus, meaningful learning occurs when students willingly exert effort in their knowledge acquisition.

Meaningful learning, however, can be affected by emotional impacts. Kahu and Nelson (2017) stated student anxiety can affect engagement levels. Building upon Kahu's (2013) earlier work, Kahu and Nelson determined four social constructs directly affected student engagement for nontraditional students: self-efficacy, emotions, the need for belonging, and personal well-being all contributed to students' abilities to engage with their learning. E-learning college learners may benefit by considering their emotional needs.

Furthermore, besides emotional struggles, if students struggle with technical skills, their engagement may be impacted. Computer skills and learning management navigation skills are important factors for online learner readiness (Stevenson, 2013; Yu & Richardson, 2015). However, technical skills alone will not guarantee e-learning success (Yu & Richardson, 2015). Social competencies (in other words, interactions with other students or the instructor) and communication competencies (the ability to express in writing) have an important impact on e-

learning success (Yu & Richardson, 2015). By identifying student competencies using a survey, such as the Student Online Learning Readiness (SOLR) instrument, faculty can create better student orientations and thus potentially impact student success in this modality (Yu & Richardson, 2015). Understanding and addressing technical struggles may aid in mitigating engagement issues.

Other researchers proffered similar results. Ilgaz and Gulbahar (2015) determined that five e-readiness factors existed, including individual responsibilities (which also encompassed technical skills), accessibility, time management, delivery approach, and completion motivation. Doe et al. (2017) found that student e-readiness assessments could positively impact e-learning retention rates. However, Tang and Chaw (2016) observed some students may be comfortable using technology in their everyday lives, but they may be less skilled in using technology in e-learning. Online learner readiness, then, is complex in nature and may be difficult to measure.

Not only is readiness challenging to determine, so are course engagement measurements. Engagement measurements are affected by internal characteristics and previous experience. Also, students' interpretation of assessment questionnaires can affect outcomes. According to research conducted by Bennett and Kane (2014), students' interpretations and perceptions of engagement vary by student characteristics. Thus, seeking a more in-depth understanding of students' perceptions is important (Bennett & Kane, 2014). Dixson (2015) cautioned, however, that behavioral engagement indicators did not necessarily prove students were engaged with content, other students, or the instructor. Internal characteristics, therefore, and their relationship to engagement is another complex construct. Moreover, along with learner characteristics, teaching presence affects engagement through effective course design and facilitation.

The Impact of Teaching Presence on Engagement

Course design and content. The design of e-learning courses, including the content and layout, can affect student engagement. Czerkawski and Lyman (2016) reported that media selection in e-learning affected learner engagement. They evidenced it was important to understand interaction between the learners and the technology, and its influence on interaction between learners, course content, and the instructor (Czerkawski & Lyman, 2016). In related observations, Bigatel and Williams (2015) concluded that student engagement increased when the course design allowed students to interact with peers, participate in team-based assignments or discussion forums, or included real-world applicability or relevance. Content, layout, and media selections should be purposeful in addressing engagement considerations.

However, course design is another complex construct. Hixon et al. (2016) indicated that students preferred a consistent course design across e-learning courses. More experienced e-learning students placed greater value on quality of content and assessments while less experienced students placed higher value on e-learning guidelines (Hixon et al., 2016). Nontraditional students placed more emphasis on the importance of well-aligned and coherent courses with clear pathways for successful completion (Hixon et al., 2016). Furthermore, nontraditional students placed no value in activities or assessments not directly tied to their success (Hixon et al., 2016). Nontraditional students believed engagement with course content and others is important, and time spent on coursework must be productive (Hixon et al., 2016). Understanding nontraditional students' perceptions may lead to better course designs. But although design is an important aspect, so, too, is course facilitation.

Facilitation. Instructor presence in e-learning courses is also an area that can influence students' engagement levels. Instructor presence is perceived to exist when students "see" the instructor in the e-learning environment (Deschaine & Whale, 2017). In the synchronous environment, students' engagement increases when they encounter an instructor who is actively involved in teaching, discussions, activities or assessments (Deschaine & Whale, 2017). In the asynchronous environment, students' perception of instructor presence is even more important; asynchronous course instructors must provide appropriate parameters for student interaction with content and other participants (Deschaine & Whale, 2017). However, Deschaine and Whale cautioned that engagement was subjective, did not necessarily equate to participation or attendance, and was most impacted by the culture established by the instructor. Instructors must generate an effective culture to encourage student engagement.

Importantly, instructor presence must also be effective and timely. According to Bigatel and Williams (2015), encouragement and timely feedback was paramount to increasing student engagement. In addition, instructor-guided discussions added to student engagement (Bigatel & Williams, 2015). In their CoI model, Garrison et al. (2000) pointed to the importance of instructor presence and facilitation in online course design, while Czerkawski and Lyman (2016) suggested there be an appropriate balance between instructor-guided and self-guided learning to aid engagement. Furthermore, in their E-learning for Engagement Design (ELED), Czerkawski and Lyman (2016) equated engagement with learning activities, environment design, and assessment methods. Stevenson (2013) suggested creating an e-learning, student support community could meaningfully impact student engagement. The instructor's facilitation of a classroom culture thus contributes in influential ways.

Besides facilitation, faculty practices in the e-learning modality are another important component to an engaging, e-learning classroom. Fredricks et al. (2016) proffered student engagement increased when strong relationships were developed between peers and with instructors. In addition, instructors must set high expectations for their students and support student autonomy (Fredricks et al., 2016). Shaw, Wu, Irwin, and Patrizi (2016) indicated faculty personality also impacted in the e-learning environment. Notably, faculty characteristics had differing impact on short-term student retention compared to long-term retention (Shaw, Wu, et al., 2016). Regardless, those teaching first-year students needed to embrace student needs, remain flexible, adaptable, and open to new opportunities in the e-learning modality (Shaw, Wu, et al., 2016). However, Stott (2016) cautioned the online modality may pose a risk for faculty: Students lacking the characteristics for success in the online modality may fail to reach their personal goals, and may, in turn, punish the faculty via poor evaluations. Purposeful planning may mitigate student frustrations.

Learning activities and assessments. Like course design and facilitation, learning activities and assessments contribute to engagement. Dixson (2015) researched the potential differences between active and passive learning activities. Dixson evidenced that student engagement increased when students interacted with content, peers, or instructor, and was not affected by the type of activity (passive or active). Fredricks et al. (2016) suggested variable, challenging, interesting, and meaningful activities promoted student engagement. Peterson and Kolb (2018) cited Kolb's earlier work and stated learning required a concrete experience upon which students would reflect, think, and actively experience. Deschaine and Whale (2017) suggested that instructor best-practices would aid engagement; they provided examples such as

taking online polls during live class, frequently changing learning activities, incorporating student presentations or interactions, and maintaining virtual office hours. Thus, strategic selection of activities is paramount.

Another researcher supported strategic activity selection. Gillett-Swan (2017) suggested that e-learning engagement could be enhanced through student collaboration on activities and assignments. Online mediums such as Google communities or Facebook groups could provide opportunities for collaborative learning, support student engagement, and combat e-learning isolation (Gillett-Swan, 2017). But these activities must, naturally, be undertaken by students, and require effective feedback from faculty to promote success.

Feedback. Instructor feedback is another area that contributes to engagement levels. According to Czerkawski and Lyman (2016), different feedback processes provided different levels of student satisfaction. Mediated feedback, the type of feedback most used by instructors, was less valuable in creating student engagement than self-regulated feedback (Czerkawski & Lyman, 2016). Mediated feedback is feedback that focuses on encouraging conversations and cooperative learning amongst students while self-regulated feedback is feedback that encourages further learning by asking questions to extend student thinking (Chen, 2014). As well, consistent and clear feedback was important to cultivating engagement (Fredricks et al., 2016). In addition, feedback increased student efficacy, which led to improved engagement in future learning activities (Kahu & Nelson, 2017). Instructor feedback must be consistent, effective, and timely, but faculty practices should also be supported by effective institutional practices.

The Impact of Institutional Presence on Engagement

According to research, institutional direction and policies can contribute to student engagement, persistence, and completion. When institutional staff focus retention efforts on program needs rather than student needs, it affects how students feel in relation to their educational pursuit (Boston, Ice, & Burgess, 2012). Unfortunately, institutional retention strategies are often ineffective (Leeds et al., 2013). When students lose the desire to persist, engagement will not occur; however, when institutional staff respond to student needs, staff efforts lead to increased persistence (Bergman et al., 2014; Hanover Research, 2014; Shaw, Burrus, et al., 2016; Stevenson, 2013). Academic advising, tutoring support, library services, and technological support impact student success and persistence (Stevenson, 2013). Institutional practices, therefore, may contribute to student perceptions of their engagement.

Implications

Continued e-learning research could add to scholarly literature and to practice at the study site. In the larger educational environment, nontraditional students are increasingly accessing postsecondary education (Schuetze, 2014; Vladicka, 2015). In addition, e-learning enrollment continues to be significant (Allen & Seaman, 2014). The findings from this study provided faculty at the local site potential for an increased understanding of first-year, nontraditional student engagement. From the findings, I developed a facilitator-led, 3-day workshop with both synchronous and asynchronous components. The workshop components target for both college decision makers, to better understand study findings and the role of institutional support, as well as e-learning faculty members, to enhance faculty members' understanding of student engagement and identify successful e-learning teaching and learning

strategies to potentially increase students' engagement (see Appendix A). Faculty may improve their online courses through enhanced knowledge, create beneficial changes in course design and facilitation, and contribute to increased student engagement, satisfaction, persistence, and success. Study findings may contribute to improved teaching and learning resources at the study site.

Study results may also provide opportunity to present observations to other institutions' faculty through publication or conferences. Sharing knowledge has the potential to impact social change, as other institutional faculty may also enhance their understanding of nontraditional, e-learning student engagement. This enhanced understanding may give rise to better e-learning environments and institutional practices beyond the study site. In addition, results may lead to new questions and may encourage further research into e-learning engagement.

However, given the results of the study could not be predicted, the findings might not have provided further understanding of e-learning engagement for first-year, nontraditional e-learning students. Should the study not have contributed to better understanding, further research would have been recommended to continue to help address student engagement, success, and retention in the e-learning modality at the study site and for the general research community.

Summary

Although student engagement is widely researched, most has been directed toward traditional, face-to-face students rather than nontraditional, e-learning students. Traditional, face-to-face students have more opportunities to engage with the institution while e-learning students have less opportunity and often feel more disconnected and isolated (Meyer, 2014b). As previously noted, the concept of what constitutes engagement is difficult to define given that

engagement has diverse interpretation and measurement methodologies (Hidden Curriculum, 2014). However, engagement is continually referenced regarding effective course facilitation, student satisfaction, persistence, and success. "*Stronger student engagement* or *improved student engagement* are common instructional objective expressed by educators" (Hidden Curriculum, 2014, n.p.). The concept of engaging students arises in relation to faculty because faculty are considered significant influences in creating student engagement (Hidden Curriculum, 2014). Thus, faculty must better understand which strategies are effective in engaging nontraditional students. Because first-year and e-learning have higher rates of attrition, researching these constructs could provide useful data.

A deeper understanding of first-year, nontraditional, e-learning student engagement, students' perceptions regarding their engagement, and faculty's perceptions regarding student engagement was needed. Thus, the best way to identify beneficial strategies was through continued research. Section 2 of this study outlines how using a mixed methods research methodology allowed for the depth needed to better understand first-year, nontraditional e-learning student engagement at WCC.

Section 2: The Methodology

As the demand for e-learning courses continues to grow in postsecondary institutions, there is a continued need to research successful course designs and delivery strategies to enhance student engagement in the online modality. As previously indicated, attrition in e-learning courses is higher than in traditional face-to-face courses (Allen & Seaman, 2014; Betts & Heaston, 2014; Boton & Gregory, 2015; Doe et al., 2017; Hachey et al., 2013; Kizilcec & Halawa, 2015; Stevenson, 2013; Xu & Jaggars, 2013; Yuan & Kim, 2014). Engaged students show increased satisfaction, persistence, and course completion (Freeman & Wash, 2013; Kahu, 2013; Lumpkin et al., 2015; National Survey of Student Engagement, 2015). Using an explanatory sequential mixed methods case study, I studied what teaching and learning strategies contribute to first-year, nontraditional students' behavioral, emotional, and cognitive engagement using a quantitative student survey, qualitative open-ended questions on the student survey, and faculty interviews. According to Creswell (2014), mixed methods research involves collecting both quantitative and qualitative data, which together provide a more complete understanding of a phenomenon.

Research Design, Approach, and Justification

Research Design

To determine which teaching and learning strategies contribute to behavioral, emotional, and cognitive engagement for first-year, nontraditional students in e-learning courses, I chose the explanatory sequential mixed methods case study with a qualitative focus. A case study is an appropriate method to gain an in-depth understanding of a single subject (Creswell & Poth, 2017). First, I collected quantitative data using a preliminary survey for students, which

identified what learning activities, or strategies, contribute to behavioral, emotional, and cognitive engagement; the gathered data also identified students' self-perceptions regarding their engagement in an online course. During the survey, students also responded to open-ended questions that provided qualitative data. Finally, I collected qualitative data through faculty individual interviews to understand how learning and teaching strategies contributed to behavioral, emotional, and cognitive engagement.

To commence, I used Dixson's (2010, 2015) quantitative instrument, the OSE (see Appendices C and D), which was designed to align with the CoI model (see Dixson, 2015). I used the OSE to obtain data to address the central research question, the quantitative RQ1, and to obtain some information for qualitative RQ3 and RQ4. In addition, I added open-ended questions to further explore students' behavioral, emotional, and cognitive engagement, addressing RQ2 (see Appendix D). With permission, I modified Dixson's OSE (2010, 2015) to align with WCC's e-learning course practices and to ensure students' clarity of understanding (see Appendix E and F).

The quantitative survey data collection and qualitative open-ended survey questions were bound by the number of first-year, nontraditional e-learning students, 35, who responded to the electronic survey. In addition, the data were bound by the units of the study: The collection employed nonprobability sampling, using a volunteer sampling procedure that will be defined later. I used volunteer selection because all first-year, e-learning students in three program areas were invited to participate via email and could choose to respond or not. In the survey, via demographic questions, students self-identified with this study's nontraditional definitions. Those students who did not self-identify as first-year, nontraditional students were directed to a

page that thanked them for their time, explained why they would be exiting, and then exited them from the survey. I employed purposeful sampling by analyzing the data for those who continued because they identified as first-year, nontraditional e-learning students either in their first or second semester. I provide a definition of purposeful sampling later in this study.

Seven faculty members participated in qualitative interview questions and provided a deeper understanding of the central research question and qualitative RQ3 and RQ4 as well as a deeper understanding of quantitative data. The advantage of the explanatory sequential design over a convergent design is that integration between two different forms of data (quantitative and qualitative) need not occur (Creswell, 2012).

A possible limitation of this study is generalizability. Generalizability is the ability to extend study findings and conclusions from a sample population to the large population (Borrego, Douglas, & Amelink, 2009). However, because WCC did not collect census data on first-year, nontraditional students, and because the data gathered in this study were dependent on volunteer respondents, study results cannot be assumed to have generalizability. The study, however, could have transferability because study results and conclusions may be useable to make connections with observances experienced by other practitioners at WCC and elsewhere (see Borrego et al., 2009). Transferability allows for others to find useful information that might apply to their own situations.

Research Approach

I selected the explanatory sequential mixed methods case study approach to first gain an understanding of what teaching and learning strategies contribute to behavioral, emotional, and cognitive engagement amongst first-year, nontraditional e-learning students. I used the OSE

(Dixson, 2010, 2015) to identify what behavioral, emotional, and cognitive activities, in other words, learning strategies, students demonstrated in e-learning. Then, the qualitative portion occurred to provide a better understanding of the quantitative data and explore in-depth students' and faculty's understanding of teaching and learning strategies that encouraged behavioral, emotional, and cognitive student engagement.

In a case study, the case must be bounded, which means it is specific to an identified time, place, or other boundary (Creswell, 2012, 2014; Creswell & Poth, 2017). Given the importance of engagement in the e-learning modality (Dixson, 2015), the rise in nontraditional students in postsecondary institutions (Phillips, 2015; Schuetze, 2014; Vladicka, 2015), and the increased likelihood of attrition amongst first-year students (Ruffalo Noel Levitz, 2017; Tinto, 2013), the boundaries of this case study were very purposeful and had the potential to provide understanding of e-learning engagement for the first-year, nontraditional e-learning students at the study site.

Justification of Research Design

I considered other types of qualitative methodologies, including ethnography, narrative, phenomenological, and grounded theory. However, they did not meet the needs of this study. The ethnographic approach, which is a common and applicable method for many qualitative studies, was not likely to be the most effective for this study's purpose. In an ethnographic approach, the researchers immerse themselves completely within the studied culture, and the approach often lasts a long period of time (Creswell & Poth, 2017). My goal was not to understand the socioculture of first-year, nontraditional e-learning students but rather to understand in greater depth their engagement in the e-learning modality.

Another approach is the narrative approach, which provides an in-depth opportunity to understand an individual or small group from a narrative perspective, involving stories and experiences, and often spans long periods to collect the narrative data (Creswell & Poth, 2017). I did not select the narrative approach, as my goal was not to develop a narrative or an in-depth understanding of an individual or group persona.

A third approach is the phenomenological approach, in which researchers combine a multitude of data from many contexts to develop a complex understanding of a phenomenon (Creswell & Poth, 2017). Although this approach could work to study e-learning engagement for nontraditional students, its complexity is not ideal for a novice researcher. Finally, I did not attempt a grounded theory, which is used to develop a theory or explanation for a series of events or activities (Creswell & Poth, 2017). Grounded theory may involve years of research to develop a theory of explanation and is not ideal for a novice researcher.

For this study, I attempted to understand a single primary question: What teaching and learning strategies contribute to students' behavioral, emotional, and cognitive engagement in e-learning amongst first-year, nontraditional students? Therefore, the case study methodology was an appropriate approach for me. Creswell and Poth (2017) indicated that a good approach for a novice researcher is the case study methodology. Additionally, the explanatory sequential mixed methods case study is advantageous because it captures the best of both quantitative and qualitative designs, and quantitative results are fully explored in the qualitative portion (Creswell, 2012, 2014; Creswell & Poth, 2017). This study design had the potential to produce rich data contributing to an increased understanding of e-learning engagement at the study site.

Justification for the Number of Participants

Students. By using an explanatory sequential mixed methods case study approach, the surveying of numerous students could occur to gain breadth of student perceptions in the quantitative OSE and the qualitative open-ended questions at the end of the OSE. All first-year, nontraditional e-learning students in three program areas were eligible to participate in the survey, if desired, and I used the response to identify important beliefs and attitudes regarding e-learning student engagement. There were 149 first-year, nontraditional e-learning students in the target population; however, only 35 attempted the survey while only 31 completed.

Faculty. The participant pool of faculty was much smaller given the target population was smaller: those who taught first-year, nontraditional students in the synchronous, e-learning modality. Twenty-three faculty members were in the target population in the three program areas, but had it been necessary, I could have included other faculty members from different program areas who taught online to the first-year, nontraditional students, depending on the initial response rate. In the end, seven faculty members agreed to participate.

Research Site and Participants

The Case Setting

The case setting for this study was WCC. Established over 50 years ago, WCC is a small institution that had been using the e-learning modality for over 10 years to bring increased postsecondary opportunity to the communities within its region. In the 2017–2018 academic year, over 936 full-learner equivalent students, in other words, equivalent to full-time, were enrolled at this institution, of which 40% were considered first-year. This number of students had increased from 883 during 2016–2017, and further increased in 2018–2019 to over 950 full

learner equivalent students. Furthermore, approximately 50% of these students were nontraditional (see Vladicka, 2015). In 2017–2018, over 40% were enrolled in at least one e-learning course, according to unpublished enrollment data. In 2018–2019, this was closer to 50%. In the programs I selected for the study, College Preparation, Educational Assistant, and Early Learning and Childcare, over 400 students were enrolled during 2017–2018, and over 450 during 2018–2019, according to the enrollment data. I selected these programs for the study because they were only available via e-learning, using a synchronous format. During 2017–2018, 20 faculty were teaching in the e-learning modality to the identified student cohort, while in 2018–2019, the number of faculty teaching in this modality rose to 23.

Criteria for Selecting Participants

Students. This was a mixed methods study involving both students and faculty; however, I selected participants using different methods. For the quantitative survey portion, I used a volunteer sampling strategy because in invited via email all first-year students taking at least one e-learning course in the identified programs were invited to participate. Volunteer sampling is when a researcher invites respondents via invitation who are available and willing to participate, but those who respond cannot be said to be representative of the population (Khan Academy, 2018). Volunteer sampling is similar to convenience sampling, which is defined as participant selection from those who are willing and available (Creswell, 2012; Guetterman, 2015). An example of convenience sampling could be students who walk past in the hallway, and again, are not said to be representative of the population (Creswell, 2012; Guetterman, 2015). I considered convenience sampling but rejected this method in favor of volunteer sampling because the online student population was easier to access via online invitations.

In the emails sent to students, I included a link to the survey for those who agreed to participate. Students then received another email after 2 weeks and a final reminder 1 week after that. In addition, I placed a link to the survey in the students' learning platform landing page. A designated faculty member who did not teach to the identified student cohort also sent a message using the learning platform's messaging system. The students received the study's definitions of nontraditional students in the beginning of the online survey, and I asked the students if they identified themselves as having one or more of the nontraditional characteristics. Thus, the study was purposeful in nature. Purposeful sampling is when a selection criterion is used to select participants to understand specific phenomenon (Laerd Dissertation, 2018). In this case, students who did not self-identify themselves as nontraditional exited the survey while those who did self-identify as nontraditional proceeded to the quantitative survey. After the quantitative questions, students could respond to the open-ended qualitative questions.

Although other programs at WCC used e-learning to deliver classes, I purposely eliminated these other programs from this study for several reasons. Some of these other programs were offered primarily via asynchronous delivery, but had mandatory, weeklong (or more) onsite lab components, where students engaged with instructors and each other in traditional, face-to-face, hands-on learning. Other programs used synchronous e-learning courses as optional electives and taught primarily via traditional methodology. Thus, these other programs allowed for prolonged traditional opportunities (face-to-face) for student engagement, which could have affected these students' perceptions of their e-learning engagement.

Faculty. All faculty members teaching first-year, nontraditional students in a synchronous, e-learning environment were the target population; however, I began with the

faculty who were teaching in the college preparation, educational assistant, and early learning and childcare programs. I was prepared to invite all e-learning faculty to participate, regardless of which department they belonged to and regardless of their years of experience teaching online. This broader invitation was because there were only approximately 85 faculty at the study site, and only approximately 30 in total who taught via synchronous e-learning. However, some did not teach first-year students. By further limiting the participants, I might not have obtained saturation. In addition, the faculty members' e-learning experience levels were not necessarily the limiting factor, given I was attempting to understand the perceptions of all e-learning faculty towards student engagement rather than only experienced faculty. This selection process was a volunteer sampling procedure because I selected faculty members based on those who responded to the email invitation, who were available, and who agreed to participate. Again, this sample was not representative of the population as defined by Creswell (2012, 2014) and Khan Academy (2018). Seven faculty members participated.

Procedures for Gaining Access to Participants

Protecting study participants is a necessary ethical consideration when undertaking research. I took the National Institutes of Health *Protecting Human Research Participants* course to ensure I followed ethical research guidelines (Certificate Number: #2345857, April 8, 2017; see Appendix G). Before proceeding with the study, I received approval from Walden's Institutional Review Board (IRB #03-07-19-0584583) and a letter of cooperation from WCC to ensure that I had permission to conduct a study on the site with the desired participants. I provided a letter to inform the vice-president academic of the study details (see Appendix H). The letter outlined the purpose of the study, the target populations of first-year, nontraditional e-

learning students and faculty teaching via e-learning, and how the findings might benefit WCC. I modelled this letter after other similar permission letters (see Notre Dame de Namur University, 2018). In return, I received a letter of cooperation from the study site (see Appendix I). In addition, I obtained permission for the study from the WCC Research Ethics Board, who provided a copy to WCC's Teaching, Learning and Applied Research department. Once I received these approvals, students and faculty were invited to participate.

The WCC data manager from student services provided a list of eligible students to the program advisors. Program advisors contacted students via the students' college email. I did not receive the list of students to ensure students remained anonymous. In addition, I displayed posters in classrooms where students in the identified programs accessed their e-learning courses to encourage participation, because some students did not regularly access their college email (see Appendix J). Next, a designated faculty member sent a message to the students via the learning platform's messaging system (see Appendix K). As well, I placed a link on the students' learning platform's landing page (see Appendix L). Finally, advisors sent a follow up email after two weeks (see Appendix M).

The email sent to students identified me as a Walden doctoral candidate and contained the following: (a) the purpose of the study; (b) the procedures of the study: completion of an anonymous web-based survey; (c) the voluntary nature of the study, reassuring privacy and no risk to participants; (d) sample survey questions; (e) possible benefits from the study; (f) my chair's contact for questions or information; (g) and a link to the web-based survey that contained demographic questions to allow students to identify themselves as nontraditional as per study definition.

I used a similar procedure to invite faculty participants to the one-on-one interviews. The vice-president academic provided me with a list of the eligible faculty members. I sent the faculty an email invitation that identified me as a Walden doctoral candidate and contained the following: (a) the purpose of the study; (b) the voluntary nature of the study, reassuring privacy and no risk to participants; (c) sample interview questions; (d) possible benefits from the study; (e) my chair's contact for questions or information; (f) and a request to respond via email if the faculty member agreed to participate. First, I sent the invitation to 10 faculty members and then sent a reminder email to the same faculty group after one week. I also followed up with a phone call a week later (see Appendix N). Then, because not enough faculty members had responded, I sent another invitation to an additional five faculty, after another week. The responses from these seven interviews contributed to one of the study's research questions, RQ3, to understand how faculty describe e-learning students' behavioral, emotional, and cognitive engagement, and RQ4, improving e-learning engagement. I obtained data saturation based on the depth of conversations.

Researcher's Relationship With Participants

At the study site, I held two positions: work force development coordinator and faculty association president. As a former teaching faculty member, I taught e-learning courses at the study site. However, in the Fall 2018 semester, I took on a role with the institution that did not involve me teaching students. As the Workforce Development staff member, I organized training opportunities for faculty and staff of the institution. In my second role as the Faculty Association President, I was available to advise faculty members on questions or situations related to the faculty association collective agreement. In addition, I worked with college administration to address faculty members' areas of concern. My role as Faculty Association President did not in

any way intersect with students in the e-learning programs, nor did I have supervisory responsibility over students or faculty. Although I had direct contact with invited faculty participants, my role in this study was that of researcher, separate from my other roles, and thus it helped to maintain objectivity.

Measures for Protection of Participants' Rights

In order to ensure study participants were protected, I used ethical safeguards. First, Walden IRB provided conditional approval for the study. I provided the conditional approval to WCC Research Ethics Board (REB) and received their approval for the study, along with a letter of cooperation from the WCC vice-president academic. I provided the WCC REB approval to Walden IRB and then I received full Walden IRB approval.

Next, for the quantitative student survey and the open-ended qualitative questions, advisors used the student list to send the email invitation. Because a college advisor sent the invitations on my behalf, I did not know the students' emails, thus protecting their confidentiality. Using a college advisor to send the email invitation was purposeful to help encourage participation because students had likely already worked with their advisor. I also used SurveyMonkey to build the survey, and it did not gather any names nor emails. The students' invitation was not sent during the busy times in the semester, such as the first week of semester, midterm exam time, or the last week of semester. Thus, the quantitative portion met Walden University Center for Research Quality (2017) recruitment guidelines, and the quantitative data collection by online survey took place in a way that prevented knowledge of who may have said what. Though I may have had direct contact with some of the students invited to participate as they may have taken a course from me in the past, individuals had the

option of not participating if they felt uncomfortable. It was important that students felt protected in their choice to participate or not. For the qualitative faculty one-on-one interviews, I invited the faculty to participate from a list of faculty members obtained from the vice-president academic and sent the invitation during the quiet part of their academic year.

Given that I did not have supervisory responsibilities, students and faculty members who agree to participate should have felt confident that there would not be any consequences from their responses. In addition, my committee chair and second committee member ensured I did not compromise research ethics. As a previous faculty member who taught in the e-learning forum, I disclosed this information to study participants. Finally, I also disclosed my role as Faculty President to faculty participants (though given the small institution, individual faculty were likely already aware).

I considered personal disclosure, authenticity, credibility of the study and the report, researcher role, and personal privacy of data (including the electronic form) before the study occurred (see Creswell, 2014). For the qualitative interviews, Creswell (2014) recommended using a code to help protect each participant's identity, such as Participant 1. I kept a master key of the participants' names electronically, password protected, accessible only by me.

Furthermore, I completed the National Institutes of Health *Protecting Human Research Participants* course (see Appendix G). For the quantitative survey, I selected an existing instrument, the OSE, which was tested for reliability and validity (Dixson, 2015). According to Dixson's study, the 19 items in the OSE "indicated strong reliability (alpha = .91) and significant correlation with a course global engagement item ($r = .67$; $p < .001$)" (2015, n.p.). I obtained

permission from the author to utilize this survey and to modify the wording (see Appendices E and F).

Student participants gave informed consent when they selected the link to the online survey from their email invitation or via the learning platform. The consent form (see Appendix L) was modelled after one created by Walden University Center for Research Quality (2018). These measures guaranteed each participant's responses were as confidential and as anonymous as possible.

I again used safeguards for the qualitative faculty interviews (Creswell, 2014). Participants received documents outlining the study purpose, its voluntary nature, and detailed descriptions of the data gathering, recording, and analysis processes. I provided an informed consent form to all participants and outlined confidentiality procedures to protect the participants' privacy in the data compilation. Informed consent meant participants were made aware of the purpose and procedures of the study, how confidentiality would be maintained, who might have access to interviews, the right to publish part or all of the interview, and participants' access to the transcript or data analysis (see Brinkmann & Kvale, 2015). These participants willingly disclosed their identities to me to participate in qualitative data collection. I used Temi.com (2019) to transcribe interview data to electronic form, which I kept password protected, and I used pseudonyms to protect the individuals. I also reminded participants they could stop at any time during the process. I will keep these data for five years which meets Walden IRB and WCC Research Ethics Board's expectations and then I will destroy them.

A potential burden for faculty participants may have been the time required to participate in the individual interviews. These took place during the academic year and participants may

have had challenging workloads. However, the process was voluntary, so participants could opt out as desired. Although I tried to maintain confidentiality procedures, because the study site is a small institution there was a risk that certain data (for example, direct quotations) could reveal participants. However, I made every effort to ensure participants' protection.

Data Collection

I used an explanatory sequential mixed methods case study so I could use qualitative results to assist in explaining and interpreting the findings of a quantitative study (see Creswell, 2014). Thus, I collected quantitative and qualitative data through several methods. The data collection took place in two phases, with the quantitative phase occurring first, followed by the qualitative phase.

Demographic Data Collection

I collected demographic data only to provide enough information to ensure data I collected and analyzed were data from first-year, nontraditional e-learning students. Through this demographic data, students provided information about how they defined themselves as nontraditional, for example, by one or more factors. Although it would have been interesting to observe if there were differences between gender or groups regarding e-learning engagement, that was not the purpose of this study, so I did not use the demographic questions to collect data beyond e-learning characteristics (see Appendix E). Thus, there was minimal risk to respondents, according to Walden University Center for Research Quality (2017).

Quantitative Data Collection

Student surveys. In the first phase of data collection, the student target population received an email inviting them to participate in the voluntary survey, the OSE (Dixson, 2015)

and the open-ended questions from an earlier version of the OSE (Dixson, 2010). I wanted to include the open-ended questions from the earlier version to help contribute to the qualitative data collection by exploring student responses.

The OSE is an existing instrument that was tested for validity and reliability (Dixson, 2015). According to Dixson (2015), the OSE can help with online course design, allow feedback regarding students' perceived engagement, and provide indirect evidence of teaching effectiveness. However, the OSE should not be used in isolation, because data generated would be affected by the student online readiness, level of course, and type of course (Dixson, 2015). The OSE was designed to measure what students do, their perceptions about their learning, and their interaction with content, instructor, and other students (Dixson, 2015). Moreover, the OSE was designed by combining social constructivist ideas regarding student learning, and Garrison et al.'s (2000) CoI model (Dixson, 2015). Thus, the OSE proved to be an appropriate instrument for the quantitative portion of this study, in alignment with the selected framework.

The OSE (Dixson, 2015) provided sufficient information to address RQ1, to determine if there is an association between self-assessed behavioral, emotional, and cognitive engagement (OSE 19 – 21) with learning strategies that promote behavioral, emotional, and cognitive engagement amongst first-year, nontraditional e-learning students (OSE 1–18). By using Kendall's tau-*b*, I observed associations of the bivariate data. Bivariate data are data that involve two sets of data; in this case, I analyzed the data to find if there was a relationship between how students report their engagement measures (OSE 1–18) and their self-assessment of their engagement (OSE 19–21). Because the data were measured on an ordinal scale, a 5 point Likert scale, by using Kendall's tau-*b* I was able to identify if there was an association between each of

the data mean in OSE 1–18, and its corresponding self-assessment data mean in OSE 19–21.These data contributed to qualitative RQ2 and RQ4 in helping explore students' understanding of engagement more fully. I kept the raw data but tables with the analysis information are included in the study.

Qualitative Data Collection

Open-ended questions on OSE. In Phase 1 of data collection, I used OSE Question 22–26 to understand engagement strategies that students felt increased their engagement in the online course. Thus, for qualitative student responses, the OSE open-ended questions were the data collection instrument. Students provided specific examples of how they felt about their behavioral, emotional, and cognitive engagement. I later grouped these identified activities or comments into themes and subthemes.

Faculty interviews. For the faculty interviews, the interview protocol and audio recordings were the data collection instrument. I conducted one-on-one, semistructured interviews with seven faculty when it was mutually convenient for the faculty member and me. Because of the study site location, rural Western Canada, the study took place on campus to avoid any problems with unexpected, inclement weather. I used a private and secure room on campus, away from the faculty member's office to avoid potential interruptions and provide a suitable interview environment. The room had a do-not-disturb sign on the door indicating a meeting was in progress to ensure the correct atmosphere and privacy was maintained as much as possible. Although one-on-one interviews were time-consuming, I gathered rich data. Some faculty members wished to be interviewed via phone rather than on campus, because they taught

primarily from off-campus locations, so I again arranged this at a mutually convenient time. For the phone interviews, I requested they had access to a quiet room during the process.

Brief introductions were not required, as I knew the participant faculty members. However, before proceeding with the interview, we generated small talk to create a relaxed atmosphere. I began the interview process by thanking the faculty member for agreeing to participate in the study. I then reminded the faculty member of the interview purpose, to better understand teaching and learning strategies that contribute to behavioral, emotional, and cognitive e-learning students' engagement. Although participants received paperwork completely outlining the process, I reminded the faculty member that the interview session would be recorded using Microsoft Windows 10 sound record on a laptop and DB9Pro digital voice recorder as backup. I also reminded them I would later transcribe the interview via Temi speech-to-text transcription services (Temi.com, 2019).

I used an interview script to remain focused (see Appendix O). By using an interview script, I ensured that all primary questions were framed the same way for each interview participant. Anticipating approximately five minutes per question set, five question sets were used. I designed the questions using Kearsley and Shneiderman's (1998) theory of student engagement. Thus, questions addressed meaningful learning (constructivism), collaboration (situated learning theories), and experiential and self-directed learning (andragogy). The semistructured interview questions still allowed for flexibility in process. I prepared probing questions to use if needed. Interviews ranged between 25 and 35 minutes. After the interviews, I thanked the faculty member for participating. I gave each faculty member a small token of appreciation for participating, to avoid any perception of having exploited the participants

(Creswell, 2014). These were a $20 gift certificate to a store of their choice. They also received a personal note of thanks. Thus, the data collection instruments included the interview protocol, the transcribed interviews, and audio recordings to address RQ3 – RQ4.

I have the raw data from the student open-ended survey questions and faculty interviews, password protected. Before coding transcripts, I removed identifying information, then I coded the data and categorized them into themes and subthemes. I made these available via tables and figures in the study and in Appendix Q. I will store all data electronically in a password protected file and backup password protected file for five years and then it will be destroyed. The categorization process helped protect confidentiality because the raw data were coded.

Validating findings. According to Creswell (2012, 2014), researchers must ensure that findings and interpretations are accurate during the data collection and analysis process. Prior to the open-ended survey questions and faculty interviews, I vetted all questions by my committee members and a peer reviewer to ensure accuracy, credibility, and trustworthiness of the process and data gathered. After the process, I removed all identifying information (for example, course specific or campus specific comments) from the interviews to maintain confidentiality of the participants.

By corroborating evidence from the different student participants, corroborating evidence from the different faculty interviews, combining the transcripts and grouping evidence into themes, and using a peer reviewer to provide any comments regarding observations, triangulation occurred because different types of data were combined (see Creswell, 2012). Finally, I asked faculty participants to check the accuracy of the transcripts and comment if the descriptions were complete, if identified themes were accurate, and if interpretations were accurate (see Creswell,

2012). Member checking does not involve providing the raw transcripts to participants, but rather providing the major findings or themes to give participants an opportunity to comment regarding the validity of interpretation (Creswell, 2014).

Role of the Researcher

As researcher in this study, I was responsible to collect and analyze data for both portions of the mixed methods study. As per National Institutes of Health (2017), it was important that I reflected on any preconceptions I may have held regarding my study to ensure trustworthiness. In personal reflection prior to the survey and interviews, I believed there may have been differences in what faculty perceived as engaging teaching and learning strategies in the e-learning modality compared to what students perceived as engaging teaching and learning strategies. Using a data collection method in the quantitative portion that allowed for complete participant anonymity provided credibility for the study. Also, by using a survey that has been tested for reliability and validity, it helped ensure that any preconceptions I held would not affect results.

In addition, I needed to reflect on my own beliefs related to student engagement in e-learning before, during, and after qualitative individual interviews (see Creswell, 2012, 2014). I reflected after each interview on the process, and periodically as I analyzed data to check my biases. Self-reflection helps to clarify bias brought to the study by the researcher, as suggested by Creswell (2014), and helps inform the researcher how biases might affect the interpretation of findings. As an online educator, I had already employed numerous strategies in my e-learning courses, which were different from other instructors, and which may or may not be perceived as engaging by students. It was important that I remained objective in my study even though I

might have used different strategies. Also, in their responses to the open-ended survey questions, students reflected on teaching and learning strategies in their courses that were similar to what I used in my courses, and I tried to ensure I was not affected personally by their observations.

Data Analysis

Demographic Data Analysis

I gathered the demographic data through SurveyMonkey and analyzed these data only to ensure first-year student respondents defined themselves by one or more characteristics of nontraditional learners. One hundred and forty-nine first-year students in College Preparation, Educational Assistant, and Early Learning and Childcare programs had the opportunity to respond to the OSE survey via email and via the Moodle messaging system. When students entered the OSE, they were asked to confirm their age as 18 or over, first-year, and in the one of the programs of College Preparation, Educational Assistant, or Early Learning and Childcare. In addition, they were asked to self-identify if they had one of the nontraditional characteristics being explored in this study. Of the 149 potential participants, 35 responded. Of these respondents, 27 identified themselves with more than one of the nontraditional characteristics (see Figure 1).

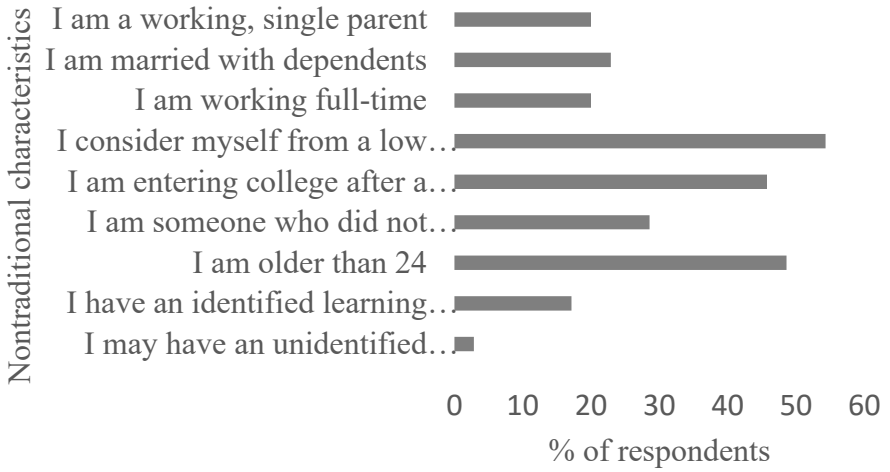

Figure 1. OSE respondents' self-identified nontraditional characteristics by %.

The demographic data of the 35 respondents showed that seven students were working, single parents, while eight were married with dependents. Seven were working full-time, and 19 considered themselves from a low-income background. Sixteen students were entering college after a few years away from high school while 10 had not completed high school and were returning to upgrade before entering their college program. Seventeen self-identified as older than 24. Regarding learning, six had an identified learning barrier, while one indicated he or she possibly had an unidentified learning barrier. With this variation in respondents, it helped lend to the credibility of the responses because there were respondents who identified with at least one of each of the nontraditional characteristics used in this study. Furthermore, 27 of the students identified as having several characteristics of nontraditional. Only eight identified as having one, while 9 identified with having two, and 18 identified with three or more.

Quantitative Data Analysis

To answer RQ1, I used the OSE (Dixson, 2010, 2015) to determine whether or not engagement strategies used in online courses contributed to students' self-assessment of their behavioral, emotional, and cognitive engagement. I analyzed the OSE survey data obtained from the student surveys using Kendall's tau-*b* measure of association between ordinal level of engagement self-assessment variables and ordinal level learning strategy variables. I addressed RQ1 by associating the rankings of OSE Questions 1–18 with rankings of Questions 19 – 21. Thus, RQ1 had subquestions comparing ordinal data between two variables.

RQ1 subquestions.

RQ1a: Is there an association between the rankings of OSE Question 1 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 1 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 1 and the rankings of OSE Question 19.

OSE Question 1: Making sure to study on a regular basis at least three times per week *(behavioral)*

OSE Question 19: Behavioral engagement can be defined as the actions you take in your e-learning courses, activities and tasks you actually do (Clark & Mayer, 2016). Please assess your behavioral engagement for this course.

RQ1b: Is there an association between the rankings of OSE Question 2 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 2 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 2 and the rankings of OSE Question 20.

OSE Question 2: Putting forth effort *(emotional)*

OSE Question 20: Emotional engagement can be defined as how positively you feel about your class, such as by enjoying it, feeling comfortable and interested, and wanting to do well (Cooper, 2014). However, you may also feel considerable angst, frustration, and even anger over some aspects of the course or about some content and still be very emotionally engaged (M. Dixson, personal communication, October 2018). Please assess your emotional engagement for this course.

RQ1c: Is there an association between the rankings of OSE Question 3 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 3 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 3 and the rankings of OSE Question 19.

OSE Question 3: Completing all assigned readings on a weekly basis *(behavioral)*

OSE Question19: Behavioral engagement can be defined as the actions you take in your e-learning courses, activities and tasks you actually do (Clark & Mayer, 2016). Please assess your behavioral engagement for this course.

RQ1d-i: Is there an association between the rankings of OSE Question 4 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 4 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 4 and the rankings of OSE Question 19.

OSE Question 4: Looking over class notes between getting online to make sure I understand the material *(behavioral/cognitive)*

OSE Question 19: Behavioral engagement can be defined as the actions you take in your e-learning courses, activities and tasks you actually do (Clark & Mayer, 2016). Please assess your behavioral engagement for this course.

RQ1d-ii: Is there an association between the rankings of OSE Question 4 and the rankings of OSE Question 21? (cognitive)

H_0: There is no association between the rankings of OSE Question 4 and the rankings of OSE Question 21. H_1: There is an association between the rankings of OSE Question 4 and the rankings of OSE Question 21.

OSE Question 4: Looking over class notes between getting online to make sure I understand the material *(behavioral/cognitive)*

OSE Question 21: Cognitive engagement can be defined as how much you take course information and develop meaning and understanding for yourself (Garrison et al., 2000). Please assess your cognitive engagement for this course.

RQ1e: Is there an association between the rankings of OSE Question 5 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 5 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 5 and the rankings of OSE Question 19.

OSE Question 5: Being organized by keeping all class notes/readings/information together *(behavioral).*

OSE Question 19: Behavioral engagement can be defined as the actions you take in your e-learning courses, activities and tasks you actually do (Clark & Mayer, 2016). Please assess your behavioral engagement for this course.

RQ1f: Is there an association between the rankings of OSE Question 6 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 6 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 6 and the rankings of OSE Question 19.

OSE Question 6: Making my own notes over readings, PowerPoints, or video lectures *(behavioral).*

OSE Question 19: Behavioral engagement can be defined as the actions you take in your e-learning courses, activities and tasks you actually do (Clark & Mayer, 2016). Please assess your behavioral engagement for this course.

RQ1g: Is there an association between the rankings of OSE Question 7 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 7 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 7 and the rankings of OSE Question 19.

OSE Question 7: Listening/reading carefully *(behavioral)*

OSE Question 19: Behavioral engagement can be defined as the actions you take in your e-learning courses, activities and tasks you actually do (Clark & Mayer, 2016). Please assess your behavioral engagement for this course.

RQ1h-i: Is there an association between the rankings of OSE Question 8 and the rankings of OSE Question 21? (cognitive)

H_0: There is no association between the rankings of OSE Question 8 and the rankings of OSE Question 21. H_1: There is an association between the rankings of OSE Question 8 and the rankings of OSE Question 21.

OSE Question 8: Finding ways to make the course material relevant to my life *(cognitive/emotional).*

OSE Question 21: Cognitive engagement can be defined as how much you take course information and develop meaning and understanding for yourself (Garrison et al., 2000). Please assess your cognitive engagement for this course.

RQ1h-ii: Is there an association between the rankings of OSE Question 8 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 8 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 8 and the rankings of OSE Question 20.

OSE Question 8: Finding ways to make the course material relevant to my life *(cognitive/emotional).*

OSE Question 20: Emotional engagement can be defined as how positively you feel about your class, such as by enjoying it, feeling comfortable and interested, and wanting to do well (Cooper, 2014). However, you may also feel considerable angst, frustration, and even anger over some aspects of the course or about some content and still be very emotionally engaged (M. Dixson, personal communication, October 2018). Please assess your emotional engagement for this course.

RQ1i-i: Is there an association between the rankings of OSE Question 9 and the rankings of OSE Question 21? (cognitive)

H_0: There is no association between the rankings of OSE Question 9 and the rankings of OSE Question 21. H_1: There is an association between the rankings of OSE Question 9 and the rankings of OSE Question 21.

OSE Question 9: Applying course material to my life *(cognitive/emotional)*

OSE Question 21: Cognitive engagement can be defined as how much you take course information and develop meaning and understanding for yourself (Garrison et al., 2000). Please assess your cognitive engagement for this course.

RQ1i-ii: Is there an association between the rankings of OSE Question 9 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 9 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 9 and the rankings of OSE Question 20.

OSE Question 9: Applying course material to my life *(cognitive/emotional).*

OSE Question 20: Emotional engagement can be defined as how positively you feel about your class, such as by enjoying it, feeling comfortable and interested, and wanting to do well (Cooper, 2014). However, you may also feel considerable angst, frustration, and even anger over some aspects of the course or about some content and still be very emotionally engaged (M. Dixson, personal communication, October 2018). Please assess your emotional engagement for this course.

RQ1j: Is there an association between the rankings of OSE Question 10 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 10 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 10 and the rankings of OSE Question 20.

OSE Question 10: Finding ways to make the course interesting to me *(emotional).*

OSE Question 20: Emotional engagement can be defined as how positively you feel about your class, such as by enjoying it, feeling comfortable and interested, and wanting to do well (Cooper, 2014). However, you may also feel considerable angst, frustration, and even anger over some aspects of the course or about some content and still be very emotionally engaged (M. Dixson, personal communication, October 2018). Please assess your emotional engagement for this course.

RQ1k: Is there an association between the rankings of OSE Question 11 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 11 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 11 and the rankings of OSE Question 20.

OSE Question 11: Really desiring to learn the material *(emotional).*

OSE Question 20: Emotional engagement can be defined as how positively you feel about your class, such as by enjoying it, feeling comfortable and interested, and wanting to do well (Cooper, 2014). However, you may also feel considerable angst, frustration, and even anger over some aspects of the course or about some content and still be very emotionally engaged (M. Dixson, personal communication, October 2018). Please assess your emotional engagement for this course.

RQ1l: Is there an association between the rankings of OSE Question 12 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 12 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 12 and the rankings of OSE Question 20.

OSE Question 12: Having fun in online chats, discussions or via email with the instructor or other students *(emotional).*

OSE Question 20: Emotional engagement can be defined as how positively you feel about your class, such as by enjoying it, feeling comfortable and interested, and wanting to do well (Cooper, 2014). However, you may also feel considerable angst, frustration, and even anger over some aspects of the course or about some content and still be very emotionally engaged (M.

Dixson, personal communication, October 2018). Please assess your emotional engagement for this course.

RQ1m-i: Is there an association between the rankings of OSE Question 13 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 13 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 13 and the rankings of OSE Question 19.

OSE Question 13: Helping fellow students *(behavioral/emotional).*

OSE Question19: Behavioral engagement can be defined as the actions you take in your e-learning courses, activities and tasks you actually do (Clark & Mayer, 2016). Please assess your behavioral engagement for this course.

RQ1m-ii: Is there an association between the rankings of OSE Question 13 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 13 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 13 and the rankings of OSE Question 20.

OSE Question 13: Helping fellow students *(behavioral/emotional).*

OSE Question 20: Emotional engagement can be defined as how positively you feel about your class, such as by enjoying it, feeling comfortable and interested, and wanting to do well (Cooper, 2014). However, you may also feel considerable angst, frustration, and even anger over some aspects of the course or about some content and still be very emotionally engaged (M.

Dixson, personal communication, October 2018). Please assess your emotional engagement for this course.

RQ1n: Is there an association between the rankings of OSE Question 14 and the rankings of OSE Question 21? (cognitive)

H_0: There is no association between the rankings of OSE Question 14 and the rankings of OSE Question 21. H_1: There is an association between the rankings of OSE Question 14 and the rankings of OSE Question 21.

OSE Question 14: Getting a grade above 60% on assignments *(cognitive)*

OSE Question 21: Cognitive engagement can be defined as how much you take course information and develop meaning and understanding for yourself (Garrison et al., 2000). Please assess your cognitive engagement for this course.

RQ1o: Is there an association between the rankings of OSE Question 15 and the rankings of OSE Question 21? (cognitive)

H_0: There is no association between the rankings of OSE Question 15 and the rankings of OSE Question 21. H_1: There is an association between the rankings of OSE Question 15 and the rankings of OSE Question 21.

OSE Question 15: Getting a grade above 60% on test/quizzes *(cognitive).*

OSE Question 21: Cognitive engagement can be defined as how much you take course information and develop meaning and understanding for yourself (Garrison et al., 2000). Please assess your cognitive engagement for this course.

RQ1p-i: Is there an association between the rankings of OSE Question 16 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 16 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 16 and the rankings of OSE Question 19.

OSE Question 16: Engaging in conversations online by messaging in Moodle or emailing *(behavioral/emotional).*

OSE Question 19: Behavioral engagement can be defined as the actions you take in your e-learning courses, activities and tasks you actually do (Clark & Mayer, 2016). Please assess your behavioral engagement for this course.

RQ1p-ii: Is there an association between the rankings of OSE Question 16 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 16 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 16 and the rankings of OSE Question 20.

OSE Question 16: Engaging in conversations online by messaging in Moodle or emailing *(behavioral/emotional).*

OSE Question 20: Emotional engagement can be defined as how positively you feel about your class, such as by enjoying it, feeling comfortable and interested, and wanting to do well (Cooper, 2014). However, you may also feel considerable angst, frustration, and even anger over some aspects of the course or about some content and still be very emotionally engaged (M. Dixson, personal communication, October 2018). Please assess your emotional engagement for this course.

RQ1q: Is there an association between the rankings of OSE Question 17 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 17 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 17 and the rankings of OSE Question 19.

OSE Question 17: Posting in the chat box in live class regularly *(behavioral).*

OSE Question 19: Behavioral engagement can be defined as the actions you take in your e-learning courses, activities and tasks you actually do (Clark & Mayer, 2016). Please assess your behavioral engagement for this course.

RQ1r-i: Is there an association between the rankings of OSE Question 18 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 18 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 18 and the rankings of OSE Question 19.

OSE Question 18: Getting to know other students in the class *(behavioral/emotional).*

OSE Question 19: Behavioral engagement can be defined as the actions you take in your e-learning courses, activities and tasks you actually do (Clark & Mayer, 2016). Please assess your behavioral engagement for this course.

RQ1r-ii: Is there an association between the rankings of OSE Question 18 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 18 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 18 and the rankings of OSE Question 20.

OSE Question 18: Getting to know other students in the class *(behavioral/emotional)*

OSE Question 20: Emotional engagement can be defined as how positively you feel about your class, such as by enjoying it, feeling comfortable and interested, and wanting to do well (Cooper, 2014). However, you may also feel considerable angst, frustration, and even anger over some aspects of the course or about some content and still be very emotionally engaged (M. Dixson, personal communication, October 2018). Please assess your emotional engagement for this course.

Kendall's tau-*b*. Kendall's tau-*b* (t_b) is a statistical coefficient that indicates the monotonic strength and direction between two ordinal variables in the survey (Statistical Solutions, 2018). Coefficient values range between -1 and +1 for square tables such as the 5 by 5 tables that will be analyzed. A coefficient of 0 means there is no association between variables; variables are statistically independent. Kendall's tau-*b* was a preferred measure of association over Spearman's Rank Order Correlation for ordinal data because of its mathematical properties (Gibbons, 1993). Mathematically, Kendall's tau-*b* is the proportion of concordant pairs minus the proportion of discordant pairs, adjusted for ties (Rovai, Baker, & Ponton, 2014). According to Walker (2016),

> Tau has been highlighted as a proxy for Pearson's product-moment correlation (r) in research situations where sample sizes are small. Tau is expressed as: (1) 2 C D N N τ –

= – (1) where C = number of concordant pairs, D = number of discordant pairs, and N = sample size. (p. 868)

Another coefficient considered was Somer's *d*, which I rejected because the *d* coefficient assumes one variable as dependent and the other independent and no such assumption was made for variables in this study (see Laerd Statistics, 2018).

Interpretation of coefficient. I interpreted coefficients resulting from the analyses of 24 bivariate associations related to RQ1 using the following criteria:

little or no association < .30

low association = .31 to .49

moderate association = .50 to .70

high association = .71 to .90

very high association = .91 and above

The interpretive values were adopted from Hinkle, Wiersma, and Jurs' (1998) criteria for interpreting Spearman's rank order correlation coefficient and represented a conservative interpretation of Kendall's tau-*b*; the value of tau-*b* is lower than Spearman's except in pairs of data between variables with extreme differences, which are affected by squared deviations (Hinkle et al., 1998). Such was not the expected case between variables measured on a 5-point scale used by the survey instrument in this study.

I compared individual Questions 1–18 as it was as categorized (e.g. behavioral, emotional, or cognitive) to the rankings of students' self-assessment of their engagement in Questions 19 –21 (behavioral, emotional, or cognitive), to determine whether or not the students' learning strategies could be associated to their engagement. The analysis contributed to the

central research question regarding what teaching and learning strategies affected behavioral, emotional, and cognitive engagement of first-year, nontraditional, e-learning students.

I used IBM (2017) SPSS Statistics (Version 25) software to perform Kendall's tau-*b* and determine if there was an association between ordinal level of engagement self-assessment variables (OSE 19–21) and ordinal level learning strategy variables (OSE 1–18). The OSE was tested for validity and reliability (see Dixson, 2015). Thus, the OSE was an ideal instrument for a novice researcher because I did not have to perform additional research to test for dependability and consistency of results.

When students responded to OSE Questions 1 through 18, they used the following Likert scale:

1. *not at all characteristic of me*
2. *not really characteristic of me*
3. *moderately characteristic of me*
4. *characteristic of me*
5. *very characteristic of me*

When students responded to OSE Question 19 – 21 regarding their course engagement, they used the following Likert scale:

1. *I am not at all (behaviorally/emotionally/cognitively) engaged*
2. *I am not really (behaviorally/emotionally/cognitively) engaged*
3. *I am somewhat (behaviorally/emotionally/cognitively) engaged*
4. *I am (behaviorally/emotionally/cognitively) engaged*
5. *I am very (behaviorally/emotionally/cognitively) engaged*

Table 2 shows a summary of the data analysis associations for RQs 1a–1i-i.

Table 2

Kendall's tau-b Bivariate Associations: RQ 1a–1i-i (n = 31 unless stated)

RQ#	Engagement	OSE question #	Data	Bivariate associations: OSE question #	Bivariate associations: OSE question #	Interpretive value
1a	Behavioral	Question 1	Coefficient	Question 1 1.000	Question 19 .455**	Low positive
			Sig. (2-tailed)		.004	
			n = 30			
1b	Emotional	Question 2	Coefficient	Question 2 1.000	Question 20 .391*	Low positive
			Sig. (2-tailed)		.021	
			n = 30			
1c	Behavioral	Question 3	Coefficient	Question 3 1.000	Question 19 .356*	Low positive
			Sig. (2-tailed)		.028	
			n = 30			
1d-i	Behavioral	Question 4	Coefficient	Question 4 1.000	Question 19 .308	Low positive
			Sig. (2-tailed)		.050	
1d-ii	Cognitive	Question 4	Coefficient	Question 4 1.000	Question 21 .526**	Moderate positive
			Sig. (2-tailed)		.001	
1e	Behavioral	Question 5	Coefficient	Question 5 1.000	Question 19 .539**	Moderate positive
			Sig. (2-tailed)		.001	
1f	Behavioral	Question 6	Coefficient	Question 6 1.000	Question 19 .471**	Low positive
			Sig. (2-tailed)		.003	
1g	Behavioral	Question 7	Coefficient	Question 7 1.000	Question 19 .591**	Moderate positive
			Sig. (2-tailed)		.000	
1h-i	Cognitive	Question 8	Coefficient	Question 8 1.000	Question 21 .301	Little/no association
			Sig. (2-tailed)		.067	
1h-ii	Emotional	Question 8	Coefficient	Question 8 1.000	Question 20 .380*	Low positive
			Sig. (2-tailed)		.022	
1i-i	Cognitive	Question 9	Coefficient	Question 9 1.000	Question 21 .437**	Low positive
			Sig. (2-tailed)		.007	

Note. *Association is significant at the $p < 0.05$ level (2-tailed). **Association is significant at the $p < 0.01$ level (2-tailed).

Individual sub-RQ data association tables are located in Appendix P.

Research Question 1a: Is there an association between the rankings of OSE Question 1 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 1 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 1 and the rankings of OSE Question 19.

The association between OSE Question 1 and OSE Question 19 was investigated using Kendall's tau-*b*. There was a low positive association between the two questions, $t_b = .455$, $n = 30$, $p = .004$, indicating statistical significance, with higher scores on Question 1 associated with higher scores on Question 19. $H_1$1a was supported, while the null hypothesis was rejected. Thus, I interpreted the results as students who studied regularly, at least three times per week, considered themselves behaviorally engaged (see Table 2 and Table P1).

Research Question 1b: Is there an association between the rankings of OSE Question 2 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 2 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 2 and the rankings of OSE Question 20.

Again, the association between OSE Question 2 and OSE Question 20 was investigated using Kendall's tau-*b*. There was a low positive association between the two questions, $t_b = .391$, $n = 30$, $p = .021$, indicating statistical significance, with higher scores on Question 2 associated with higher scores on Question 20. $H_1$1b was supported while the null hypothesis was rejected.

Thus, I interpreted the results as students who believe they put forth effort within their course considered themselves emotionally engaged (see Table 2 and Table P2).

Research Question 1c: Is there and association between the rankings of OSE Question 3 and the rankings of OSE Question 19? behavioral)

H_0: There is no association between the rankings of OSE Question 3 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 3 and the rankings of OSE Question 19.

The association between OSE Question 3 and OSE Question 19 showed a low positive association between the two questions, $t_b = .356$, $n = 30$, $p = .028$, indicating statistical significance, with higher scores on Question 3 associated with higher scores on Question 19. $H_1$1c was supported while the null hypothesis was rejected. Thus, I interpreted the results as students who believed they put forth effort within their course considered themselves behaviorally engaged (see Table 2 and Table P3).

Research Question 1d-i: Is there an association between the rankings of OSE Question 4 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 4 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 4 and the rankings of OSE Question 19.

The association between OSE Question 4 and OSE Question 19 showed a low positive association between the two questions, $t_b = .308$, $n = 31$, $p = .05$, indicating statistical significance, with higher scores on Question 4 associated with higher scores on Question 19. $H_1$1d-i was supported while the null hypothesis was rejected. Thus, I interpreted the results as

students who look over class notes between online classes to confirm understanding considered themselves behaviorally engaged (see Table 2 and Table P4).

Research Question 1d-ii: Is there an association between the rankings of OSE Question 4 and the rankings of OSE Question 21? (cognitive)

H_0: There is no association between the rankings of OSE Question 4 and the rankings of OSE Question 21. H_1: There is an association between the rankings of OSE Question 4 and the rankings of OSE Question 21.

The association between OSE Question 4 and OSE Question 21 showed a moderate positive association between the two questions, $t_b = .526$, $n = 31$, $p = .001$, indicating statistical significance, with higher scores on Question 4 associated with higher scores on Question 21. $H_1$1d-ii was supported, while the null hypothesis was rejected. Thus, I interpreted the results as students who look over class notes between their online classes to confirm understanding considered themselves cognitively engaged (see Table 2 and Table P5).

Research Question 1e: Is there an association between the rankings of OSE Question 5 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 5 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 5 and the rankings of OSE Question 19.

The association between OSE Question 5 and OSE Question 19 showed a moderate positive association between the two questions, $t_b = .539$, $n = 31$, $p = .001$, indicating statistical significance, with higher scores on Question 5 associated with higher scores on Question 19. $H_1$1e was supported, while the null hypothesis was rejected. Thus, I interpreted the results as

students who organized themselves by keeping all class notes/readings/information together considered themselves behaviorally engaged (see Table 2 and Table P6).

Research Question 1f: Is there an association between the rankings of OSE Question 6 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 6 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 6 and the rankings of OSE Question 19.

The association between OSE Question 6 and OSE Question 19 showed a low positive association between the two questions, $t_b = .471$, $n = 31$, $p = .003$, indicating statistical significance, with higher scores on Question 6 associated with higher scores on Question 19. $H_1$1f was supported while the null hypothesis was rejected. Thus, I interpreted the results as students who make their own notes considered themselves behaviorally engaged (see Table 2 and Table P7).

Research Question 1g: Is there an association between the rankings of OSE Question 7 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 7 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 7 and the rankings of OSE Question 19.

The association between OSE Question 7 and OSE Question 19 showed a moderate positive association between the two questions, $t_b = .591$, $n = 31$, $p = .000$, indicating statistical significance, with higher scores on Question 7 associated with higher scores on Question 19. $H_1$1g was supported, while the null hypothesis was rejected. Thus, I interpreted the results as

students who listen or read carefully considered themselves behaviorally engaged (see Table 2 and Table P8).

Research Question 1h-i: Is there an association between the rankings of OSE Question 8 and the rankings of OSE Question 21? (cognitive)

H_0: There is no association between the rankings of OSE Question 8 and the rankings of OSE Question 21. H_1: There is an association between the rankings of OSE Question 8 and the rankings of OSE Question 21.

The association between OSE Question 8 and OSE Question 21 showed little or no association between the two questions, $t_b = .301$, $n = 31$, $p = .067$, indicating no statistical significance. $H_0$1h-i failed to be rejected. Thus, I interpreted the results that when students find ways to make the course materials relevant to their lives it was not indicative of whether or not students considered themselves cognitively engaged (see Table 2 and Table P9).

Research Question1h-ii: Is there an association between the rankings of OSE Question 8 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 8 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 8 and the rankings of OSE Question 20.

The association between OSE Question 8 and OSE Question 20 showed a low positive association between the two questions, $t_b = .380$, $n = 31$, $p = .022$, indicating statistical significance, with higher scores on Question 8 associated with higher scores on Question 20. $H_1$1h-ii was supported while the null hypothesis was rejected. Thus, I interpreted the results as

students who were able to make the course materials relevant to their lives considered themselves emotionally engaged (see Table 2 and Table P10).

Research Question 1i-i: Is there an association between the rankings of OSE Question 9 and the rankings of OSE Question 21? (cognitive)

H_0: There is no association between the rankings of OSE Question 9 and the rankings of OSE Question 21. H_1: There is an association between the rankings of OSE Question 9 and the rankings of OSE Question 21.

The association between OSE Question 9 and OSE Question 21 showed a low positive association between the two questions, $t_b = .437$, $n = 31$, $p = .007$, indicating statistical significance, with higher scores on Question 9 associated with higher scores on Question 21. $H_1$1i-i was supported while the null hypothesis was rejected. Thus, I interpreted the results as students who found ways to apply course materials to their lives considered themselves cognitively engaged (see Table 2 and Table P11).

Table 3 shows a summary of the data analysis associations for RQs 1i-ii–1r-ii. Individual RQ data association tables are located in Appendix P.

Research Question 1i-ii: Is there an association between the rankings of OSE Question 9 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 9 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 9 and the rankings of OSE Question 20.

Table 3

Kendall's tau-b Bivariate Associations: RQ 1i-ii–1r-ii (n = 31)

				Bivariate associations		
RQ#	Engagement	OSE question #	Data	OSE question #	OSE question #	Interpretive values
1i-ii	Emotional			Question 9	Question 20	Moderate positive
		Question 9	Coefficient	1.000	.522*	
			Sig. (2-tailed)		.001	
1j	Emotional			Question 10	Question 20	Little/no association
		Question 10	Coefficient	1.000	.157	
			Sig. (2-tailed)		.342	
1k	Emotional			Question 11	Question 20	Little/no association
		Question 11	Coefficient	1.000	.031	
			Sig. (2-tailed)		.853	
1l	Emotional			Question 12	Question 20	Low positive
		Question 12	Coefficient	1.000	.323*	
			Sig. (2-tailed)		.045	
1m-i	Behavioral			Question 13	Question 19	Low positive
		Question 13	Coefficient	1.000	.378*	
			Sig. (2-tailed)		.014	
1m-ii	Emotional			Question 13	Question 20	Little/no association
		Question 13	Coefficient	1.000	.255	
			Sig. (2-tailed)		.111	
1n	Cognitive			Question 14	Question 21	Low positive
		Question 14	Coefficient	1.000	.399*	
			Sig. (2-tailed)		.014	
1o	Cognitive			Question 15	Question 21	Low positive
		Question 15	Coefficient	1.000	.470**	
			Sig. (2-tailed)		.005	
1p-i	Behavioral			Question 16	Question 19	Little/no association
		Question 16	Coefficient	1.000	.227	
			Sig. (2-tailed)		.142	
1p-ii	Emotional			Question 16	Question 20	Little/no association
		Question 16	Coefficient	1.000	.196	
			Sig. (2-tailed)		.223	
1q	Behavioral			Question 17	Question 19	Moderate positive
		Question 17	Coefficient	1.000	.518**	
			Sig. (2-tailed)		.001	
1r-i	Behavioral			Question 18	Question 19	Little/no association
		Question 18	Coefficient	1.000	.267	
			Sig. (2-tailed)		.087	
1r-ii	Emotional			Question 18	Question 20	Little/no association
		Question 18	Coefficient		.036	
			Sig. (2-tailed)		.825	

Note. *Association is significant at the $p < 0.05$ level (2-tailed). **Association is significant at the $p < 0.01$ level (2-tailed).

The association between OSE Question 9 and OSE Question 20 showed a moderate positive association between the two questions, $t_b = .522$, $n = 31$, $p = .001$, indicating statistical significance, with higher scores on Question 9 associated with higher scores on Question 20. $H_1$1i-ii was supported while the null hypothesis was rejected. Thus, I interpreted the results as students who were able to apply course materials to their lives considered themselves emotionally engaged (see Table 3 and Table P12).

Research Question 1j: Is there an association between the rankings of OSE Question 10 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 10 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 10 and the rankings of OSE Question 20.

The association between OSE Question 10 and OSE Question 20 showed little to no association between the two questions, $t_b = .157$, $n = 31$, $p = .342$, indicating no statistical significance. $H_0$1j failed to be rejected. Thus, I interpreted the results that when students were able to make the course interesting to them, it was not indicative of whether or not students considered themselves emotionally engaged (see Table 3 and Table P13).

Research Question 1k: Is there an association between the rankings of OSE Question 11 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 11 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 11 and the rankings of OSE Question 20.

The association between OSE Question 11 and OSE Question 20 showed little to no association between the two questions, $t_b = .031$, $n = 31$, $p = .853$, indicating no statistical significance. $H_0$1k failed to be rejected. Thus, I interpreted the results that when students really desired to learn the course materials, it was not indicative of whether or not students considered themselves emotionally engaged (see Table 3 and Table P14).

Research Question 1l: Is there an association between the rankings of OSE Question 12 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 12 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 12 and the rankings of OSE Question 20.

The association between OSE Question 12 and OSE Question 20 showed a low positive association between the two questions, $t_b = .323$, $n = 31$, $p = .045$, indicating statistical significance, with higher scores on Question 12 associated with higher scores on Question 20. $H_1$1l was supported while the null hypothesis was rejected. Thus, I interpreted the results that students who have fun in online chats, discussions or via email considered themselves emotionally engaged (see Table 3 and Table P15).

Research Question 1m-i: Is there an association between the rankings of OSE Question 13 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 13 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 13 and the rankings of OSE Question 19.

The association between OSE Question 13 and OSE Question 19 showed a low positive association between the two questions, $t_b = .378$, $n = 31$, $p = .014$, indicating statistical significance, with higher scores on Question 13 associated with higher scores on Question 19. $H_1$1m-i was supported while the null hypothesis was rejected. Thus, I interpreted the results as students who helped fellow students considered themselves behaviorally engaged (see Table 3 and Table P16).

Research Question 1m-ii: Is there an association between the rankings of OSE Question 13 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 13 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 13 and the rankings of OSE Question 20.

The association between OSE Question 13 and OSE Question 20 showed little to no association between the two questions, $t_b = .255$, $n = 31$, $p = .111$, indicating no statistical significance. $H_0$1m-ii failed to be rejected. Thus, I interpreted the results that when students helped fellow students, it was not indicative of whether or not students considered themselves emotionally engaged (see Table 3 and Table P17).

Research Question 1n: Is there an association between the rankings of OSE Question 14 and the rankings of OSE Question 21? (cognitive)

H_0: There is no association between the rankings of OSE Question 14 and the rankings of OSE Question 21. H_1: There is an association between the rankings of OSE Question 14 and the rankings of OSE Question 21.

The association between OSE Question 14 and OSE Question 21 showed a low positive association between the two questions, $t_b = .399$, $n = 31$, $p = .014$, indicating statistical significance, with higher scores on Question 14 associated with higher scores on Question 21. $H_1$1n was supported while the null hypothesis was rejected. Thus, I interpreted the results as students who received a grade above 60% on assignments considered themselves cognitively engaged (see Table 3 and Table P18).

Research Question 1o: Is there an association between the rankings of OSE Question 15 and the rankings of OSE Question 21? (cognitive)

H_0: There is no association between the rankings of OSE Question 15 and the rankings of OSE Question 21. H_1: There is an association between the rankings of OSE Question 15 and the rankings of OSE Question 21.

The association between OSE Question 15 and OSE Question 21 showed a low positive association between the two questions, $t_b = .470$, $n = 31$, $p = .005$, indicating statistical significance, with higher scores on Question15 associated with higher scores on Question 21. $H_1$1o was supported while the null hypothesis was rejected. Thus, I interpreted the results as students who received a grade above 60% in tests/quizzes considered themselves cognitively engaged (see Table 3 and Table P19).

Research Question 1p-i: Is there an association between the rankings of OSE Question 16 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 16 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 16 and the rankings of OSE Question 19.

The association between OSE Question 16 and OSE Question 19 showed little to no association between the two questions, $t_b = .227$, $n = 31$, $p = .142$, indicating no statistical significance. $H_0$1p-i failed to be rejected. Thus, I interpreted the results that when students engaged in conversations online by messaging in Moodle or emailing, it was not indicative of whether or not students considered themselves behaviorally engaged (see Table 3 and Table P20).

Research Question 1p-ii: Is there an association between the rankings of OSE Question 16 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 16 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 16 and the rankings of OSE Question 20.

The association between OSE Question 16 and OSE Question 20 showed little to no association between the two questions, $t_b = .196$, $n = 31$, $p = .223$, indicating no statistical significance. $H_0$1p-ii failed to be rejected. Thus, I interpreted the results that when students engaged in conversations online by messaging in Moodle or emailing, it was not indicative of whether or not students considered themselves emotionally engaged (see Table 3 and Table P21).

Research Question 1q**:** Is there an association between the rankings of OSE Question 17 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 17 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 17 and the rankings of OSE Question 19.

The association between OSE Question17 and OSE Question 19 showed a moderate positive association between the two questions, $t_b = .518$, $n = 31$, $p = .001$, indicating statistical significance, with higher scores on Question 7 associated with higher scores on Question 19. $H_1$1q was supported, while the null hypothesis was rejected. Thus, I interpreted the results as students who posted in the chat box regularly during live class considered themselves behaviorally engaged (see Table 3 and Table P22).

Research Question 1r-i: Is there an association between the rankings of OSE Question 18 and the rankings of OSE Question 19? (behavioral)

H_0: There is no association between the rankings of OSE Question 18 and the rankings of OSE Question 19. H_1: There is an association between the rankings of OSE Question 18 and the rankings of OSE Question 19.

The association between OSE Question 18 and OSE Question 19 showed little to no association between the two questions, $t_b = .267$, $n = 31$, $p = .087$, indicating no statistical significance. $H_0$1r-i failed to be rejected. Thus, I interpreted the results that when students got to know other students in their classes, it was not indicative of whether or not students considered themselves behaviorally engaged (see Table 3 and Table P23).

Research Question 1r-ii: Is there an association between the rankings of OSE Question 18 and the rankings of OSE Question 20? (emotional)

H_0: There is no association between the rankings of OSE Question 18 and the rankings of OSE Question 20. H_1: There is an association between the rankings of OSE Question 18 and the rankings of OSE Question 20.

The association between OSE Question18 and OSE Question 20 showed little to no association between the two questions, $t_b = .036$, $n = 31$, $p = .825$, indicating no statistical significance. $H_0$1r-ii failed to be rejected. Thus, I interpreted the results that when students got to know other students in their classes, it was not indicative of whether students considered themselves emotionally engaged (see Table 3 and Table P24).

Quantitative Analysis Summary by Engagement Type

Behavioral engagement. In this study, using RQ1a, RQ1c, RQ1d-i, RQ1e, RQ1f, RQ1g, RQ1m-i, RQ1p-i, RQ1q, and RQ1r-i, I intended to determine if an association could be found between teaching strategies and student behavioral engagement. Of these, there was a low association with RQ1a, RQ1c, RQ1d-i, RQ1f, and RQ1m-i. Thus, the behavioral strategies of studying on a regular basis at least three times per week; completing assigned readings on a weekly basis; looking over class notes between getting online to ensure understanding; making one's own notes over readings, PowerPoints, or video lectures; and helping fellow students contributed to a low association of students' perceptions of their own behavioral engagement. There was a moderate association with RQ1e, RQ1g, and RQ1q. Thus, the behavioral strategies of being organized by keeping all class notes/readings/information together; listening and reading carefully; and posting in the live chat box regularly contributed to a moderate association of students' perceptions of their own behavioral engagement. Finally, I determined no association with neither RQ1p-i, nor RQ1r-i. The behavioral strategies of engaging in online conversations via Moodle or email and getting to know other students in the class did not appear to contribute to students' perceptions of their behavioral engagement. Socialization aspects seemed to have no association for the responding students. However, it is worth noting that if

students are not encouraged to engage in online conversations or getting to know others, it may have been difficult for them to associate these actions with their behavioral engagement (see Table 4).

Table 4

Quantitative Analysis Summary by Engagement Type: Behavioral

Moderate association	Low association	Little to no association
RQ1e, RQ1g, and RQ1q	RQ1a, RQ1c, RQ1d-i, RQ1f, RQ1m-i.	RQ1p-i, nor RQ1r-i.
Being organized with notes	Completing weekly readings	Getting to know other students
Listening & reading carefully	Helping fellow students	Engaging in online conversations
Posting in live chat regularly	Making one's own notes	
	Looking over class notes between classes	
	Studying on a regular basis	

Emotional engagement. I used RQ1b, RQ1h-ii, RQ1i-ii, RQ1j, RQ1k, RQ1l, RQ1m-ii, RQ1p-ii, and RQ1r-ii to determine if there was an association between teaching strategies and student emotional engagement. There was a low association with RQ1b, RQ1h-ii, and RQ1l. Thus, the emotional engagement strategies of putting forth effort; finding ways to make the course relevant to one's life; and having fun in online chats, discussions or via email with the instructor or other students contributed to a low association of students' perceptions of their own emotional engagement. I determined a moderate association with RQ1i-ii, and thus applying course material to one's life contributed to a moderate association with students' perceptions of their own emotional engagement. Finally, I found no association with RQ1j, RQ1k, RQ1m-ii, RQ1p-ii, and RQ1r-ii to students' own perceptions of their emotional engagement. Finding ways to make the course interesting to oneself; really desiring to learn the material; helping fellow students; engaging in conversations online by messaging in Moodle or emailing; and getting to

know other students in the class did not appear to contribute to students' own perceptions of their emotional engagement. However, it is worth noting several observations. If students were unable to get to know others within their class, or help others, it would be difficult for them to assess this as part of their emotional engagement. Furthermore, engaging in online conversations could prove more difficult unless this was deliberately structured as part of the course. In addition, students may have struggled to find ways to make the course interesting if the instructor did not demonstrate examples of how to make the course interesting (see Table 5).

Table 5
Quantitative Analysis Summary by Engagement Type: Emotional

Moderate association	Low association	Little to no association
RQ1i-ii	RQ1b, RQ1h-ii, RQ1l.	RQ1j, RQ1k, RQ1m-ii, RQ1p-ii, RQ1r-ii
Applying materials to own life	Finding ways to make course relevant to own life	Engaging in online conversations
	Having fun in online chat, etc.	Helping fellow students
	Putting forth effort	Really desiring to learn materials
		Getting to know other students
		Finding ways to make the course interesting

Cognitive engagement. During the study, I used RQ1d-ii, RQ1h-i, RQ1i-i, RQ1n, and RQ1o to determine if an association existed between teaching strategies and student cognitive engagement. Of these, there was a low association with RQ1i-i, RQ1n, and RQ1o to students' own perceptions of their cognitive engagement. Applying course material to one's life; getting a grade above 60% on assignments; and getting a grade above 60% on test/quizzes contributed to a low association of students' own perceptions of their cognitive engagement. There was a moderate association with RQ1d-ii, and thus looking over class notes between getting online to make sure students understood the material contributed to a moderate association of their

perceptions of their own cognitive engagement. Finally, I found no association with RQ1h-i, finding ways to make the course material relevant to one's life, and students' own perceptions of their cognitive engagement. However, finding ways to make the course materials relevant to one's own life did contribute to a low association with emotional engagement and was noted under the emotional engagement theme (see Table 6).

Table 6

Quantitative Analysis Summary by Engagement Type: Cognitive

Moderate association	Low association	Little to no association
RQ1d-ii Looking over class notes between classes	RQ1i-i, RQ1n, RQ1o Getting over 60% on assignments Getting over 60% on exams Applying materials to own life	RQ1h-i Finding ways to make the course relevant

The OSE questions were designed to measure behavioral, emotional, and cognitive engagement, aligning with Garrison et al.'s CoI (Dixson, 2015). However, when students were asked directly to self-assess their level of engagement, many of these data showed either no association or a low association. Thus, course activities and strategies should be designed purposely with more deliberate connections in mind.

Student quantitative data were enriched by the analysis of student qualitative data from the OSE. At the end of the quantitative OSE Likert scale Questions 1–21, students responded to five open-ended qualitative questions, Questions 22–26. In their responses, students provided rich and varied commentary and examples, illustrating a picture of their perceptions of their own engagement.

Qualitative Data Analysis

I used qualitative questions to gather data to answer RQ2, RQ3 and RQ4. The OSE open-ended questions provided students with an opportunity to share their perceptions regarding their experiences for RQ2 and RQ4. In RQ2, I asked student participants to describe their behavioral, emotional and cognitive engagement, and in RQ4, I asked participants how teaching strategies could be used to increase first-year, nontraditional e-learning student engagement. Then, I conducted one-on-one faculty interviews to address RQ3. In RQ3, I asked faculty participants to describe behavioral, emotional, and cognitive engagement amongst first-year, nontraditional e-learning students. I transcribed the interviews before I coded the data.

During the qualitative data analysis portion, I first examined the open-ended questions from the OSE and categorized responses according to identified activities. These qualitative data provided specific examples of how students felt about their behavioral, emotional, and cognitive engagement. Using Dedoose software 8.0.35 (2018), a web-based application, along with manual coding, I coded data gathered by the OSE from the open-ended questions into themes. The emerged themes provided information to enhance understanding obtained through the interview process and aided with triangulation. Next, I analyzed data from the faculty interviews. Following standard case study process, I provided a description of the setting and individuals, and I analyzed data for emerging themes or issues (Creswell, 2014; Creswell & Poth, 2017; Miles, Huberman, & Saldãna, 2014).

Using an analytic strategy as suggested by Creswell and Poth (2017), I labelled and coded responses by considering the research questions, the literature review, and the data generated. It was necessary to organize the data several times during the process (see Creswell &

Poth, 2017; Tesch, 2016). With the help of qualitative data analysis software Dedoose 8.0.35 (2018), I used three cycles of coding processes (see Saldãna, 2016). In the first cycle, I used a provisional list of codes as generated by topics indicated by students in their responses. Then, these codes were associated by a provisional list of codes as generated by the literature review to harmonize with my study's conceptual framework and address the research questions (see Saldãna, 2016). An exploratory method of coding, provisional coding "establishes a predetermined list of codes prior to fieldwork," that were generated from the literature review, the conceptual framework, and research questions (Saldãna, 2016, p. 168). In this process, key words and phrases can be developed into major themes (Saldãna, 2016). However, using provisional codes required caution to avoid preconceptions distorting observations (see Saldãna, 2016). Flexibility to change and adapt these provisional codes was necessary (see Saldãna, 2016). In addition to provisional coding, I used in vivo coding. According to Saldãna, in vivo coding is the process of using words from participants provide rich descriptions and possible support for major themes. Putting participant-inspired codes in blue highlighted font helped me to separate the participant-inspired codes from those literature-inspired (see Saldãna, 2016). According to Saldãna, in vivo coding is appropriate for virtually all qualitative studies, and particularly for novice researchers. As well, I also used descriptive coding, where I summarized the topic of a sentence into a shorter description (see Saldãna, 2016). If something in the data stood out, I applied it as a code to the outstanding point (see Saldãna, 2016). Appendix R provides an example of my coding process.

During the second and third cycle of qualitative data analysis, I reorganized and analyzed data again to help develop conceptual, categorical, thematic organization (see Saldãna, 2016). I

merged some codes because they were conceptually similar while others were dropped, as they were infrequent or marginal (see Saldãna, 2016). When I reviewed categorizing codes that were generated earlier, doing so helped identify the major components of the study results (see Saldãna, 2016). I used axial coding to link categories with subcategories to show how they are related (see Saldãna, 2016).

Through these methods of analysis, I addressed the qualitative RQ2, RQ3 and RQ4. Similarly, triangulation occurred by corroborating evidence from the different faculty interviews, combining the transcripts and again grouping evidence into themes (see Creswell, 2014). I asked faculty participants to review their thoughts in the transcripts to ensure these were accurately captured in written form. These methods lent to accurate, trustworthy, and credible findings.

Though I commenced coding OSE data with Dedoose 8.0.35 (2018) by inputting responses into the software, I struggled to be able to see and understand a picture of what the data were revealing, and thus I revisited the coding process another two times by hand which helped me to understand the data better. I visually identified codes developed from participants' words with one colour, while literature-inspired codes were identified with another colour. For example, one comment from a student stating "…course content is most relevant for day to day…purposes…" became a code entitled "relevance to daily life," and other statements that shared similar examples were coded into this heading. Other times, I created descriptive codes from generalized wording; for example, some students revealed how they felt their courses developed their skill levels with course components, and these were coded into "skills development." Once a picture began to emerge, I organized codes that appeared to be

subcategories of themes identified in the literature theories that guided the study, and I identified outliers that did not readily fit into the literature theory themes.

Although I selected Garrison et al.'s (2000) CoI model for the quantitative portion of the study, in the coding process for the qualitative questions, themes emerged in both student and faculty comments that aligned with the CoI. The CoI model emphasized social presence, teaching presence, and cognitive presence (Garrison et al., 2000). Furthermore, I used Kearsley and Shneiderman's (1998) theory of student engagement to help design the interview questions. When the themes emerged from the data, some of these themes aligned with this theory as well. Kearsley and Shneiderman's theory emphasized meaningful learning, collaboration, and experiential and self-directed learning, components of constructivism, and focused on technology-based learning and teaching. Meaningful student learning occurred during collaborative, project-based, and authentic learning activities and strategies (see Kearsley & Shneiderman, 1998).

Research Question 2. To answer RQ2, I used the OSE in this study (see Appendix E) to ask whether or not engagement strategies used in online courses contributed to students' self-assessment of their behavioral, emotional, and cognitive engagement. In the OSE Questions 22–25, I asked students to provide examples of their engagement with course design and content, with the instructor, with their peers, and with the technology. Student responses provided some rich examples of how they felt about their engagement.

Student qualitative data analysis OSE Question 22. In the OSE Question 22, I asked students to discuss their engagement with the e-learning course by commenting if they became interested in and made personal connections through the content and activities (see Appendix E).

Student responses to this question set revealed the following themes: social presence and cognitive presence appeared, but I categorized more of the responses into meaningful learning (see Garrison et al., 2000; Kearsley & Shneiderman, 1998). There were no ideas that were linked to collaboration nor experiential and self-directed learning. Finally, some students' responses revealed they did not make personal connection, while some did not clarify if a personal connection existed, and I categorized these as outliers (see Table 26).

Social presence. While the vast majority of engagement-related responses fell into the theme meaningful learning, I also coded comments into the themes of cognitive presence and social presence because these comments distinctly illustrated engagement techniques. One student wrote, "Sometimes I write about my culture, depending on what the topic is on." Though this could have been coded as personal experience/relevance, I coded it as social presence because an assignment gave students the opportunity to voice their cultural experiences. Garrison et al. (2000) defined social presence as the ability of students to present themselves as real people in their learning environments. By providing students an opportunity to voice their cultural experiences, this helped them to present as a person within their course experience.

Cognitive presence. Under the theme of cognitive presence, I coded student responses that demonstrated the student was constructing meaning. I used several subthemes, including content structured to support learning, active participation, engaging content, and challenge level. Students shared comments about the content that they felt supported their learning, such as videos to help connect the topics, reference materials, and worksheets. Regarding active participation, students shared comments about class discussions, discussion forums, the use of Flipgrid, suggesting these were examples of how they were encouraged to think about the course

content. One student also commented on how reading over the materials helped him or her to understand content he or she might have been stuck on. Two students also shared that engaging content encouraged them to think more about the course. They gave specific assignment examples that they felt were engaging in this manner. Finally, two students addressed the challenge level of the course. One student stated, "I am not interested in the content of this course. It is very straightforward and simple. I feel that this course could have been covered in a week," while another stated that being engaged with the course content was "…my biggest challenge." These student comments regarding the challenge level of the course suggest the importance of finding an appropriate balance. Students need to be appropriately challenged to maintain interest.

Meaningful learning. Under the theme of meaningful learning, I used several subthemes to help categorize the various comments that were shared. These subthemes included skills development, personal development, knowledge/grades improvement, and personal experience/relevance. When students shared comments about improving their skills, I coded this into skills development. Examples here included improving spelling or study skills.

Under the meaningful learning subtheme of personal development, many of the comments were vague but addressed the personal desire for self-improvement. One student stated, "my body can no longer do physical labour jobs so I am seeking a career that will allow me to work with a moderately lower physical demand," while another student stated, "It give me confidence in the world. I'm starting to feel more equal to others." Maslow (1987) in his hierarchy of needs theory stated that individuals' growth needs can result from a desire to grow as a person. Life experiences can affect how individuals perceive themselves in comparison to

others. That a student could articulate his or her gaining of confidence, and feeling equal to others, falls both into the social need to belong as well as the esteem for oneself or one's own dignity. Maslow also stated that students with lower self-esteem will not progress academically as optimally as they might when their self-image improves (1987). For this student, being able to feel better about him or herself was a very meaningful experience.

The classroom functions much like a neighborhood or family, where the human need for belonging and support can also be impactful on a student's ability to engage and succeed. Creating the learning community in an online classroom is very relevant. According to Chang (2012), when online students felt comfortable with each other, they were more willing to share and help each other, and developed an increased responsibility to the community. Building an online community could help decrease feelings of isolation (Hope, 2017).

Other examples of meaningful learning came from several students who commented on the connections they could make with their own experience. One student stated, "I am most engaged in a course if I can directly relate it to my own life," while another stated, "The materials and activities helped me understand and notice that what I learn is happening around me. Its (sic) interesting to think about and notice what I didn't before I started the courses." Extending course materials, activities and discussions beyond the classroom and into the personal student experiences demonstrated significant engagement strategies. Hope (2017) agreed, and indicated providing real-life, current content increased students' online engagement.

Finally, three students commented on their meaningful learning coded into the subtheme of knowledge/grades improvement. Two students liked that they had the opportunity to redo quizzes several times and the highest attempt became their grade, while another student

expressed satisfaction at understanding theory better in order to directly apply it to his or her work.

Outliers. I used the final theme of outliers to code responses students gave for when they indicated they made no personal connection to the course content, or responses that provided no specific examples of personal connection or no understanding of the question.

In summary, by analyzing students' engagement with their course, students readily provided many comments regarding their engagement through meaningful learning, content that had direct connections to their skills or personal development, their knowledge improvement or grades improvement, and materials that they believed directly relevant to them. Some online courses, though, might be more challenging for instructors to provide relevant connections to student personal experiences, given the course content or curriculum expectations. However, providing opportunities for students to increase their subject knowledge or improve their grades on various sections also seemed to be relevant to students' perception of their engagement experience (see Table 7 and Figure 2).

Table 7 provides an example of the qualitative data tables developed to summarize the generated themes throughout the qualitative data analysis. The remaining qualitative data tables developed throughout this qualitative data analysis section are in Appendix Q. Instead, I have inserted figures to provide a visual summary, for example, Figure 2.

Table 7

Themes From OSE Question 22: Engagement Through Course Content/Activities

Themes	Frequency (# of times referenced)	Percentage	Example
Social presence	3	5%	
Content structured to provide students' voice (3)			sometimes I write about my culture depends on what the topic is on
Cognitive presence	9	14%	
Engaging content (2)			The [course specific] assignments were really interesting
Challenge level (2)			I feel this course could have been covered in a week
Content structured to support learning (2)			Watching videos helps connect the topics
Active participation (3)			Flipgrid and discussion forums encourage engagement and thinking about the course content
Meaningful learning	37	58%	
Skills development (6)			They helped me study
Personal development (6)			It gave me confidence in the world. I'm starting to feel more equal to others
Knowledge/Grades improvement (3)			The quiz helps a lot because there are 3 attempts to do it
Personal experience or relevance (22)			I am most engaged in a course if I can directly relate it to my own life
Outliers	15	23%	
Zero personal connection made (9)			No personal connections
No personal connection identified (6)			I have no idea
Total	64	100%	

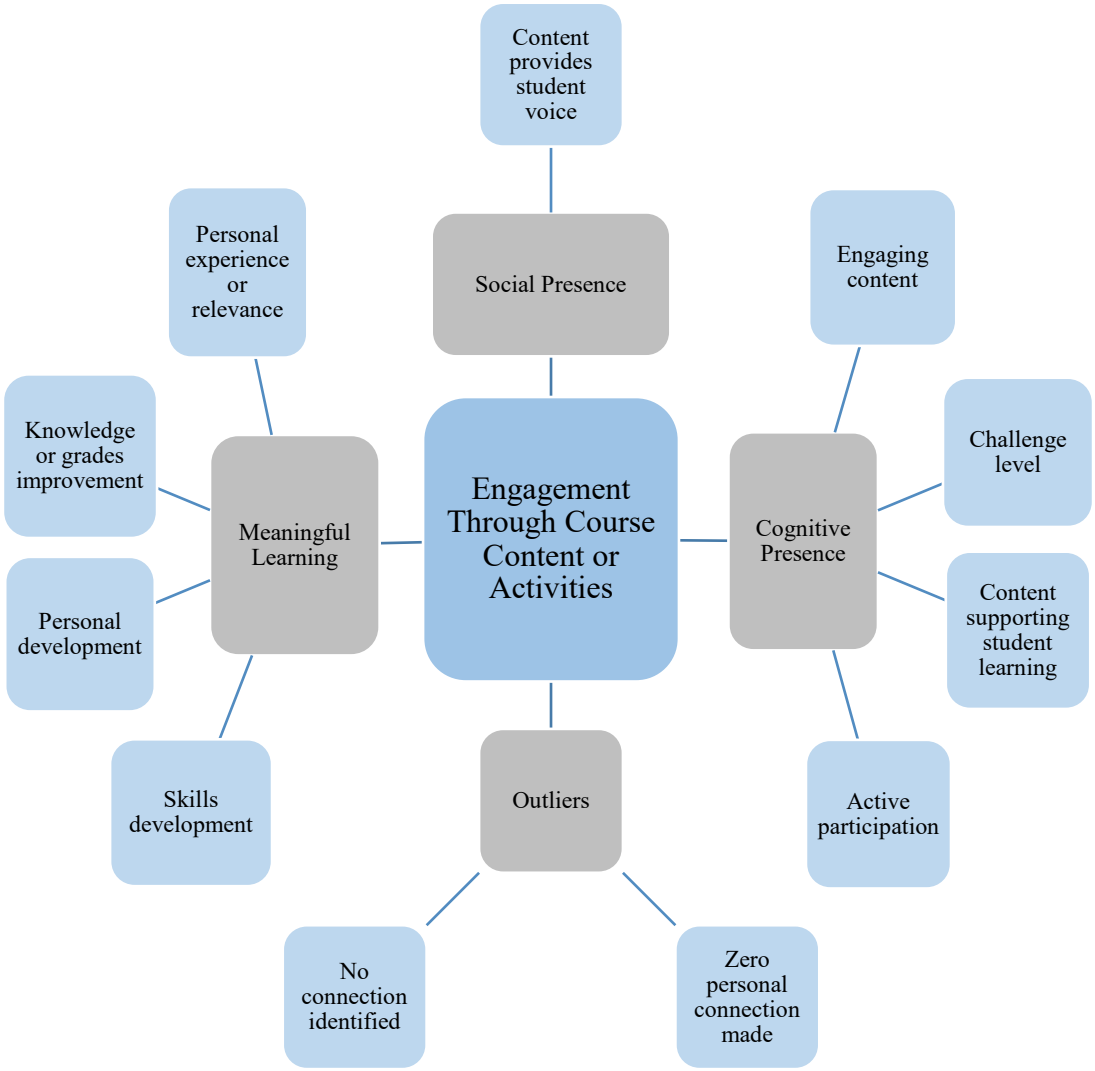

Figure 2. Themes from student OSE Question 22: Engagement through course content/activities.

Student qualitative data analysis OSE Question 23. In OSE Question 23, I asked students to respond to their engagement with their instructor, inquiring what course requirements and what tools or strategies encouraged this engagement and their learning (see Appendix E). While two students shared examples that I coded into the theme of social presence (see Garrison et al., 2000), I coded a significant number of examples into the theme of teaching presence (see Garrison et al., 2000). Students also provided excellent examples of the theme meaningful

learning (see Kearsley & Shneiderman, 1998), and again, I coded a small number of responses as outliers (see Table Q1).

Social presence. Students shared few comments about creating social presence through engagement with their instructors. This might suggest that students did not value the creation of social presence with their instructors. However, it could also suggest that many instructors did not present themselves as real people, so for some online students, this was part of the normal online experience. One student stated, "Chats during course help to get to know the instructor and find a common experience and form a relationship that way." Informal opportunities to get to know students can be helpful in building supportive relationships. However, students' comments focused more significantly on the theme of teaching presence, and the role of the instructor within the course.

Teaching presence. Students' comments regarding teaching presence and engagement (or lack thereof) made up 73% of the comments in this section of the student open-ended questions. Under the theme of teaching presence, I used several subthemes, including assignment help/follow-up, content exploration, lack of engagement with instructor, and instructor encouragement/support. Under the first subtheme, numerous student responses identified engagement with the instructor through assignment help or follow up. Thus, assignment help/follow up became one of the subthemes. One student stated, "Everything in (course name) makes me connect with my instructor. If I have questions about assignments I email her or ask her in the group chat." Another student stated, "There were few assignments I had trouble on so I would email or call the office for help on the subject. They were very helpful and encouraging going through the courses." Designing assignments, then, that encourage instructor/student

interaction can help to increase student engagement in the online world. However, assignment design must also be done effectively. One student spoke of how assignments could hinder engagement and stated, “We had to do a lot of writing which I enjoyed but I feel like she did not explain it that much to the class which caused a lot of confusion.” Effective communication by instructors provided increased student engagement (Boston et al., 2012; Chakraborty & Nafukho, 2015; Hope, 2017; Serdyukov, 2015). Effective communication contributed to positive instructor presence.

Another subtheme of teaching presence used to code students’ comments was feeling supported in the online classroom. One student stated, “She goes through everything carefully, even one to one to help have a better understanding,” while another stated, “She tries her best to help in any way she can, by telling who to ask in the school, or showing how to do stuff online.” According to Serdyukov (2015), instructor competence, caring and intervention with student needs directly affected student success.

I used the subtheme of content exploration to code comments that made a vague reference to portions of the course, without providing much explanation. Student comments included “very knowledgeable,” “gives lots of examples,” “makes dates for when assignments are due,” “homework and practice questions,” along with some course-specific statements. Students appreciated planful content exploration and explanations and attributed those to their engagement with the instructor.

Students were also very specific in their examples regarding the lack of engagement generated with their instructor, so this also became a subtheme. For example, one student stated,

> First of all, we have to engage with our instructor most of the time. Its (sic) not easy to approach them. They seem too busy in general. It is different with each though, I find younger instructors more willing to help. It seems older teachers are more set in their ways and expect too much of us, without explanation.

Another student stated, "The instructor reads the PowerPoints provided with the textbook, it is very difficult to actively participate as it is very boring." Several students commented on having little to no engagement with their instructors, and one also stated "I seriously do not know. I lost interest in the course because I found her boring." This last comment clearly indicated how the lack of connection with the instructor affected the student's engagement in the course. According to Serdyukov (2015), teacher mentorship "provides crucial differentiation and individualization" and the role of mentorship should be part of e-pedagogy (p. 66). Teaching presence is influential in engaging students, as is providing meaningful learning.

Meaningful learning. Students also commented on their engagement with the instructor through meaningful learning (Kearsley & Shneiderman, 1998), which made up 21% of the comments in this section of the OSE. One student spoke of engagement through alternative perspectives and shared how the instructor helped him or her generate different understanding than text materials alone. Other students spoke about engagement through technology inclusion and active participation. Recorded live online classes, which could be watched numerous times, integration of Moodle quizzes to help identify understanding or areas for study, technological games to engage with content, and lively discussions were all engagement examples provided by students. Finally, one student also shared appreciation for being able to improve his or her grades through extra assignments. Online instructors should provide "interesting and engaging learning

environments where the learners not only learn the content, but also have a positive and safe experience" (Chakraborty & Nafukho, 2015, p. 17). By carefully considering the student learning environment, faculty help create meaningful learning opportunities.

In summary, my interpretation of the data suggested that students became more focused on the instructor and their lack of engagement with the course if they felt disengaged from the instructor; if, however, they felt engaged with their instructor, they were more likely to ask for help, feel supported, and more readily able to identify engaging content and activities. Zumbrunn, McKim, Buhs, and Hawley (2014) stated "Instructor enthusiasm, passion, and the level of interest and caring they show towards their students may play a central role in supporting student motivation and engagement in the classroom social context" (p. 677). Engagement with instructors is an important component of e-learning student engagement. (see Table Q1 and Figure 3).

Student qualitative data analysis OSE Question 24. In OSE Question 24, I asked students to discuss their engagement with their peers through assignments and activities (see Appendix E). Of the four OSE questions addressing student engagement, OSE 22–25, Question 24 generated the least amount of qualitative data responses, less than 50% compared to the other three. In the responses provided where students commented on their engagement with peers, several themes emerged, including social presence, teaching presence (see Garrison et al., 2000), and meaningful learning (see Kearsley & Shneiderman, 1998). I also coded a number of comments as outliers, where students did not identify peer engagement or indicated they had not engaged with peers.

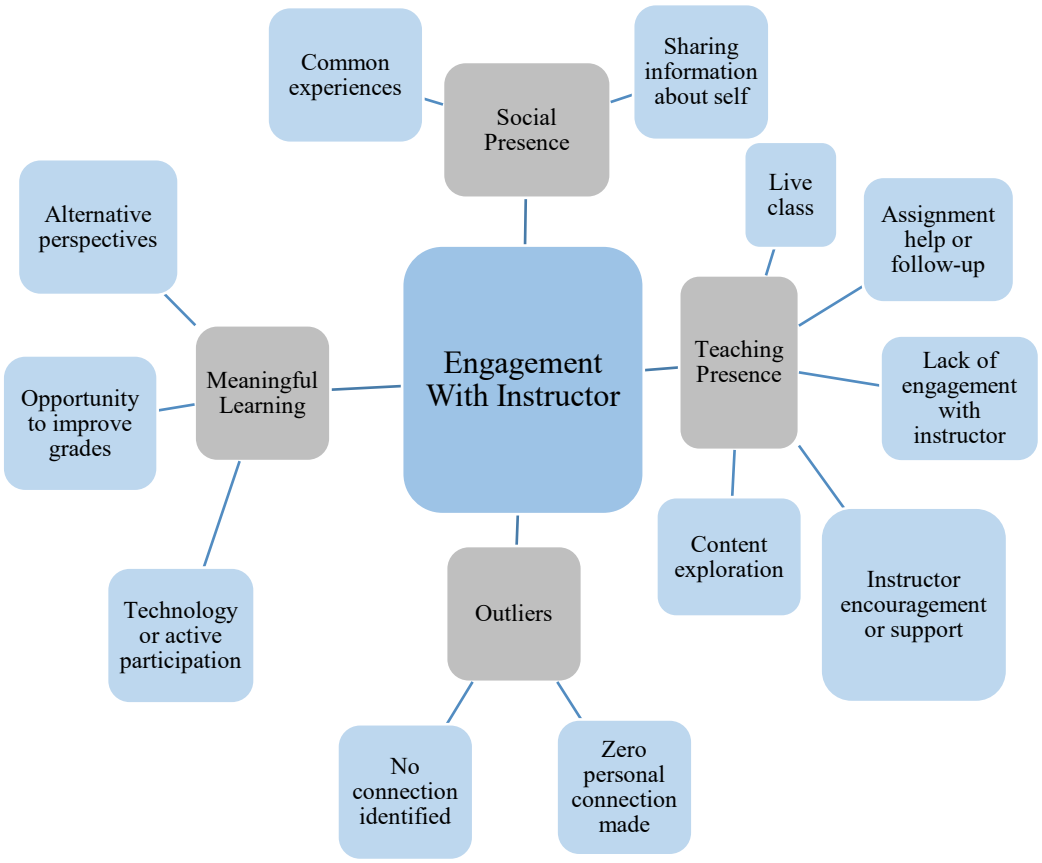

Figure 3. Themes from student OSE Question 23: Engagement with instructor.

Social presence. Students who spoke of their engagement with peers provided examples of social presence through active participation and course work exploration. Discussion forums, in-class discussions, and the chat box in class allowed students to make connections with their peers. One student stated, "Responding to others in forums. This helps share experiences and find common situations." Several students made comments regarding getting together offline with others on their campus to continue conversations. For example, another student stated, "I often sit with other students in my class to discuss different ideas about assignments we have and

stuff." Exploring course work by helping others through difficult content or assignments or simply working together to solve problems were some of the ways students identified this form of engagement.

Meaningful learning. These peer working groups also helped to create meaningful learning opportunities for students through peer support, demonstrating a strong connection between social presence (see Garrison et al., 2000) and meaningful learning (see Kearsley & Shneiderman, 1998). One student stated, "Some of the more [specific content] in the courses were difficult to get a grasp on, but other students in the same course and campus helped me to try to get an understanding of it." Another student stated, "I have a couple of friends that I made. My friend helps me with some of the materials in [specific course] and I help him in [specific courses], he kind of struggles with those two classes." Working with peers helps create meaningful learning opportunities.

Teaching presence. Students did not speak directly of their instructor in this section but referred to teaching presence through the interaction with specific examples of technology inclusion. By using technology, such as live class, discussion forums, Flipgrid, or Kahoot!, students were able to engage with their peers. One student stated, "Online class helps me to interact with other students from different campuses" while another student also made similar reference. However, these peer engagement opportunities would need to be built in, because, for example, live class technology could be used simply to lecture to students rather than encourage peer engagement. Lecture-only classes may be why a number of students questioned if they had any peer engagement, as identified under the theme of outliers.

Outliers. Under OSE Question 24, however, 36% of student comments addressed their lack of engagement with peers, and these comments were coded as outliers. One student stated, "I have no interaction with other students other than chat in class. and then, the dialog is directed to and from the instructor." Kearsley and Shneiderman's (1998) theory of student engagement included the importance of collaboration with peers as a component of meaningful learning. Similarly, Garrison et al.'s (2000) CoI discussed the need for social presence. Given that a large percentage of students indicated they did not feel connected to peers, this would be an area that instructors could attempt to address in their online classes in order to potentially increase student engagement. d'Alession et al. (2019) determined that facilitated interaction by instructors to create supportive online communities benefitted students' performance by increased course grades. Dilling's (2019) research recommended supporting interpersonal relationships in the online environment and determined that online students were more willing to communicate and interact in an online environment compared to a face-to-face environment.

In summary, by analyzing the data provided by students regarding their peer engagement, the fewer responses to OSE Question 24 suggested this could be an area where e-learning instructors could focus. Thus, e-learning instructors should be encouraged to design course components to facilitate peer-learning opportunities between students in order to increase student engagement (see Table Q2 and Figure 4).

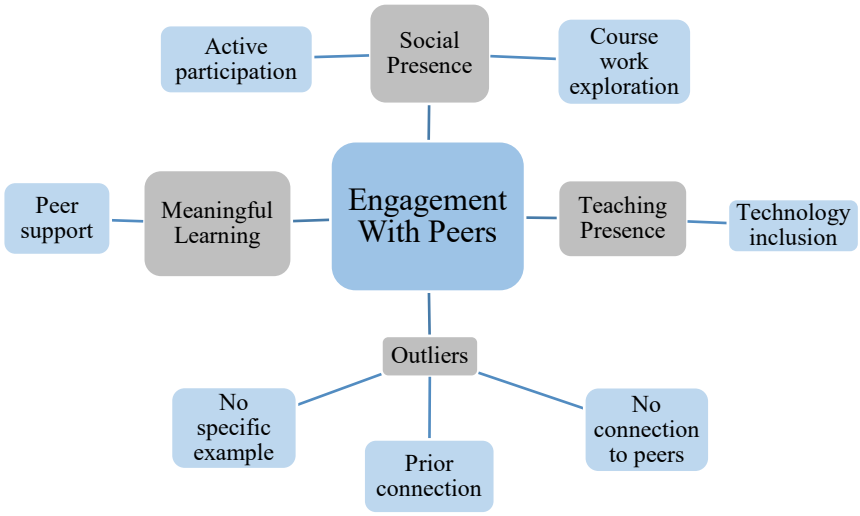

Figure 4. Themes from student OSE Question 24: Engagement with peers.

Student qualitative data analysis OSE Question 25. OSE Question 25 asked students to discuss their engagement with the technology (see Appendix E). I coded the comments provided into several themes, including social presence, teaching presence, cognitive presence, personal impact, and institutional presence, the last two concepts not part of the CoI model nor the theory of student engagement (see Garrison et al., 2000; Kearsley & Shneiderman, 1998).

Social presence. I coded approximately 13% of student responses to their engagement with technology into social presence, where students very clearly identified themselves either as e-learners or as non-e-learners, both of which became subthemes. Several students commented on their inability to see themselves as learners in the e-learning environment. One student stated, "I find online classes more boring," while another student stated "I really did not like online learning. I need to be in a classroom with a teacher that I am able to ask questions to." Because

WCC e-learning courses in the three program areas surveyed used live classes, encouraged student chat in class, or messaging, emailing, and encouraged phone calls out of class, the comment suggested the student had failed to become engaged with the instructor, possibly due to the student's resistance to the online environment. Students who cannot see themselves as learners in the online environment would equate to emotional/psychological needs in Maslow's (1987) hierarchy of needs. If students are unable to see themselves as online learners, they will likely struggle to learn in the e-learning modality.

Cognitive presence. The vast majority of student responses fell into two themes: cognitive presence and meaningful learning. All of the responses I coded into cognitive presence discussed the challenge students felt with learning the online technology. One student stated, "It was incredibly hard to grasp how to use Moodle without someone showing hands-on how to use it and figuring out how to upload assignments via WCC portal." Another student shared, "At first it was difficult, but I feel stronger using the technology now." Though some students did not feel learning to use the online technology was difficult, many students reported discomfort or difficulty at the beginning of their course. Learning to use the technology would be important in relation to Maslow's (1987) security needs; heightened anxiety from learning to use the technology could affect the student engagement with the course and materials.

Personal impact. Under the theme of personal impact, I used subthemes to help code student responses, including skills development, accessibility, and personal suitability. Students spoke of their pleasure at gaining a new skill. One student stated, "I was not good at using the technology at first but with help and constant use of it got me a bit more better at it, I now find it interesting and great to use." Another stated, 'I find it challenging and frustrating but then feel

proud of myself once I have learned a new task." For these students, learning the technology provided satisfaction in having attained a new skill. Other students spoke of the accessibility of the online course and how this impacted their learning. One student stated, "being able to do classes at home, especially being a single parent," while another discussed "being able to do classes anytime from anywhere." The online modality provided meaningful opportunity that these students might not otherwise have been able to achieve. Finally, the online modality also provided learning that students indicated was personally suitable. One student stated, "not having to drive to class on a daily basis and save the gas money, I am not from a high-income family." Yet another stated, "I am able to rewatch the classes whenever I miss. I love that it is an option." These personal impact examples would enhance student engagement in the online classroom.

Institutional presence. Although the theme of institutional presence was not part of Garrison et al.'s (2000) CoI nor Kearsley and Shneiderman's (1998) student engagement theory, I still used this theme to code some of the responses. Some students spoke of the lack of support they received in either attempting to use the technology or by attempting to complete expected components. One student specifically mentioned the helpful orientation class, while another spoke about the lack of support in attempting to find out exam locations and times, and yet another spoke about waiting months for tech support to help with sound for his or her online class. Students' engagement was impacted by the support or lack of support from the institution. According to Muljana and Luo (2019), institutional support had significant impact on e-learning students.

In summary, student responses regarding their engagement with technology produced the themes of social presence, institutional presence, cognitive presence, teaching presence, and meaningful learning. (see Table Q3 and Figure 5).

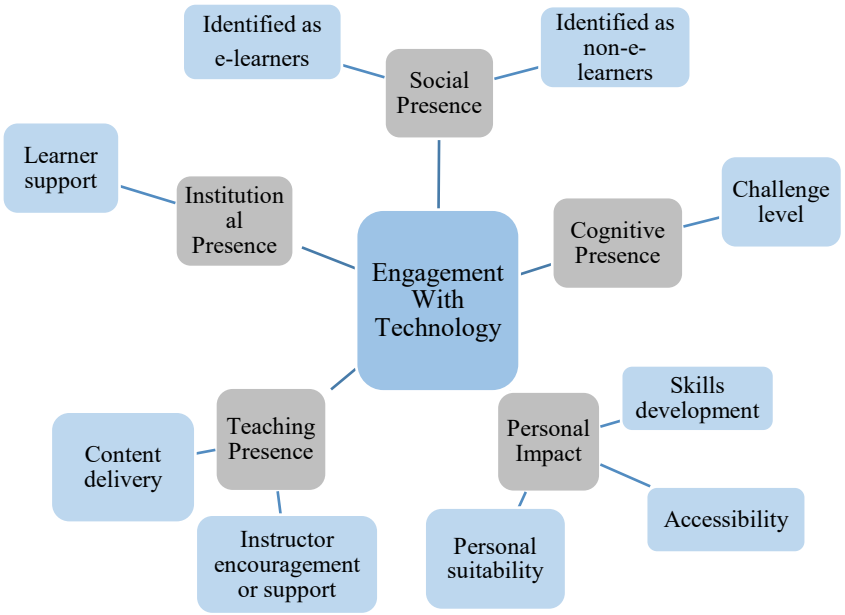

Figure 5. Themes from student OSE Question 25: Engagement with technology.

I used Research Question 2 to obtain a deeper understanding of nontraditional students' perceptions regarding their e-learning engagement. By specifically asking questions about their engagement with course content, their instructors, their peers, and the technology, students provided responses that I coded into cognitive presence, social presence, teaching presence, institutional presence, personal impact, and outliers (see Figure 6).

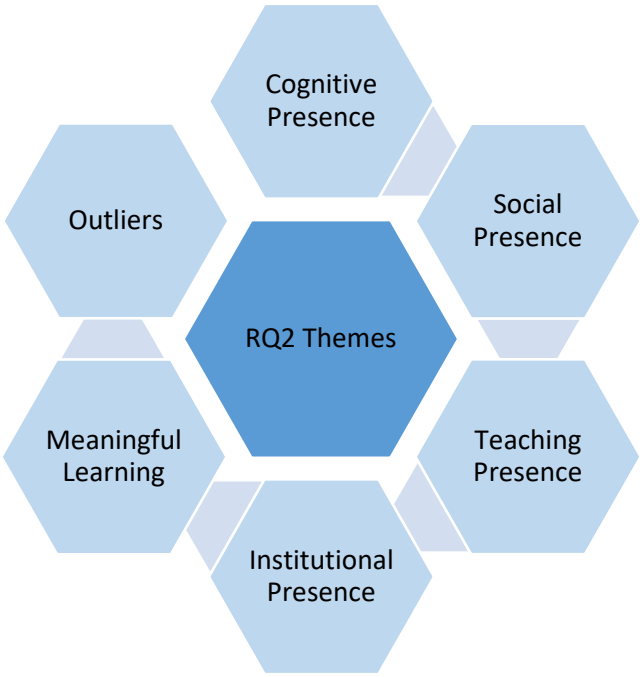

Figure 6. RQ2 Themes from student OSE qualitative questions.

Research Question 3. To answer RQ3, I conducted one-on-one faculty interviews occurred at a time mutually convenient for the faculty member and me. In total, seven faculty were interviewed for approximately 30 minutes each. Because of the small target population of e-learning faculty at the study site, no description of the faculty participants has been provided, except that all who participated taught first-year, nontraditional students in an e-learning course. Most of the interviews took place face-to-face at one of WCC campuses, in a secluded room, clearly marked so as to not be disturbed. Two of the interviews took place over the phone because this was preferable for the faculty member. I designed RQ3 to explore how faculty described behavioral, emotional, and cognitive engagement amongst first-year, nontraditional e-learning students in a community college.

Faculty members' responses to the interview questions regarding nontraditional student engagement in e-learning classes focused primarily on their role, and the institution's role, in helping create an engaging environment. I coded the responses provided into the themes of teaching presence, cognitive presence, meaningful learning and other (see Garrison et al., 2000; Kearsley & Shneiderman, 1998).

Teaching presence. Under the theme of teaching presence, faculty members' responses generated a number of subthemes. In their responses, faculty members were very focused on the importance of their role in providing an excellent online experience. The subthemes they discussed included being an active instructor, instructor encouragement and support, the course structure, and content/curriculum supplements.

Active instructor. As instructors in an e-learning environment, faculty members spoke clearly about the importance of their own humanity. They felt that being an approachable instructor was extremely important and emphasized the need to communicate their approachability to the students as early and as often as possible. This meant being quickly responsive to queries in the online class but also via phone or email. However, faculty were also clear on their boundaries and communicating those to students. It was important to let students know how long it would take, on average, to response to messages, and to identify what this response time might be outside of the normal workday or on weekends. While these participating faculty had different response expectations, they believed communicating these boundaries to students helped students to be aware of what to expect, and thus decrease students' stress if they knew when to expect a response. One faculty member believed that communicating those

boundaries helped students identify professionalism, in that students could come to see a balance between the 24/7 world of an online course, and the humanity of being an online instructor.

On another note, a different faculty member wanted to communicate personality, not just in the sense of sharing personal information but in the sense of being a real person in the online environment. Faculty 5 stated,

> I think that to be a successful online instructor, you do have to share your personality somewhat. You have to share who you are as a human being… I was pretty drole. Is that the right word? Boring. Like just getting through the material, and I started to, I realized quite quickly that I had to have some fun. I had to have some fun and be a goof sometimes.

The importance of being real and having fun as an instructor in the modality can contribute to a better learning environment. Overall, the connection between a student and the instructor was an important component that faculty shared.

Furthermore, faculty participants emphatically spoke about the importance of communications with their students. Outside of live class, instructors felt it was important for early communication with students, weekly (or more frequently) messaging students of course information, and individual student messaging expressing concern if the student appears to be missing course progress. In addition, responding to students' email queries within a short timeframe was important.

Being aware of student needs was another idea of being an active instructor. This included the need to remain flexible and recognize that nontraditional students often had many commitments outside of their college courses, or personal learning needs, so giving more time, if

needed, was an important option. Faculty 7 also addressed flexible assignments and teaching approaches, and stated, “Even though everybody has the same criteria, like the same goal plan, so to speak, the instruction and the evaluation and the interaction is based on what kind of learner they are, not what kind of learner I am.” Faculty members should recognize their students as individual learners with different learning needs.

In addition, faculty members addressed teaching strategies under the subtheme of active instructor within the online environment. The instructors felt it was important to ensure there was lots of opportunity for students to pause and reflect on the materials presented or the questions asked. In addition, the instructors believed in creating a safe place within the online classroom, where students felt welcome and felt like they could be successful, and a safe place to learn, explore, and make mistakes if they occurred. It was also important to think of the different learning styles that might exist and incorporate those. Faculty 7 stated,

> There's humor, there's music, there'll be, engagement from a video and a very educational kind of format, but with humor. So that there's always like a, the visual, spatial, bodily kinesthetic, there's getting up and moving. Can you go try this?... what the point of view of your aspect, or your point of view of an educational point?

However, teaching strategies also required structure for the nontraditional online learners. Having clear steps, consistent class development, connection from lesson to lesson, and outlining how the content taught connected directly to upcoming assignments, were some examples of an effective structure. Maintaining a consistent pattern within a class provided reassurance for students so they knew what to expect. Faculty cared that students felt reassured they could safely learn in an e-learning environment even if they had not experienced it before. Faculty 3 also

spoke about marking strategies and felt penalizing students for not adhering to a due date was not accurately measuring what students understood. “I don't ever take off marks for late stuff because I think if it's a 90% [assignment], but it just took them four more days, they still deserve the 90% or whatever.” Recognizing the need to remain true to curriculum while still providing opportunities for students to succeed is an important component for success for nontraditional e-learning students.

Instructor encouragement/support. Another subtheme identified in faculty responses under the theme of teaching presence was that of instructor encouragement/support. Almost all faculty interviewed addressed the need to encourage and support their e-learning students, in numerous different ways. Faculty 1 stated, “I think it helps them building confidence in me as an instructor as well,” showing a connection between students feeling safe, supported, and encouraged, and their confidence in their instructor. “This is the angle I will take: repetition, patience; I am trying to build a positive learning environment where it’s okay to say, ‘I don’t know.’” The faculty member alluded that this supportive relationship helped when difficult course content was challenging for students. A number of the instructors also referenced having a safe environment for students to learn in, not in the physical sense of safety, but rather the emotional and cognitive sense.

Faculty members also addressed their desire to be available to students as needed, and especially reaching out if it appeared students were struggling. If assignments were not submitted, sections of the course unopened, students were absent from live class, or other similar warning signs of struggle, instructors indicated they would reach out via messaging, emails, or phone calls to attempt to connect with the student to see if there was anything amiss. The

instructors all spoke of the willingness to meet in one-on-one opportunities with students, either face-to-face if possible, or by phone call, or in a virtual live classroom if not. While these observations and faculty actions required a great deal of time and awareness of the student presence, faculty members believed this time spent to be valuable. These proactive responses from faculty towards students, in the opinion of those faculty members interviewed, were important components to helping students along the path to success in the e-learning classroom and was supported by research. Rapport-building strategies and a connected instructor helps to increase student success (Glazier, 2016). Likewise, emotional learning helps to foster connection in the classroom and thus increased engagement (Bentz & Lazarveric, 2015). Instructor presence is crucial in many areas.

Course structure. Another subtheme faculty members shared was surrounding the structure of the online course learning platform and the course delivery. Faculty members felt that regardless of learning style, regardless of type of student, all students in the e-learning classrooms benefitted from structured learning platforms. Faculty 7 "[Structure] is every learning style. Somehow they always seem to like that for some reason." Comments such as "well-structured," "organized," "logical," "user-friendly," "easy to find," were among many references to the need for a structured and logical learning platform. Faculty 6 stated, "Moodle is a good learning platform as long as instructors take the time to build it in a way that suits students' needs. If it becomes a repository where there's so much information for the student to look at in the [course], it doesn't work." Faculty 2 also mentioned how they would prefer to see all online courses from the institution laid out in a similar fashion so that the location of information components existed in similar locations from course to course.

In addition, the interviewed faculty members also spoke about the course delivery. Faculty members felt structured delivery included students being aware of what daily lessons were comprised of, and daily or weekly reminders of what was coming up in the course. "This feels reassuring for them," stated Faculty 1. In addition, Faculty 5 also mentioned the need to build and deliver an online course addressing differing learning styles:

> We all learn from all of the areas of learning. I know some of us have strengths in one area over…different areas, so we may be a visual learner as opposed to an auditory learner, but we all employ all of those learning styles as students and as learners. So, what I try to do, is…to make sure that I give some balance to all of that as much as I can.

Providing an easy-to-navigate learning platform and a consistent, structured delivery helped establish student comfort in the e-learning environment. Hope (2017) concurred and found that when faculty used a consistent format for online courses, it eased navigation and contributed to better understanding of the course content. Providing understandable learning outcomes, due dates, and clear expectations, helped to foster the learning cohort (Hope, 2017).

Content/curriculum support. Also categorized into the theme of teaching presence was a subcategory of content/curriculum support. The interviewed faculty members felt that providing numerous different forms of learning supplements to their lessons was important for student success. While all of the faculty members interviewed had a daily live class via Blackboard Collaborate, they also included other methods of teaching similar concepts in the online platform. YouTube videos, other video recordings, supplemental readings, uploaded live class PowerPoints, glossary of terms, and review quizzes were some examples faculty shared regarding how they supported student learning. Faculty 5 added, "At the end of every lesson, I

give them questions to think about that night so that when they come back we can answer those questions [using polling].” Courses need to be constructed in ways that best help students learn (Hope, 2017). Furthermore, student satisfaction can increase when content is appropriately designed and supported (Boton & Gregory, 2015; Hope, 2017). In summary, teaching presence has definite impact on student engagement through content and curriculum support, course structure, active instructor, and through instructor encouragement and support (see Table Q4 and Figure 7).

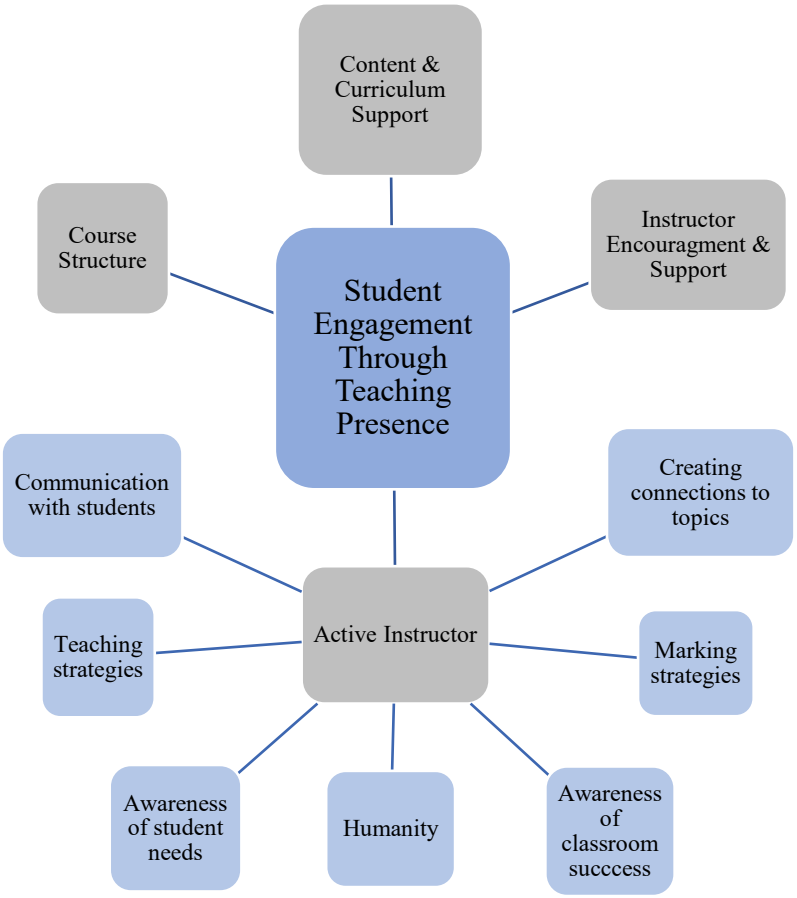

Figure 7. Theme: Teaching presence (from faculty interviews)

Meaningful learning. I used a second theme to code faculty responses, which was the theme of meaningful learning, and again I used further subcategories. Meaningful learning opportunities, according to Kearsley and Shneiderman (1998), occur when students are engaged through "interaction with others and meaningful tasks" (p. 20). Several subcategories were used to help organize faculty responses regarding meaningful learning, including gaining a wider perspective, supporting online learning, encouraging active participation, student development and connection to future goals, and peer engagement.

Gaining a wider perspective. Faculty members felt that nontraditional e-learning students engaged when they gained a wider or new perspective on something that they could connect to. Some examples that faculty members provided included taking "daily life concepts and going deeper into the theory" behind those concepts; "relating an example from the past to something currently occurring;" using "relevant and current examples from their daily experiences;" and connecting content to upcoming learning and work experiences. Faculty 3 stated, "I make it clear why I feel it's important for them to be doing this task," and also stated, "I try to pull in real life and show them how it's practical." In addition, faculty members also felt that providing review opportunities, including formative assessments or mock exams, could allow students to test their own knowledge and improve understanding before a summative assessment occurred. As well, providing diversified learning opportunities allowed students to demonstrate their knowledge in ways that they could connect with or felt comfortable in doing.

E-learning advantages. If students are unable to see themselves as e-learners, it becomes difficult to encourage their engagement. Faculty 5 felt it was very important to openly discuss with students the online learning environment and the perceptions surrounding this modality.

This faculty member felt that actively supporting online classrooms was important to encouraging students to engage. At the beginning of each semester, Faculty 5 provided data to students to demonstrate there is no significant difference between face-to-face learning versus online learning. The faculty member stated, “The data really does indicate that online delivery does not impede one's ability to get the grades that they can achieve. There's no negative relationship if you compare online delivery with face-to-face, our traditional learning style.” Faculty 5 also did a brainstorming activity with students discussing the positives of the modality. Students were able to generate their own ideas discussing the benefits of e-learning, including the ability to watch recorded classes if they were absent, and not miss material due to life circumstances. By self-generating this and other positives, students were more inclined to remain positive about the modality and recognize the advantage it provided to their own educational journey. Significant amounts of research have been done regarding the effectiveness of online learning compared to face-to-face learning; according to Nguyen (2015), over 90% of studies purported online learning as effective as traditional classrooms, though Nguyen (2015) also cautioned that some no-significant-difference studies lacked methodology rigor.

Other faculty responses regarding e-learning advantages for student engagement discussed accessibility and personal suitability for students. Most faculty members knew of students who enjoyed being able to do the course from home, at times that fit their schedules. Building course components, such as online quizzes, allowed students to complete them when it fit their schedule and increased the accessibility of the assessments, as did being able to submit assignments online as well. Almost all of faculty members interviewed spoke of students who worked full-time and accessed the recordings in the evenings, or worked day-time and attended

live, online evening classes. These options permitted students to keep jobs, be involved in the needs of their families (especially young families), and still pursue their educational goals because of the flexibility e-learning provided. Because of these flexible options, e-learning courses suited many students' personal learning needs, and thus encouraged their engagement because otherwise they may not have been able to attend.

Encouraging student active participation. The interviewed faculty members provided many comments regarding actively involving students in their e-learning classes. One of the challenges they identified with e-learning was that it was "even easier to put up a barrier" of not participating in class, thus it required active teaching strategies on their part to ensure meaningful learning would occur. Some examples provided by instructors included having a quiz or assignment scavenger hunt within the course or from the syllabus, which allowed students to practice using the online tools and demonstrate their skills at finding important course information. As well, practicing questions on the e-learning whiteboard, and having students state the steps to solving or providing the response via online polling features, got students involved in the lesson materials. Other strategies we discussed included asking students individually to contribute by naming them in class, or having students share their research with their peers. In addition, one faculty member had the students lead the material reviews, by allowing the students to choose which questions were most challenging and working through those in class. Actively working with students on practice quizzes and assignments were felt to be more productive and engaging than expecting students to do them on their own with no follow-up.

Providing concrete relatable analogies also helps students. Faculty 3 used an analogy quite often with students and stated, “I say, well, how do you learn to drive a car? Do you just watch somebody else do it all the time?....Like you have to practice and try it yourself. You can't just learn by watching.” Faculty 2 stated, “We do couple of practice problems where I've showed them the steps, then I'll put up blank problem …and elicit responses from the students. ‘Okay, what do I need to do first? What numbers are important to the question?’" Finally, faculty members also recognized the importance of trying different methods of questioning to engage students. Faculty 1 stated that if she asked students if they had any questions about the material covered, students were most often inclined to state “no.” But if the question were rephrased into “Is there anything you're having difficulties with that?”, then students were more likely to respond. Students might not feel they had a specific question but were more likely to share if they felt “they were struggling with a concept or with an exercise.” Alternate questioning strategies that students can relate to may assist them in expressing their struggles or needs.

Student development and connections to future goals. Interviewed faculty members also felt that meaningful learning occurred when students had opportunity to develop their knowledge about themselves, their own skills, and make connections with their future career goals. Faculty 7 actively discussed learning styles and made connections to the course content. This faculty member also worked with students to recognize various assessment styles and how students could learn to improve at those assessments using their skills or demonstrate their learning using personal strengths. Other instructors discussed how students could be motivated by their career goals and this could be harnessed in connecting with content. Students become interested in the next lessons and how they can take the materials forward when those career connections are

made. Faculty 2 cautioned, however, that a deep focus on a future career goal could also be detrimental to student engagement and spoke of "emotional engagement where they've got the frustration and the angst, if they don't get that target mark. So, and ironically, instead of engaging more, they might withdraw and do less because they're frustrated." Although emotionally engaged, frustration may be detrimental to student success.

Peer engagement. Several of the interviewed faculty felt that creating peer engagement was difficult in the e-learning modality. Most of these faculty could identify opportunities where engagement with peers could occur, such as interactions through discussion forums, or by using breakout rooms in the live classroom, or messaging and chatting with each other. Several of the faculty taught e-learning classes where students were all located near one of the study site's brick-and-mortar campuses and recognized there were student cohorts that could work with each other, face-to-face, if they got to know who the other students were. One faculty member encouraged students to visually identify whom they were in-class with by having them stand on cue in the room where the majority of that campus' online learners were accessing the course. Because no other students would have received the request to stand, this allowed campus-specific cohorts to learn who others were. This method, however, did not work if students were accessing from home. Other faculty discussed using admin supports to gather cohorts and introduce them to each other at the campus location. Two faculty members were surprised to learn that students at the same campus did not necessarily know who others at the same campus in the same course were, and realized these face-to-face relationships needed assistance in forming if they were to occur.

However, while faculty members could see the value in peer support and engagement, they had few strategies as to how to encourage it. Most relied on the online class itself, where students had opportunities to message each other in class, and respond to other students' answers or comments via the chatbox. Although faculty members were aware of breakout rooms where students could be placed into groups and work together in the virtual world, few faculty members used them as part of their class activities. Faculty 3 stated, "I'm still working on a little bit more of that [peer engagement] because I know some people don't like group work because, of course, there's always that one person that rides the coattails of others." All, however, agreed that having students connect with each other was important so that students did not feel alone in their learning. According to Serdyukov (2015), communication and collaboration among students is necessary to support an effective learning environment (see Table Q5 and Figure 8).

Cognitive presence. According to Garrison et al. (2000), cognitive presence is the extent to which students construct meaning in their learning environment. I coded a number of faculty responses under this theme, because faculty addressed active strategies to encourage student cognition and presence. During the interview process, some faculty shared their thoughts surrounding teaching active learning strategies, differing student characteristics, student personal experiences, and student e-learning presence, all of which I coded as subthemes.

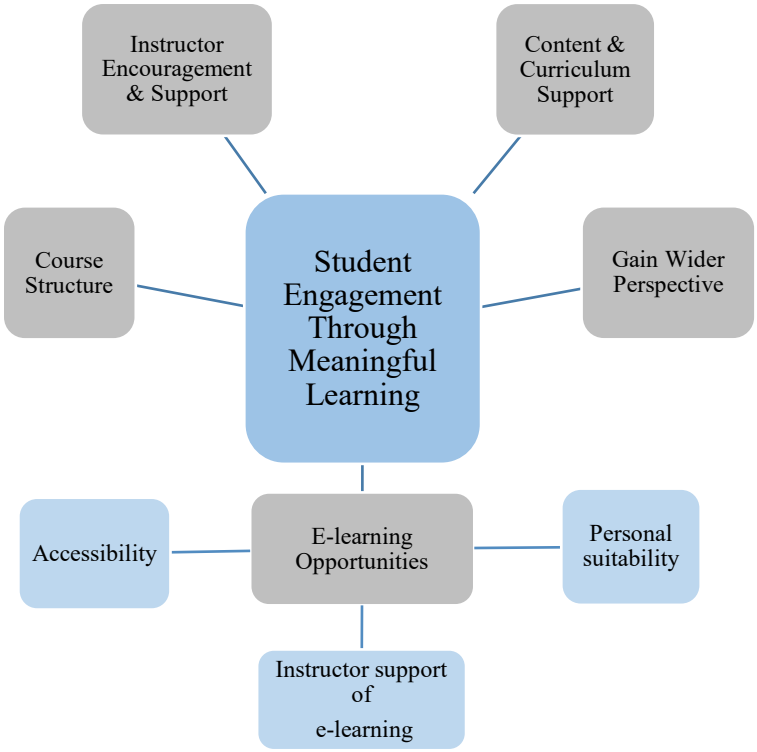

Figure 8. Theme: Meaningful learning (from faculty interviews).

Active learning strategies. Several of the interviewed faculty discussed their interactions with students regarding how to be learners in general. As noted earlier, one faculty member encouraged students to know their own learning styles, and thus their strengths, in order to use those strengths to become better learners. Another faculty member discussed showing students how to interpret questions, while several mentioned teaching students how to interpret multiple choice and other question styles. Faculty 2 told students that for every hour they spent in live class, they should spend at least that reviewing the supplemental content and textbook materials.

Two faculty, however, spoke of the challenge of knowing if students were cognitively present, and the ease with which students could disengage and disconnect. This was especially true if the material was challenging, and if the student was learning alone, at home. Faculty 1 explained, "I think it's even more true in an online setting, you're disconnecting yourself, distancing yourself from the classroom setting, especially if you're not feeling comfortable with the material." However, faculty members felt active teaching to promote active learning was still an effective strategy for cognitive engagement.

Student characteristics. Another subtheme that I used was that of student characteristics. Several faculty members spoke of student cognitive presence as related to the individual student. Student personal characteristics contributed to their cognitive presence within the course. Just as might occur in face-to-face classrooms, some of the e-learning students would work for hours outside of class to thoroughly learn materials. Other students, including some who struggled with understanding the materials, did not seem to engage with the course content outside of the live class time, and really needed to spend more time. Faculty 3 shared the frustration she felt when some students seemed to not pay attention or missed information regularly. "I've repeated it for the last two weeks at the beginning [of class], and it's listed in Moodle," but she added her hesitancy to get outwardly upset with this lack of student responsibility. "I want to say, well Geez, if you read the whatever…[but] I don't want to discourage the contact because I still want the contact [with the student asking for clarity]." Though frustrating, Faculty 3 felt it important to keep those feelings of frustration internal to avoid alienating a student. Stavredes (2011) concurred and stated the importance of maintaining neutral communications with e-learning students, not including personal thoughts or emotions.

Student personal experience. Faculty members shared many comments regarding the value of student experience and how that connected with cognitive presence. Whenever possible, these instructors connected course materials and theories to student personal experiences. Students became cognitively engaged if they recognized how material related to themselves and their experiences. Instructors' comments included "adults with experiences," "current events," "relevant to their lives," and real-world applications. Faculty 6 stated, "There's a lot of practicality to their job and their life. I think there's some courses ….that gives them a real chance to relate to who they are." Conaway and Zorn-Arnold (2016) concurred and stated that instructors can reframe student experiences as learning tools, connecting past experience with future learning. Furthermore, Conaway and Zorn-Arnold (2016) stated personal experience "…creates an aha! moment that leads to new insights from old information" (p. 3). Students retain information better when they understand why it is relevant and why it is directly related to their goals (Conaway & Zorn-Arnold, 2016). Sometimes it may seem challenging to connect course materials with student personal experience, because some courses lend themselves more naturally to student experience than others, as mentioned by Faculty 1. However, if an instructor can show a path of connection to a future goal, this may still be beneficial in engaging the student. Alternatively, building on previous success with content can also help.

Encouraging student presence. I coded responses into a final subtheme of faculty members encouraging student presence. Some of the faculty spoke about how they encouraged student presence using activities, behavior, or assignments. Several faculty had students write introductions to themselves or share information about themselves and their families in order to encourage connections with others in the class. One faculty member shared details of an

assignment that students would complete, then photograph, and upload the photo to the course so students could learn from each other and generate future ideas for themselves. Another faculty member discussed the importance of creating a safe environment in which students could develop their presence. If students felt they were required to attain perfection or feared saying the wrong things in class discussions, this would be problematic in encouraging their online presence. Students needed to feel safe in their learning environment in order to encourage their cognitive engagement and student presence. According to Stavredes (2011), first-year e-learning students often have low confidence in their ability to be successful in the online modality. The emotional stress of learning the environment, the content, and the technology, among other things, can be overwhelming and can be emotionally impactful (Stavredes, 2011). “Success raises efficacy,” stated Stavredes (2011, p. 64), thus structuring initial course activities to provide success can be effective (Stavredes, 2011). Safe environments, wherein students can be successful contrary to their fears, are important in encouraging their engagement. Thus, in summary, student engagement through cognitive presence can involve active learning strategies, student personal experiences, student characteristics, and student presence (see Table Q6 and Figure 9).

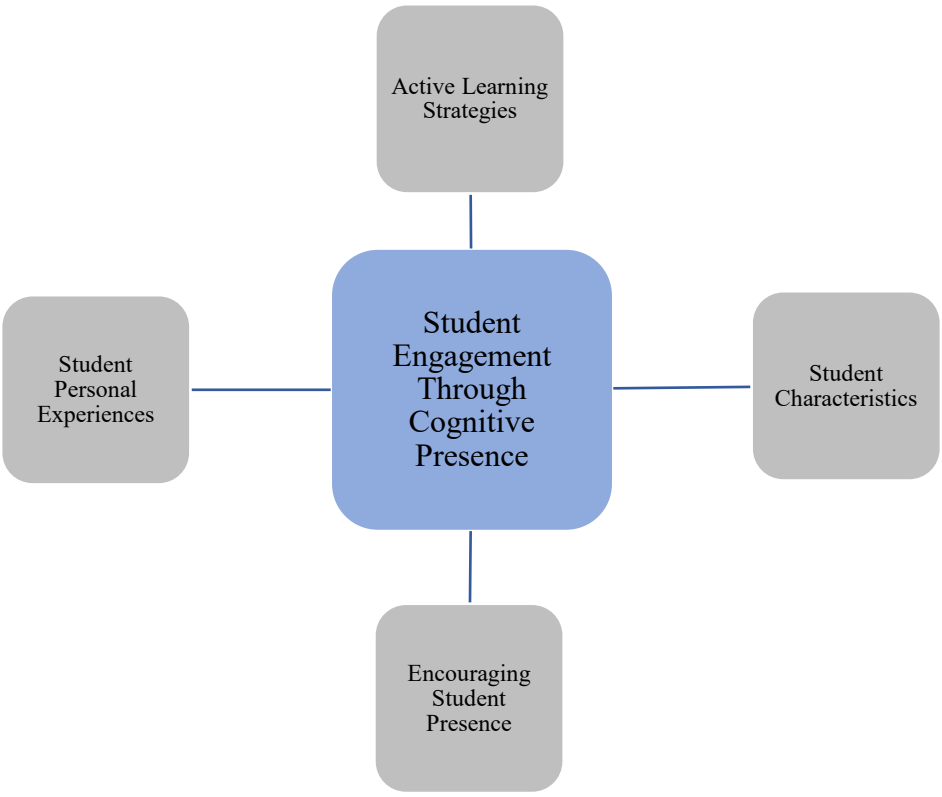

Figure 9. Theme: Cognitive presence (from faculty interviews).

Outliers. The faculty interviews also produced some responses related to student e-learning engagement, which I coded into a theme of outliers. Under this theme, I first used a subtheme of challenges experienced by faculty in the e-learning classroom modality. Instructors spoke of the challenges they experienced with student behavior, with connecting content to students, with technology in delivering, and with student technology challenges. I used a second subtheme under outliers of faculty personal development.

Challenges for e-learning faculty. Under the subtheme of challenges for e-learning faculty, I categorized comments into challenges with student behaviors, challenges connecting

content, challenges with technology, and student challenges with technology. Firstly, instructors spoke of their challenges with student behaviors that led to their perceptions of engagement issues. Some of the faculty mentioned the frustration they felt when students did not engage with material in a timely fashion. Because the e-learning courses were taught within a specific timeframe, when students failed to submit assignments on time, it could create frustration in the faculty with their students. Also, several of the instructors also discussed common behaviors such as late arrival into the live class. Possibly because of the accessibility of the class in a virtual setting, each semester faculty members would experience students who logged into class 10 to 15 minutes, or more, late, and then would ask questions that had already been addressed by the instructor before they attended. Faculty 1 spoke of addressing this challenge by not starting new material until at least 15 minutes into class, and instead reviewed previous materials for the first part of class. In addition, regarding challenging student behaviors, two faculty members spoke of frustration with the lack of responses that sometimes occurred when the faculty members asked questions of students to assess their understanding. One faculty member stated it was like "pulling teeth" while another wondered "Are they listening? Are they on Facebook? Am I boring them or are they confused? It gets really hard to gauge sometimes whether they're lost or they're just bored." The e-learning modality seemed to amplify problematic behaviors that instructors felt were easier to address in a face-to-face environment. In these observances, it could be that students are simply reluctant to participate, while others may have motivational issues regarding their learning. Stavredes (2011) discussed several different motivational issues students might display; it would be beneficial for faculty to consider these potential issues that may exist in order to help try to combat them.

One of the second challenges faculty shared was that of challenges surrounding the connecting of content to students. Although these instructors spoke of the importance of connecting content to students' personal experiences under the theme of meaningful learning, some of the interviewed faculty also addressed it as a challenge. Some of these faculty members felt some specific course content was difficult for students to connect to, yet it was necessary to meet learning outcomes or prepare for future learning. Faculty 1 stated, "There's a fine line between an example that talks to the students and an example that's completely fake." In addition, Faculty 1 stated, "The same tools don't necessarily have the same impact. That's the tough part of the job." Faculty 3 spoke of the challenge of developing an effective online course because of the number of components involved. Although one of the faculty members interviewed had an online course already developed before the faculty member started teaching it, the others built their courses as they were teaching over several semesters, and many of them had little experience with online course development strategies. Of benefit would be institutional support for training opportunities to online faculty that provides an example of the numerous components regarding engagement to be considered when building an e-learning course.

Another challenge faculty members shared was that of the challenges that sometimes occurred when teaching with technology or lack thereof. Though adequate technology existed at the delivery site, sometimes bandwidth at the receiving site was an issue for students, or sound problems might occur during the class, outside of the instructors' control. Sometimes internet outages or power outages occurred that could affect delivery as well as receiving. One faculty member also spoke of how the ease of technology accessibility potentially contributed to increased incidents of plagiarism.

A final challenge that faculty members addressed was that of students' difficulties with the technology. Several of the faculty mentioned learning to use the technology created lots of anxiety for students in the first two-weeks of class. Learning to scan and upload documents, learning how to use and retrieve messages, submitting assignments, remembering passwords, and learning where to access recordings of missed classes were some examples of regular challenges students faced at the beginning of classes and increased their anxiety. Faculty 1 stated, "Preconceptions are often the biggest barrier in any type of activity you might have. So 'I've never been good at computers' is something that like the, 'I've never been good at math.'" Faculty 1 also stated, "(Sometimes) I think it's almost impossible to help them figure out the technology without being face-to-face with them." Because online learning can be a very isolating experience, student frustration with learning to use the technology was not uncommon for first-year students. E-learning faculty definitely witnessed the students' heightened anxiety at the beginning of their online courses. A final comment shared by Faculty 3 addressed the number of online courses some students took. Spending most of a college day on computers in two, three, or four courses could be challenging, and "if the computer skills aren't there, that's gotta be doubly hard." Providing adequate online orientation opportunities for students, as well as initial opportunities for success, could aid with some of these challenges.

Faculty's personal development goals. The second theme I coded under outliers was that of the faculty members' personal goals regarding student engagement. Because the interviews were semistructured, faculty were able to share reflections that veered from the interview protocol. Though only a small number of responses were coded into this theme, faculty members generally felt they could continually improve their teaching strategies and techniques. Specific

comments included increasing student engagement with their peers, collaboration, seeking techniques to improve on-time assignment submission, including more online tools, collaboration, and finally community building.

The theme of outliers explored several areas that faculty shared due to the open-ended questions during the faculty interviews. In summary, the faculty shared thoughts regarding their personal development goals, and the challenges they felt teaching in the e-learning environment, including technology delivery, technology issues with students, student behavior challenges, and challenges connecting content (see Table Q7 and Figure 10).

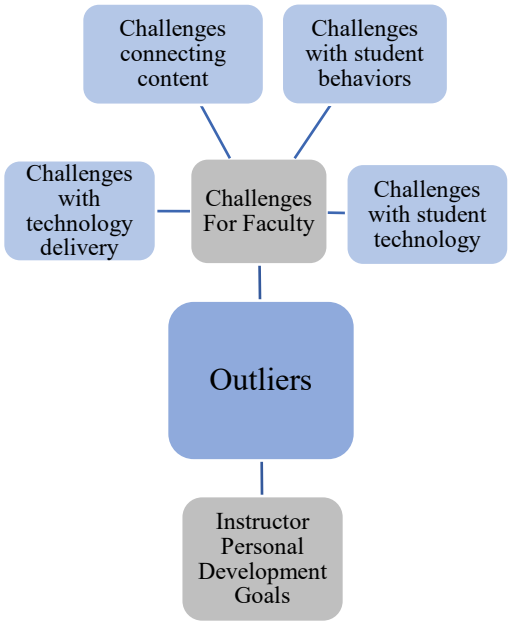

Figure 10. Theme: Outliers (from faculty interviews).

In summary, I designed Research Question 3 to determine faculty members' perceptions regarding nontraditional e-learning students' engagement. I coded instructors' responses during

the interviews into the themes of cognitive presence, teaching presence, meaningful learning, and outliers (see Figure 11).

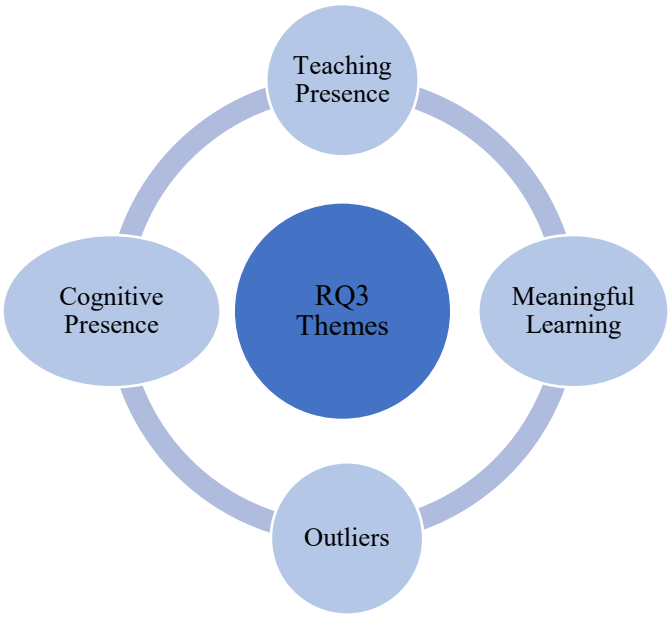

Figure 11. RQ3 Themes from faculty interviews.

Research Question 4. To answer RQ4, I used Question 26 in the student OSE used in this study (see Appendix E) and the last question set in the one-on-one interviews with faculty members (see Appendix O) to ask students and faculty about their thoughts on how to improve student engagement in the e-learning modality. Student and faculty responses provided some rich suggestions as to their perceptions regarding improving online student engagement. Some of the student responses, however, demonstrated their lack of desire to be online learners, which could prove to be a challenge for the instructors who try to engage them in the online courses.

Student qualitative data analysis OSE Question 26. OSE Question 26 asked students to share suggestions they had for improving their online learning experience (see Appendix E). Students were asked to share ideas or strategies they would like to see incorporated in all e-

learning courses (see Table Q8), strategies or ideas they had about personal development for themselves to improve their e-learning engagement (see Table Q9) and any final thoughts they wanted to share (see Table Q10).

OSE Question 26a. The OSE Question 26a asked students to identify what tools, strategies, or assignments students felt could be added, or removed, from e-learning courses to encourage students to feel more involved in their learning (see Appendix E). I coded student responses into four themes: social presence, teaching presence (see Garrison et al., 2000), meaningful learning (see Kearsley & Shneiderman, 1998) and outliers. What became clear upon data analysis was that a number of student respondents did not identify themselves as online learners. I coded these responses into the theme of social presence (see Garrison et al., 2000). Of the comments shared, 22% indicated students felt involvement in their learning would improve if they had face-to-face involvement with their instructors. One student stated, "Classroom instruction, yes I said it, as in blackboard and a person to person. Field trips, nature walks…" which suggested for this student, learning opportunities should involve more than content knowledge acquisition. Another student stated, "For me, if we didn't have an online instructor, I think it'll be better," and yet another stated, "I find it hard doing online classes so I would rather get taught face-to-face." Although it is likely these students were acquiring knowledge in their courses, because the surveys were completed towards the end of semester and these students had not dropped out, it became evident that a number of respondents were not enjoying the online forum or that they found it challenging. Their suggestions focused on face-to-face interaction or teaching. In courses where online is the only option, these responses would suggest that some students amongst the cohort will struggle to become engaged if they are unable to see themselves

as online learners. For the respondents in this study, their lack of engagement, of course, could have been due to numerous factors, including isolation, the difficulty or perceived relevance of the course content, their interaction with the instructor, and their overall success experience.

Stavredes (2011) cited Bender and Ditmarr (2006) and discussed student motivational issues by learner type, including "arrogant, careless, delinquent, disjointed, irresponsible, overachiever, stubborn, surprised, unmotivated, and unskilled" (p. 217). Stavredes (2011) provided potential solutions in attempting to address these issues, and her examples could be built into a learning opportunity for e-learning faculty. In addition, applying Maslow's (1987) hierarchy of needs theory would suggest that e-learning students would have a harder time learning if they did not feel they were in a safe learning environment. Stavredes (2011) noted providing students with opportunities to be successful early in the course, to allow an opportunity to adjust to the e-learning environment and course expectations, would be greatly beneficial. Encouraging students who initially see themselves as non-e-learners to instead see themselves as experiencing success in the e-learning environment would benefit their engagement and potentially retention and success rates.

I used a second theme when coding student responses to Questions 26a of teaching presence (see Garrison et al., 2000), which comprised of 44% of the student responses. I further categorized these responses into subthemes of teaching skills, content support, and technology support/inclusion. Regarding the subtheme of teaching skills, several students provided comments directed at the course instructor. One student suggested that a different instructor for that course would be an improvement, because the "instructor was very dry with everything and made it very hard to actually get into class." Other students shared teaching strategy tips, such as

"less word-for-word reading from the text," being prepared, and breaking up verbal instruction with periodic video, discussion, or other techniques. One student stated, "It would be nice if the instructors actually prepared the course instead of just reading through everything. However, this was the best instructor I have had so far." Instructors also need to be engaged in the material that they are teaching; otherwise, it is less likely for students to engage with that content. While synchronous lectures are intended to enhance the online course, death-by-PowerPoint is an equally likely outcome for students if instructors simply read their presentations word-for-word. Best-practices for teaching suggest that approximately every 20 minutes, instructors should change the activity in order to avoid students' loss of focus or involvement. Opportunities for faculty members to explore professional development in e-learning teaching would be beneficial given that all faculty can benefit from learning opportunities.

I used a second subtheme under teaching presence of content support. A few students shared examples of how instructors might better support their course content. Suggestions given by students included diagrams, sample problems and solutions to elaborate content, exemplars for questions, and clearer slides with options to print. These techniques would likely be beneficial for all students because they enhance students' learning opportunities. Scaffolding content and learning materials helps students better manage course concepts and aids in motivation (Stavredes, 2011). Furthermore, employing universal design for learning (UDL) strategies in the online modality, where a variety of formats are made available for all students, can be beneficial for all students with a variety of learning styles and needs (Dell, Dell, & Blackwell, 2015).

I also coded student responses to Question 26a to teaching presence under a third subtheme of technology support/inclusion. Several students provided suggestions regarding the use of course technology. One student felt that it was learning to use the technology itself that was the biggest hurdle, and another suggested additional computer training would be helpful. Another student suggested applying the technological capabilities of the online course so that it could automatically grade assignment submissions and eliminating paper-based exams. A further suggestion was the use of engaging tools such as Kahoot! Using Kahoot!, or a similar technological tool, could be incorporated into live synchronous online class and could be effective in engaging students, assessing for understanding, and changing activities within the teaching period.

I used another theme to code student responses to OSE Question 26a of meaningful learning (see Kearsley & Shneiderman, 1998). It comprised 11% of student responses. Though the responses were few, students provided suggestions that easily aligned with Kearsley and Shneiderman's (1998) engagement theory. Increased peer engagement opportunities, such as group activities, opportunities to chat and meet with other students, and practical learning opportunities were examples of what students felt could improve their learning engagement in their courses. In online courses, geographical distance between students might prove difficult to encourage face-to-face physical interaction; however, technology tools such as chat rooms, Collaborate or other live classrooms, Skype, and similar technologies can become opportunities instructors employ to provide peer engagement opportunities. Regarding applied learning, Kearsley and Shneiderman (1998) stated that students become more involved in their learning when it has direct meaning.

The final theme I used to code student responses to OSE Question 26a was the theme of outliers. In the comments, which made up 22% of comments overall, students either had no suggestions, for example "I don't know," or felt they were satisfied with the course and its delivery.

In summary, students' suggestions to potentially increase their engagement included comments on social presence, specifically students identifying as non-e-learners; teaching presence including teaching skills, content support, and technology support/inclusion; and meaningful learning, including peer engagement opportunities or group activities, and practical learning (see Table Q8 and Figure 12).

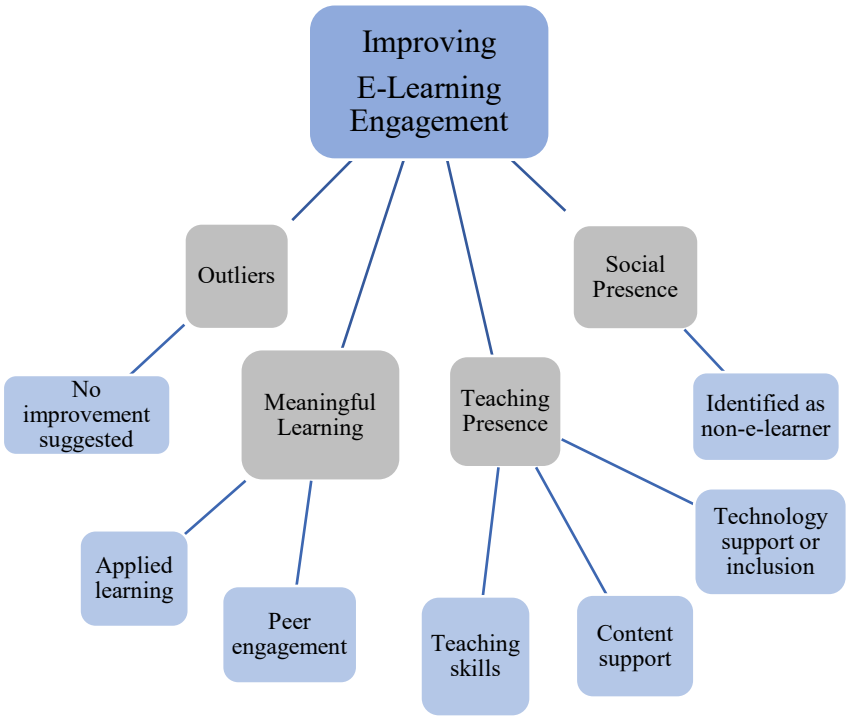

Figure 12. Themes from student OSE Question 26a: Improving e-learning engagement.

OSE Question 26b. Using the OSE Question 26b, I asked students to share strategies or ideas about personal development to improve their e-learning engagement (see Appendix E). Students had the opportunity to reflect on their learning to consider what personal strategies might help them become more engaged, stronger e-learners. Several themes emerged, including cognitive presence, meaningful learning and outliers (see Garrison et al., 2000; Kearsley & Shneiderman, 1998). Not all students provided observations, however.

Under the theme of cognitive presence, which made up 35% of the comments, I coded student responses where students demonstrated an understanding of their time management skills, their personal health and wellness, and their personal skills. Students were aware of general strategies they could apply regarding learning but not specific to e-learning. Under the theme of meaningful learning, which made up 22% of the comments, I coded student responses as active participation, change in perception, instructor/college support, and peer engagement. Again, most students identified general strategies that could be applied to all learning and not just specifically to e-learning. One student, however, did comment on his or her own perception of e-learning. The student stated, "I know Im (sic) going to have to try to be successful with the online course because I don't think they will change that." The final theme I used was that of outliers, 43% of the responses. Several students provided statements of uncertainty as to what they might work on regarding their own skills, or they felt satisfied with their own skills and efforts.

In summary, many of the identified comments were outside of the instructors' control. However, the institution could employ strategies to assist students with self-development of skills might include increased promotion of college student support systems. Staff working in

Student Learning Services or other areas may need to increase the promotion of their services that could enable students to develop skills, but these services should also be available in the virtual world for e-learning students (see Table Q9 and Figure 13).

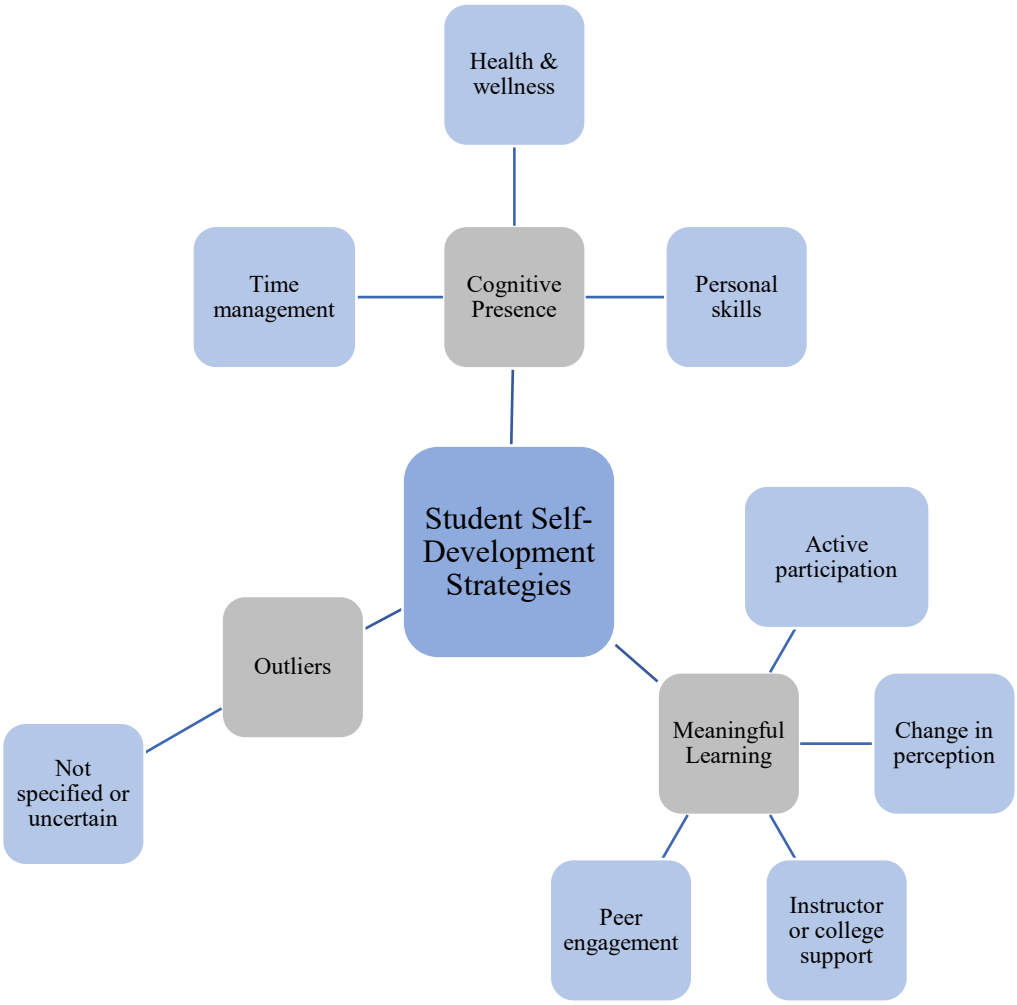

Figure 13. Themes from student OSE Question 26b: Student self-development strategies.

OSE Question 26c. In OSE Question 26c, I asked students to provide any further comments about being engaged in their online courses (see Appendix E). Again, I used several themes to categorize student responses, including social presence (12%), cognitive presence (21%), teaching presence (12%), meaningful learning (12%) and outliers (43%) (see Garrison et

al., 2000; Kearsley & Shneiderman, 1998). Under social presence, again the responses were from students who identified as non-e-learners. Under cognitive presence, I coded responses as either satisfied with their online experiences or other dissatisfied with their experiences. Under teaching presence, I coded responses where students commented on the instructors' classroom approach. One student stated, "because we cannot see or hear each (only see/hear the instructor), if the instructor doesn't encourage interaction, it can feel like you are just watching a prerecorded video, which is must less interesting and interactive than a typical class would be." Another student stated, "The online courses are good. I just prefer to be in the same room as the teacher so that way questions aren't missed, and answers can be heard and answered faster." Instructors have to be very careful to ensure questions are not missed via the chatbox in an online setting.

Under meaningful learning, I coded comments that addressed the technology or the accessibility of online learning. One student commented, "The online course is the best way forward. It reduces the cost to students and teachers both monetarily and environmentally. It gives the freedom….to rewatch a class from beginning to end repeatedly if needed. I really enjoyed learning this way." Finally, under the theme of outliers, all of the comments indicated students had no further comments to add (see Table Q10 and Figure 14).

Faculty qualitative interview final thoughts. At the end of the qualitative semistructured interviews, during the final question set, faculty members had the opportunity to provide suggestions regarding their perceptions of improving student engagement in e-learning courses (see Appendix O). I used the questions to determine faculty members' perceptions regarding what strategies, tools or content should be included in e-learning courses to increase student engagement; their perceptions regarding what students might consider most important in

encouraging students to learn more; and their perceptions about what they might like to change about the course or delivery methods to increase students' engagement. I coded faculty responses into several themes, including social presence, teaching presence, institutional presence, meaningful learning, and outliers.

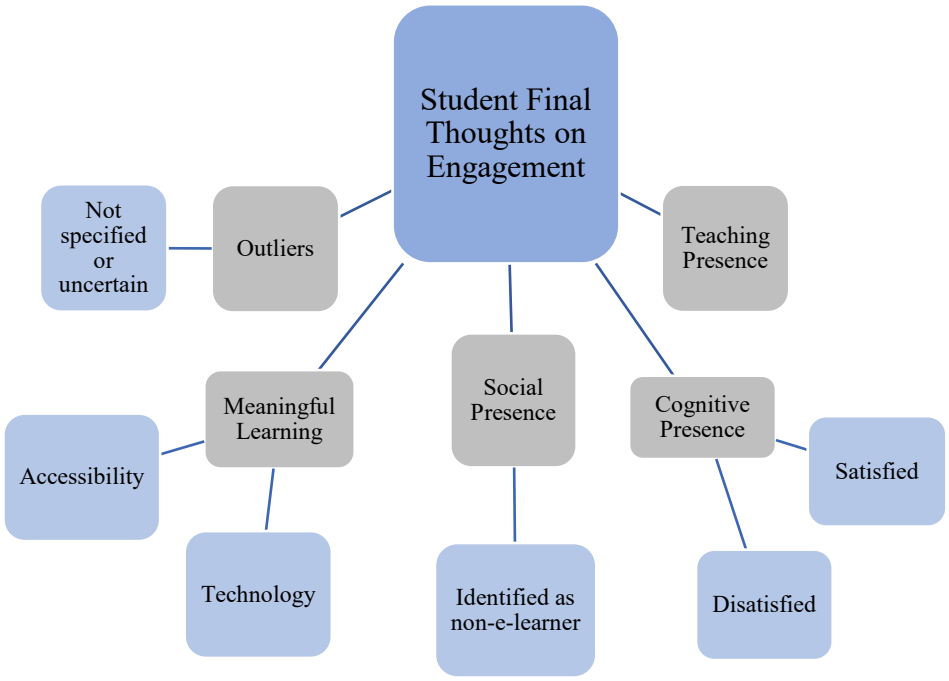

Figure 14. Themes from student OSE Question 26c: Student final thoughts.

Social presence. Under the theme of social presence, I coded faculty comments that addressed their thoughts on directly engaging students as individuals in the learning environment. Speaking directly to students, calling them by name, encouraging students to share

their perspectives and feel like they contribute are strategies these faculty identified. As one faculty member stated, “the experience must be one in which…(the student) feels welcome.” While social presence is identified as an important component of Garrison et al.’s (2000) CoI model, feeling welcome, or belonging, is also an important component of Maslow’s hierarchy of needs theory. Maslow stated individuals “…desire to be a practicing, functioning, accepted member of a group…” (1958, p. 35). Because e-learning can feel like an isolating experience, it is necessary to make the experience as welcoming and as community-like as possible.

Teaching presence. When faculty provided their perceptions of improving e-learning student engagement and e-learning courses, they shared numerous comments and suggestions that I coded into teaching presence (see Garrison et al., 2000). The theme of teaching presence made up 47% of all comments faculty members shared regarding suggested improvements or strategies. I further coded their observations into several subthemes. One of the subthemes under teaching presence was that of the teaching persona. Several faculty members shared their desire to enhance their teaching persona and provided recommendations to other e-learning faculty regarding their teaching persona. Demonstrating humanity as an instructor, having a friendly and nonmonotone teaching voice, interacting with students in the e-learning classroom, posting and honouring office hours, and being approachable were some of the suggestions shared. Faculty 1 also shared a personal plan to create a welcome video for students to embed in the e-learning course rather than a text-based welcome. As noted by Glazier (2016), much of the responsibility in building online relationships rests with the instructor, and relationship building must be ongoing. Welcome videos, weekly messages regarding what students can expect, extensive

feedback on assignments, and personal emails were additional suggestions Glazier (2016) provided to help build rapport.

A second subtheme under teaching presence was teaching strategies. Two faculty members shared suggestions regarding teaching presence in the online live classroom. Faulty 4 shared the importance of ensuring students received enough live teaching time for their course content. This would involve institutional presence, however, in that workload are assigned to faculty members and faculty members might not be consulted in what they feel to be an adequate amount of live teaching time to support the challenges of the course. Faculty 7 shared the importance of the cautionary use of the camera during live class. Faculty 7 suggested there were benefits as well as drawbacks to using the camera to share video of students during live class. Faculty 7 felt that while the current generation of students is very familiar with sharing photos and video of themselves in online social media which may be an engagement technique, it can also add to their insecurities, because they might pay more attention to their on-camera personality than the live course content. Faculty 7 also shared the reminder that it was important to break periodically during a live lecture. In a face-to-face classroom, it was easier to see and read body language regarding student engagement or boredom, but this was challenging in the online classroom.

A third subtheme I used under teaching presence was course structure. Faculty 6 felt it was important the faculty who build on-line courses be given a formula, or a set of best practices, to build the course. Faculty 6 felt this would help produce e-learning courses to best support students in their learning.

Another subtheme used under teaching presence was content/curriculum support. Both Faculty 1 and Faculty 2 commented that curriculum content itself really could not change but methods of supporting the curriculum could be adapted. Both Faculty 1 and Faculty 2 also mentioned adding videos to support students with challenging content outside of the live class time. Other suggestions shared by participants to support curriculum or content were using open-source textbooks, adding colour to visuals, and providing a course on PowerPoint best-practices for instructors to improve their classroom PowerPoints.

An additional subtheme was that of student support. The interviewed instructors also provided a number of suggestions: reaching out to students whom they noticed had not logged into the course for a few days; shifting viewpoints to be more collaborative with learners rather than authoritarian; showing acceptance, caring, and empathy towards students; admitting when mistakes are made by the faculty member; apologizing if emails or messages were accidently missed; providing direction to students as needed; and assessing students that accurately measures what they've learned.

A final subtheme under teaching presence was that of peer engagement. Faculty 7 shared the desire to add more course projects that had e-learning students work with each other to increase their engagement. Faculty 7 felt that having students work together would also provide the students an opportunity to share their online experiences and challenges, helping student realize that they were not alone in what they might be feeling. Teaching presence is an important component of e-learning given that it is directly impactful on both student cognitive presence and social presence (Garrison, Cleveland-Innes, & Fung, 2010; Hope, 2017). Besides teaching presence, I used the theme of institutional presence to code responses.

Institutional presence. Although neither part of Garrison et al.'s (2000) CoI, nor Kearsley and Shneiderman's (1998) student engagement theory, I again used a theme of institutional presence to code some of the faculty responses to RQ4. Faculty provided some excellent examples of how to actively increase support for students in the e-learning modality that required assistance from the institution. One example included having a staff member readily available to physically show students how to use the online technology and tools (for example scanning documents or using the online message system), if needed. Faculty 3 stated "I think if they're coming back to school and they haven't experienced success and suddenly there's all these, it's a roadblock that's out of their control if they don't have anybody there to help." Faculty 6 also addressed technology support from the institution, and suggested, "I think there should be a video on how easy it is to use right on a college website so that students, when they're checking out our program, can click on and see what technology does even before they get in." Faculty 4 added a suggestion regarding instructors travelling to students, if possible, which would also require institutional support. Faculty 4 felt that when possible, supporting instructors to travel and meet students would additionally support student engagement.

Meaningful learning. In their recommendations for improving student engagement in e-learning, faculty members shared numerous comments that I coded into meaningful learning (see Kearsley & Shneiderman, 1998). While comments and perceptions were not as numerous under this theme in comparison to the theme of teaching presence, this theme comprised of 27% of faculty members' observations. I coded responses into several subthemes including online orientation course, connection to student personal experience, connection to student future goals, student participation, and experiential learning.

Several faculty members suggested students should have the opportunity to access an online orientation course to the use of the learning management system and the live class technology. However, rather than students merely watching a PowerPoint presentation on how to use the technology, instructors felt that a hands-on opportunity to practice the necessary skills and use of tools ahead of time would be beneficial. Faculty felt that learning the necessary skills ahead of time would be most beneficial for students. For students, developing the necessary technological skills during the semester could create increased anxiety for first-year e-learning students. In addition, having readily available support once the course started, as mentioned earlier, would help alleviate frustrations experienced with the technology during the first couple weeks. According to Stavredes (2011), when students lack confidence or experience in the e-learning modality, it can lead to increased anxiety and impact their ability to succeed.

Another subtheme under meaningful learning was connection to student experience. Faculty 5 felt that student engagement increased if the materials and assignments were applicable to student lives. A related subtheme was connection to student future goals. Faculty 5 also felt that if students were able to see how the materials connected to their future goals and to the next level of courses, this was beneficial in increasing student engagement. Connecting students' personal experiences, to course content, to future experience, or goals could have an impact on student engagement (Hope, 2017; Stavredes, 2011). Meaningful learning is an important component for student engagement.

I coded several suggestions by faculty into a subtheme of experiential learning. For example, Faculty 3 shared a suggestion of providing an engaging, easy-to-complete scavenger-hunt or similar activity at the beginning of the course. Such an activity could involve having

students to perform several actions in the online course that contributed to their understanding of where to find things, having them learn proper document-saving or finding dates for midterm and other assessments. Faculty 3 felt such an activity would encourage students to be more responsible for their knowledge of the course classroom rather than relying continually on the instructor to repeat over and over the same information. Other faculty members wanted to include more opportunities for hands-on learning, such as science labs or using manipulatives; faculty felt these could provide additional opportunities to learn and would get students more involved; however, as Faculty 1 commented, this would take some consideration as to how these suggestions might become viable in an online course setting.

The final theme I used to code faculty responses regarding improving e-learning was outliers. Under outliers, again I used several subthemes, including external influences, student personal suitability, technology limitations, and instructor self-development. Faculty 2 shared suggestions that students might consider such as their learning environment at home (free from distractions) and their health and wellbeing (proper nutrition and sleep). Faculty 2 felt these outside influences could interfere in student engagement and were important considerations for students. Faculty 1 felt that personal suitability for e-learning courses could significantly interfere with engagement. Students with negative perceptions regarding e-learning might possibly need some face-to-face interaction opportunities to help change their perceptions about learning by this modality. Other faculty members commented on the limitations of the technology that could hinder communication or learning. If students had the opportunity to ask a question verbally during class, rather than via the chat box, this might be helpful for some; in addition, the live class did not necessarily work on all types of learning devices which affected

how and when students could access. And finally, Faculty 5 believed that increasing student engagement was a personal responsibility, and Faculty 5 became determined to increase her self-knowledge and understanding of how course improvements could be made.

In summary, faculty members' final thoughts on improving e-learning engagement included their perspectives on engagement through teaching presence, institutional presence, student social presence, meaningful learning, and outliers (see Table Q11 and Figure 15).

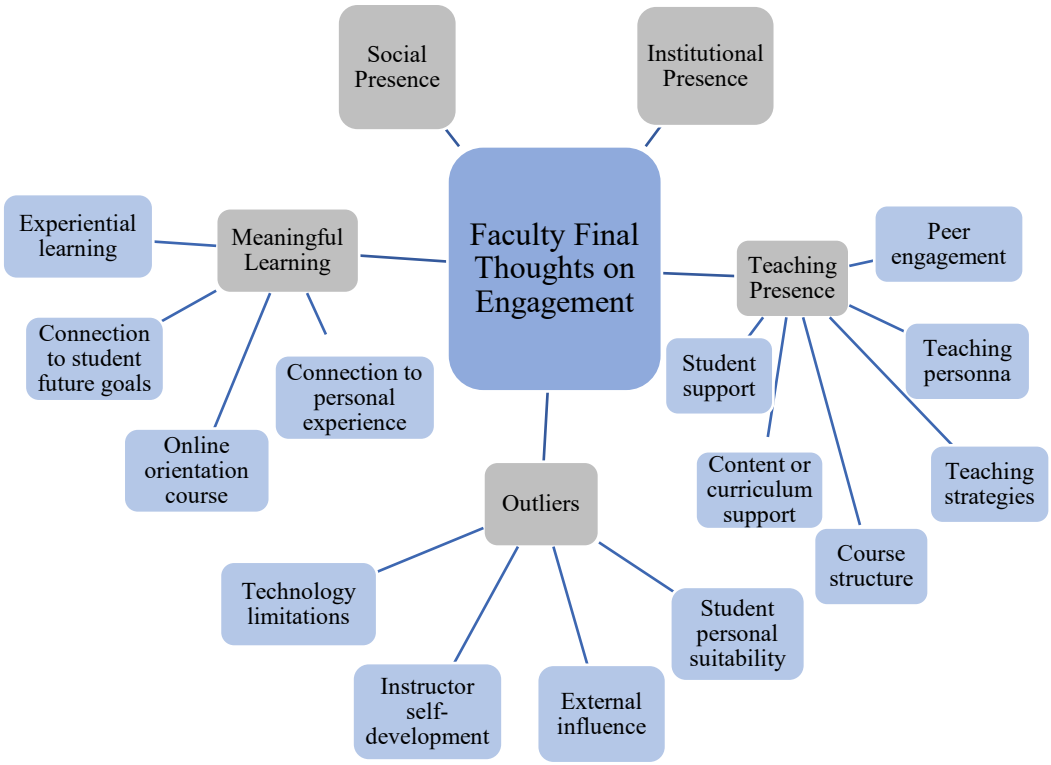

Figure 15. Themes from faculty final thoughts: Strategies for increasing student engagement.

Data Integration

In an explanatory sequential methods design, quantitative data collection is completed first, followed by qualitative data collection exploring a few typical results (Creswell, 2012). This design is a popular method to obtain information in educational research (Creswell, 2012). Quantitative results produce a general picture while qualitative analysis refines and extends the understanding (Creswell, 2012). The advantage of this design over a convergent design is that integration between two different forms of data need not occur (Creswell, 2012). The disadvantage, however, is the time required and the need for expertise in collecting both forms of data (Creswell, 2012). Through quantitative and qualitative data analysis, this study provided a more detailed understanding of what teaching and learning strategies contribute to behavioral, emotional, and cognitive e-learning engagement for first-year, nontraditional students in the hope of generating strategies for increasing student engagement and successful completion. I used three data sources: (a) OSE student survey quantitative data, (b) OSE student surveys qualitative data, and (b) faculty individual qualitative interviews.

Summary of observations. From the data analyses, several opportunities exist for potentially improving nontraditional student e-learning engagement. By using the OSE (Dixson, 2010, 2015) and using Kendall's tau-*b* to observe if associations existed between engagement strategies and students' perceptions of their engagement, my observations were that opportunities existed for more purposeful online course design and facilitation. Reviewing the strategies where no association to low association occurred, and purposely adding to course strategies with these in mind, could provide better engagement opportunities. For example, although it appeared student responses did not demonstrate an association between social activities with others and

their engagement self-assessment, social activities could be an area where instructors target strategies. Students may not be able to identify online social activities as engaging if they did not experience these activities. Engaging in purposeful online conversations (for example, discussion boards) and targeting strategies for students to get to know other students in the online class may provide increased engagement. Furthermore, providing opportunities for students to make the course content more interesting, for example by providing real-world examples, or providing multiple opportunities for assessment to increase students' desire to get to know materials very well, may also see engagement increase.

In addition, reinforcing moderate association engagement strategies could strengthen courses where these might minimally exist. Providing guided examples of how to look over course notes between classes, for example, instructors sharing summary notes, with interactive quizzing or games, may encourage those students who do not regularly practice this moderate association strategy to become more engaged in their learning.

Then, from the students' qualitative responses, several opportunities exist. Firstly, it became evident that several students saw themselves as non-e-learners. Students who are unable to see themselves as e-learners will likely not engage as their emotional/psychological needs might not be met (Maslow, 1987). Demonstrating how technology could be used successfully, perhaps with some student testimonials on the college website, could encourage those students prior to enrollment. Providing a well-developed, hands-on orientation class before students could help them feel more confident in their technological skills and alleviate some of their fears. As well, providing early success opportunities once the courses begin could also assist engaging these self-perceived, non-e-learners and increase their self-confidence (Maslow, 1987; Stavredes,

2011). Additional institutional supports could be addressed by providing best-practice training for staff who might encounter student questions outside of class time.

Another important opportunity exists in reviewing online course structures using a formula or a set of best practices. Ensuring similarities in structure between courses, navigation ease, and simplified locations for need-to-know information would be helpful for all students (Hope, 2017). Further to structure, enhancing course content opportunities may also exist. Though the content of some online courses may be more challenging for instructors to create relevant personal connections for students, continually demonstrating how content connects to future goals through visuals of skills progression or other techniques may increase engagement. In addition, opportunities for students to increase their grades or skills through multiple quiz attempts or bonus assignments could aid to increase students' perceptions of their engagement experience.

Additionally, instructor presence and peer engagement were areas that could see gains towards increasing nontraditional student engagement. Possibly designing assignments to encourage effective student engagement with instructors and peers, and reviewing best-practices in online teaching strategies, could be beneficial. It appeared when students felt disengaged from their instructor, they focused more on this lack of engagement; however, if they felt engaged, they were more likely to feel supported and to positively identify engaging content and assignment components. Though many students observed the lack of peer engagement when they responded, students did not overwhelmingly comment on the lack of peer engagement; instructors saw value in peer engagement but felt they themselves lacked understanding of how to effectively increase peer engagement. Researchers demonstrated that increasing supportive

online communities and interpersonal relationships decreased feelings of isolation, increased students' performance, grades, interpersonal communication, and increased students' willingness to support others (Chang, 2012; d'Alession et al., 2019; Dilling, 2019; Hope, 2017). Classrooms that function as neighborhoods help address the human need for belonging and support, positively impacting self-esteem, engagement, and success (Maslow, 1987).

Likewise, an opportunity may exist in providing faculty a better understanding of student motivation. When faculty have a better understanding of common, challenging student behaviors, faculty might gain tools to deal with challenging behaviors in ways that do not impact engagement (Stavredes, 2011). Finally, data analysis demonstrated there may be opportunities to increase nontraditional student engagement through self-development opportunities. Promoting college supports virtually and on-campus could be of benefit.

Considering data integration from the results of my mixed-methods study allowed me to step back and see the interconnection between OSE association results, student open-ended survey results, and faculty interview results. Targeting one area, for example the no association identified with getting to know other students or online conversations, can impact other results; utilizing discussion forums that integrate course content with individual experience, for example, may lead to increased knowledge, perspectives, and familiarity with others; students could be applying materials to their own lives (moderate association), decrease feelings of isolation, increase perceptions of an online community, and increase self-esteem because of their ability to create personal connections. Data integration allows for a much deeper and broader understanding of the interconnection between engagement strategies and student/student/instructor/course/institution relationships (see Figure 16).

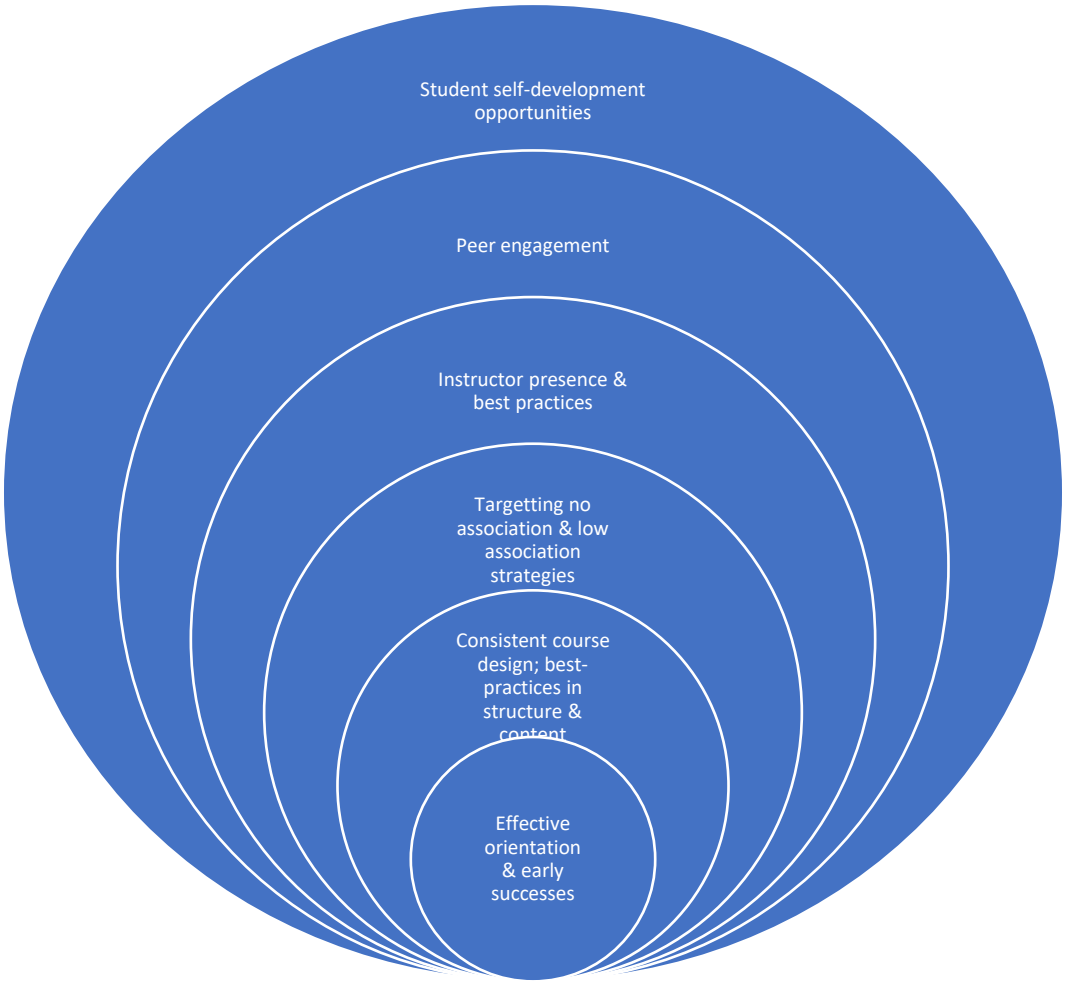

Figure 16. Summary of observations: Areas for improvement.

Conclusion

In Section 2, I outlined the methodology used in this mixed methods study of first-year, nontraditional e-learning engagement. Thirty-five students responded to the OSE invitations, 31students completed the surveys, and seven faculty participated in the one-on-one interview. I gathered and analyzed data, and I presented associations, themes, findings and conclusions. To complete the analysis, I used Garrison et al.'s (2000) CoI theory and Kearsley and Shneiderman's (1998) student engagement theory. During the data analysis, however, I also was

able to see connections to Maslow's (1987) theory of human needs, especially in the need for students to believe they are able to learn in the e-learning modality. I presented OSE quantitative data analysis in narrative format, created association tables for each association analyzed in Appendix P, and provided association summary tables within the discussion. Then I presented the summary of each engagement strategy in tables following the results discussion. I further presented the OSE qualitative findings and faculty interview qualitative findings in tables (see Appendix Q) and figures within the discussion. The findings indicate an opportunity for improvement in student engagement discussing online teaching strategies and a better online orientation for students prior to entering the courses. Section 3 outlines the project best-suited for the results of this study and the study site, a 3-day professional development opportunity.

Section 3: The Project

From the doctoral study results, by analyzing the resulting student data from the OSE surveys and the open-ended question responses and analyzing the resulting data from the one-on-one faculty interviews, I determined that a professional development opportunity would be beneficial for e-learning practitioners at the local site. I will also present a short workshop on institutional presence for institution decision-makers as a component of the professional development. I used the resulting data observations to develop the 3-day workshop to convey the results of the study to inform of areas for enhancement and to provide opportunity for e-learning faculty to participate in a community of learning. According to Darling-Hammond, Hyler, and Gardner (2017), professional development opportunities in postsecondary are most often undertaken to share research results, provide information regarding scholarly practices, and ultimately to improve student outcomes. Thus, providing a professional development opportunity was a logical choice.

Professional Development Experience

Goals of the Professional Development

As a result of the study data analyses, the goals of the professional development project are (a) to provide a better understanding for college decision-makers of the institutional support needed by first-year, nontraditional e-learning students; (b) to increase institutional understanding of the need for improved e-learning orientation and introduction to e-learning success for first-year, nontraditional e-learning students; (c) to provide e-learning faculty examples of research-based best-practices in e-learning course design, tool integration, and facilitation; (d) to provide e-learning faculty opportunity to collaborate with peers; (e) to provide

e-learning faculty opportunities for hands-on application of theory and study results recommendations; (f) to integrate ideas for improving student social presence and instructor presence in e-learning courses; (g) to develop ideas for e-learning student self-development; (h) and to share study results. These goals aligned with Darling-Hammond et al.'s (2017) observations regarding professional development's purpose, including sharing study results, informing practice, and improving student outcomes. Thus, designing the professional development experience with the eight outcomes should provide an outcome-focused approach. However, Darling-Hammond et al. cautioned that the form and content of professional development is what matters; content must focus on those practices that actually positively impact student learning. Thus, the design of the professional development experience requires important considerations.

Audience and Facilitators

The audience for one module of the professional development is college decision-makers, while the audience for the majority of the professional development is all e-learning faculty within the study site. These faculty members range from relatively inexperienced e-learning instructors to those who have taught in this modality for over 10 years. According to the National Research Council (2007), "Differing teachers have differing needs" (p. 11). However, the National Research Council also emphasized that new ideas, technological tools, and new connections can benefit all instructors at any stage of their career. Providing study results and best practices could benefit a diverse range of instructors. The professional development will be delivered by me as well as by subject-matter-expert guest speakers, if they are available and able

to participate. The methods of instruction will include face-to-face presentations, workshops, and online modules for theory delivery.

Content Themes and Outcomes

For the professional development project, I derived the content themes from the study results, and these include the following: (a) institutional presence; (b) course design and facilitation best practices; (c) behavioral, emotional, and cognitive engagement strategies; (d) instructor presence and student social presence; and (e) student development. In addition, I identified the desired outcomes for the professional development, which include the following: (a) an increased understanding of first-year, nontraditional e-learning student needs; (b) creating opportunities to improve e-learning course design and delivery; and (c) and creating an enhanced community of learning amongst e-learning faculty. According to Darling-Hammond et al. (2017), professional development within postsecondary institutions provides opportunities to improve practice, collaborate on ideas, and increase student learning outcomes and successes. These authors also stated the importance of participants' needs as one of the considerations (Darling-Hammond et al., 2017). Thus, it will be important to advertise the session themes in ways that attract the interest of e-learning faculty members.

Rationale

For the project, I chose a 3-day professional development workshop because the study's purpose was to better understand nontraditional e-learning student engagement for local practitioners and college decision makers. By sharing information through professional development, it will allow practitioners to explore and integrate learning and will allow college decision makers to support the institutional awareness of nontraditional e-learning student needs.

Although a 3-day professional development workshop was selected for this project, there were other options considered. Under other circumstances, a program evaluation might be considered a viable project; however, it was not a suitable project for this case study. According to Creswell and Poth (2017), an evaluation study proposes to change a program, and my study did not focus on a program. Thus, two other directions rather than a professional development project could have been selected, including a curriculum plan or a white paper.

Firstly, a curriculum plan is a complex process involving numerous necessary components for student success, including pedagogy, learning outcomes, assessments, and content (Berry & Rubeli, 2020). It will also include the scope and purpose of the curriculum, as well as information regarding the learners and the level of education. Although a curriculum plan would have been something that I could accomplish given that I have been an educator for over 20 years, I did not select this method. A curriculum plan did not match the outset of my study because I did not set out to improve a course curriculum nor program curriculum. I aimed to determine what strategies or improvements could be incorporated into e-learning to enhance nontraditional student engagement, which was not confined to single course or program. In addition, the study's student and faculty participants came from three different programs. Thus, a curriculum plan did not meet the needs of my study. Besides a curriculum plan, a second option for the project could be a white paper.

A white paper would be approximately 15 to 30 pages in length, according to Walden University standards, and would include the background of the existing problem, present the major evidence from literature, a summary of the analyses, and outline recommendations. There are a number of strengths to using a white paper. A white paper is attractive to local study site

decision-makers who rarely attend professional development workshops, so they would benefit from a white paper as well as the teaching faculty (see Butler, 2017). It is a fact-based, detailed report focussed on data, and would allow faculty or decision-makers the opportunity to review results and recommendations for best-practices and improvement at a time convenient for them (Butler, 2017). In addition, it can be broken into smaller reports or articles for specific purposes, including publications (Butler, 2017). Finally, a white paper could also be disseminated to a broader audience, beyond the local study site (Butler, 2017).

However, while a white paper could cover the same information as a professional development workshop, it would not allow for faculty collaboration or support while attempting to put into practice ideas that could increase engagement. Nor is there opportunity to collaborate with others regarding new understanding. Faculty would have to set up collaboration or hands-on learning opportunities on their own, should they desire. In addition, the information in a white paper can be easily forgotten if not put into practice. Collaboration and hands-on practice are important components to the retention of knowledge delivered by professional development (Joyce & Showers, 2002). Finally, white papers can be seen as dry and boring (Butler, 2017). A final option for the project was that of a 3-day professional development opportunity.

A facilitator-led, 3-day professional development opportunity will allow all e-learning faculty at the local study site an opportunity to explore several different, important topics related to nontraditional e-learning student engagement. Workshops can be flexible because sessions can be modified based on previous sessions, if needed, to meet the audience needs. In addition, an experienced facilitator can also modify the session in the moment if applicable. A professional development workshop will allow faculty to discuss and collaborate on the study results

regarding e-learning student engagement and share how their observations affect their own teaching practices (see Balta & Eryilmaz, 2019; El-Deghaidy, Mansour, Aldahmash, & Alshamrani, 2015; Hooks, 2015; Nishimura, 2017; Saberi & Sahragard, 2019). The addition of module-based learning could provide faculty with theory ahead of time, allowing the face-to-face time to focus on collaboration, community of practice in exploring ideas, and hands-on practice for learning integration into their e-learning courses.

Furthermore, nonmandated professional development opportunities feature motivated participants, unless participants are mandated to attend. When instructors have their own learning goals, this is stronger motivation towards improving practice. Shirazi, Bagheri, Sadighi, and Yarmohammadi (2015) stated, “Individuals who always aspire to learn and develop their competence are professionally more developed than those who don’t follow any learning goals” (p. 43). Thus, tying workshop outcomes to development of professional practice is an important aspect of preparation.

The workshop can be set up to review and discuss the best practices of e-learning instruction and course design. Areas of improvements as suggested by the study results can be incorporated into the workshops, as well as time for faculty to work collaboratively with a learning management system staff member for hands-on course design changes or enhancements. Often the best professional development opportunities are those that allow individuals to put into practice those ideas they recently discussed. According to Hooks (2015), faculty prefer a safe environment in which to put into practice those things ideas that were discussed in training sessions. Working with the facilitator and learning management system (LMS) support staff in a hands-on environment would allow faculty to make changes in a safe, supportive environment.

The drawbacks of this project, however, would be that 3 days is a significant commitment for participants. Faculty value their time, so face-to-face workshops need to be well designed to be impactful and valuable to faculty members. According to Hooks (2015), "Necessary training sessions can become a waste of resources and a source of discontentment when teachers are unwilling participants" (p. 25). Another drawback is that it is easier to run smaller workshops than larger ones, so often workshops only reach smaller audiences whereas a white paper would be able to reach a broader audience. Moreover, professional development opportunities take a lot of work to prepare and develop. Finally, face-to-face workshops require adequate space and tools, while online professional development requires considerable time to create.

While either option of a professional development workshop or a white paper would be an applicable project for my doctoral study, I chose to create a professional development opportunity that I will be able to use at the local study. May and June are generally preparation times for faculty members so early to mid-May will be an ideal time for a professional development workshop integrated with online learning components. Such a project will allow faculty members to gain new insights, develop and integrate ideas into their courses and teaching practice in preparation for the new fall semester, and gain collegial perspectives and collaborative insights. Samhaber (2015) purported that time and format for training opportunities must fit with faculty needs. Thus, in preparation for developing a workshop with integrated online learning components, I did a literature review for scholarly literature regarding faculty professional development.

Review of the Literature

In a review of the literature regarding professional development, the majority of literature was obtained via Walden University Library, and included the databases of ProQuest Central, Thoreau, ERIC, and EBSCO. Various search terms were used, including *teacher professional development, teacher training*, *faculty professional development*, *effective professional development, ineffective professional development, community college professional development, online student recruitment, online learning best-practices, universal design for learning, online education, student engagement, online student engagement, teaching presence,* and *student development.* In addition, I also researched various recent studies in Walden's Dissertations and Doctoral Studies and reviewed reference pages to aid in my search. From this literature review, several themes emerged. These themes included effective versus noneffective professional development, along with differentiation of professional development opportunities. In addition, other themes included institutional support, faculty needs, applied learning, hands-on opportunities, collaboration, and challenges.

Professional Development Theoretical Foundations

Faculty professional development is a multifaceted topic because there are many different aspects to consider. According to Balta and Eryilmaz (2019), there are several dimensions to faculty professional development, including social, professional, and personal:

> Social development involves developing ways of working with others…personal development involves each teacher constructing, evaluating, and accepting (or rejecting) the new socially constructed knowledge…and professional development

> involves…improving classroom practice and increasing teacher knowledge and skills. (p. 588–9)

Ideally, an effective workshop would encompass all three of these dimensions.

Purpose and format. Professional development can be categorized into several broad purposes. According to Elliot, Rhoades, Jackson, and Mandernach (2015), these purposes include theoretical, applied, or institutional. Elliot et al. further defined these purposes: Theoretical professional development is when topics explore generalized understanding of teaching trends within postsecondary; applied initiatives, however, look at practical teaching strategies or approaches; finally, institutional topics include those that examine institutional policies, guidelines and procedures (Elliot et al., 2015). Professional development for postsecondary educators can take place in a number of different modalities as well, such as face-to-face or online, synchronous or asynchronous, and one-time or reoccurring (Elliot et al., 2015).

Features of professional development. As stated by Shirazi et al. (2015), transforming teaching practice requires energy directed to creating professional development that acknowledges how faculty develop and grow. In order to be effective, professional development is comprised of seven features: (a) are content focused; (b) incorporate active learning; (c) support collaboration; (d) provide best-practice models, tools, and examples; (e) provide coaching and expert support; (f) build in time for reflection; (g) and provide adequate time to learn, practice and implement new ideas (Darling-Hammond, et al., 2017). However, an unsupportive college environment, where lack of support or lack of collective responsibility for student learning exists, can negatively impact the faculty learning community, and ultimately that of student success (Hirsh, 2015). In addition, according to Kang (2012), professional

development is a “two-way process, not a one-way indoctrination” (p. 393). The two-way process included both the training facilitator and the participants, where the process of participation, and sharing of knowledge, skills and experience has direct impact to the professional development experience (Kang, 2012). Thus, professional development opportunities should not simply be comprised of passive lectures regarding topic content.

Professional Development Literature Review Themes

As noted, several themes emerged from the literature review, one of which was the need for institutional support regarding professional development. Kang (2012) indicated that “faculty’s buy-in to online education depends upon the promotion of an institution-wide synergistic environment conducive to educational innovation” (p. 394). Betts and Heaston (2014) proffered that college departments must work together to provide needed support for faculty development leading to success in teaching, and success in learning. Through institutional support, the learning needs of faculty can be achieved.

Faculty needs. Although institution-wide support for developing faculty and supporting student learning is needed, careful considerations need to be made regarding the purpose and content of training opportunities. Professional development must be aligned with participants’ needs and interests (Balta & Eryilmaz, 2019; Hamilton, 2016; Hooks, 2015; Kang, 2012). In addition, Hooks (2015) evidenced that participants felt professional development was effective when faculty were given new tools or materials, for example, rubrics, and assessments, that they could effectively implement, rather than “death by PowerPoint” (p. 51). Moreover, faculty felt more invested when professional development addressed faculty members’ identified topics (Hooks, 2015; Terosky & Heasley, 2014). According to Wasserman and Migdal (2019),

professional development should involve topics that have immediate relevance to faculty members' teaching or personal lives and focus on a problem-centered rather than content-oriented approach. However, Saberi and Sahragard (2019) contended that professional development designers often did not address the critical needs of faculty members. Thus, addressing the purpose of the training and the needs or desires of faculty regarding improving their teaching practice is another important component and should be research-based.

Applied learning. Professional development opportunities should be relevant and provide applied learning for the faculty members' practice. Goodwin, Hall, and Simeral (2019) felt that professional development for faculty should begin with problems encountered in faculty members' current practice and refine or reflect on new skills to address those issues. Jacobi et al. (2019) concurred and evidenced that faculty were most engaged in professional learning when they participated in challenging, authentic learning activities that had direct classroom impact. Goodwin et al. (2019) also indicated faculty should be given opportunity to understand why various strategies are effective to student learning. Elliot and Oliver (2015) stated that critical thinking was of utmost importance to the workshops. Elliot and Oliver also purported that workshop knowledge must practical in application and be delivered by a credible presenter. Nishimura (2017) stated self-reflection and the ability to set goals meaningful to one's own practice was another component for effective professional development. Borup and Evmenova (2019) indicated faculty felt professional development was most effective when it provided multiple, specific instructor and participant examples that could be applied in their own practice. Thus, applied learning is another important component of faculty learning opportunity.

Hands-on. Besides addressing specific needs regarding developing competencies, and strategies to improve their teaching practice, faculty members benefit from opportunities to apply skills or integrate tools during the workshop. Professional development opportunities should be able to provide hands-on opportunity or allow for immediate application of newly gained skills or observances (Balta & Eryilmaz, 2019; Hooks, 2015; Kang, 2012). According to Kang's (2012) research, professional development needed to include "'hands-on' practice and more time to interact with both trainers and other trainees" to better integrate the workshop contents (p. 400). Hooks (2015) stated that professional development became less effective if it was only lecture-based. Gachago, Morkel, Hitge, van Zyl, and Ivala (2017) advised "show don't tell" (p. 4). Effective professional development engages faculty by allowing them to design and try strategies similar to what their students might encounter (Darling-Hammond et al., 2017). Borup and Evmenova (2019) evidenced that expecting participants to practice using technological tools they had learned was very effective and appreciated by faculty in their learning.

Creating effective professional development requires significant considerations, as there are many complexities. According to Joyce and Showers (2002), who completed a systematic review of professional development in education, professional development becomes more effective if theory, modeling, practice and peer coaching are part of the development process. Theory alone could minimally impact knowledge and skills but was less likely to impact faculty members' practice. Modelling the content generated further understanding and skill level and adding opportunity for faculty to practice those skills demonstrated more successful learning outcomes. Finally, the addition of follow-up coaching for faculty members was most likely to successfully solidify the professional development learning outcomes (Joyce & Showers, 2002).

Therefore, workshops alone may not fully produce targeted teaching and learning strategies (see Table 8).

Joyce and Calhoun's (2016) research supported Joyce and Showers' (2002) earlier research, indicating faculty without follow-up support from a facilitator or peers found it more difficult to integrate and sustain new learning. Faculty members are more successful in their learning goals if they receive support in attaining them. Professional development workshops should include more than theory by providing usable examples, opportunity to practice, and ideally, follow up with peer support (see Table 8 and Figure 17). Thus, researchers have demonstrated applied learning during professional development workshops is of utmost importance to faculty members' learning.

Table 8

Models of Professional Development

PD offered	Impact on knowledge	Impact on skills	Impact on practice
Theory	10%	5%	0%
Theory + Modeling	30%	20%	0%
Theory + Modeling + Practice	60%	60%	5%
Theory + Modeling + Practice + Coaching	95%	95%	95%

Note: Adapted from *Student achievement through staff development* (3rd ed.), by B. Joyce and B. Showers, 2002, retrieved from https://www.winginstitute.org/ Reprinted with permission (see Appendix S).

Figure 17. Effective professional development outcomes.

Collaboration. As well as providing hands-on opportunities, professional development workshops should provide opportunity for collaboration amongst faculty members. Collaboration is another important aspect of professional development, according to numerous researchers. Nishimura (2017) contended engagement in the process of professional development, including the opportunity to work with fellow practitioners through active participation, was a desired opportunity. Hooks (2015) concurred and proved that professional development should allow for peer collaboration, sharing, and discussion or trying useful teaching tools. El-Deghaidy et al. (2015) also concurred and concluded collaborative activities and opportunities to share experiences contributed to more effective professional development. Balta and Eryilmaz (2019) proffered that collaboration provided opportunity for faculty to share experiences and learn from others who had experienced similar situations or problems, which increased the knowledge of all involved in the discussion. Saberi and Sahragard (2019) indicated faculty learned from the teaching practice of others as well as their own experience. Betts and Heaston (2014) concurred and evidenced that faculty could illustrate the high quality of teaching and learning if given opportunity. Collaboration also can support positive culture and instructional change (Darling-Hammond et al., 2017; Shirazi et al., 2015). In addition, collaboration allowed critical thinking, professional support, and experiencing new challenges and ideas (Evers, Kreijins, & Van der Heijden, 2016). Borup and Evmenova (2019) suggested that opinions from peers were particularly helpful because they had similar teaching and learning contexts. Collaboration is, therefore, an important consideration. However, challenges can also arise when considering the development of effective professional learning opportunities.

Challenges. A final theme generated in the literature review regarding professional development for faculty was that of challenges. According to Reddick (2018), some of these challenges included the geographical location for the workshop, time commitments and availability, and the number of faculty who could participate. Aust et al. (2014) shared faculty were concerned about the length of time training opportunities might take. Another challenge, according to Hirsh (2015), was that professional development could not be one-size-fits-all, because different instructors teach different curricula in different programs, and thus do not necessarily have all of the same needs.

A further challenge is that of the faculty members themselves, and the postsecondary environment or philosophies in which they find themselves employed. Many institutions use adjunct faculty who face life or work strains and are often not compensated to attend professional development opportunities (Bolitzer, 2019). In addition, Shirazi et al. (2015) contended a lack of collegial or institutional support can affect faculty members' desire to develop professionally.

Furthermore, designing professional development for e-learning faculty requires additional considerations. Elliot et al. (2015) contended that many topics covered in professional development benefitted both face-to-face and online faculty; however, Elliot et al. cautioned additional needs arise for online faculty, given the modality has unique challenges thus the diversity of needs must be considered (2015). To be effective, training must be thorough, applicable, practical, and authentic (Chalmers & Gardiner, 2015). A summary figure of the literature review for professional development is provided in Figure 18. A summary table of the literature review is provided in Appendix B (see Table B2).

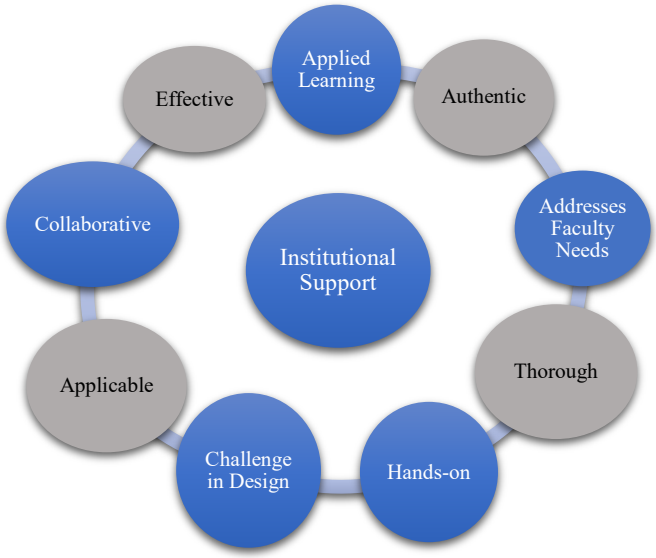

Figure 18. Professional development literature review themes and considerations.

Topic categories. According to Elliot et al. (2015), a wide range of topic categories exist regarding professional development for online educators. These include: (a) disciplinary content (e.g., critical thinking in psychology); (b) practical pedagogical/andragogical techniques (e.g., flipped classroom); (c) theoretical approaches (e.g., transformative learning); (d) institutional expectations (e.g., LMS training); or (e) specific faculty populations (e.g., new faculty). Because of the vast direction available for professional development, workshops should be carefully planned regarding format and purpose, given funding is likely limited (Elliot et al., 2015). In addition, instructors' needs, interests, and time are also considerations (see Figure 19).

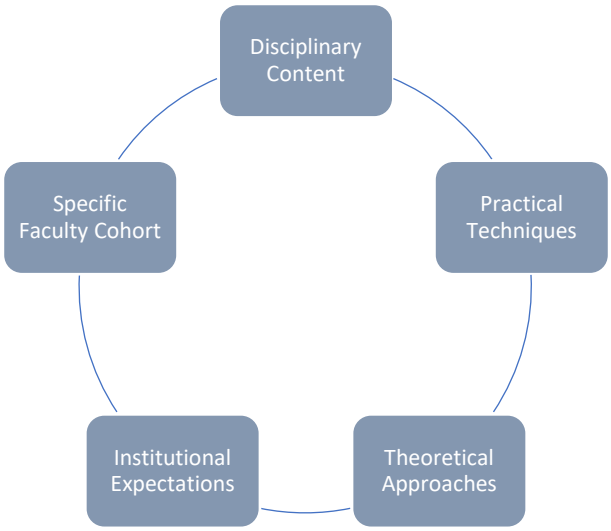

Figure 19. Professional development topic categories.

Thus, research-based professional development is critical to creating effective learning opportunities. However, for an effective workshop to occur, not only should research be done regarding professional development, research should also occur regarding best-practices in e-learning that address the study results.

Project Description

The three-day professional development opportunity will take place during mid-May which is the time when most faculty are able to work on their courses in preparation for the fall semester because few courses are taught during the May/June semester. While components will occur online and thus be accessible from anywhere, the face-to-face workshops or presentations will occur on one of WCC's campuses, where most of the participants are located, to help minimize the number of individuals who would have to travel. For topics that may be applicable to faculty members who do not teach online, non-e-learning faculty will be invited to attend, if desired, and the room locations would be adjusted, if needed, based on participant numbers.

Each of WCC campuses have campus-wide wifi, thus during the workshop, participants will be able to follow along on their own devices with the workshop presenters, if desired. In addition, faculty will be encouraged to bring their own devices to participate in the technology-interactive portions of each workshop. Professional development materials will be available to participants in the LMS workshop page, but as well, paper copies will be available if desired of the PowerPoint presentation, handouts, tools and other materials to meet the learning needs of the diverse participants.

Format for the Professional Development

An effective, ideal method for delivering professional development can be done by using both online modules and face-to-face, hands-on workshops for the study project. According to Samhaber (2015), faculty who took online professional development appreciated the structure and flexibility of the online format, were equally likely to learn online versus face-to-face, and were willing to complete additional online training in the future; faculty appreciated and valued the ability to network, collaborate, and acquire hands-on opportunities in face-to-face workshops (Samhaber, 2015). Thus, during the professional development opportunity, participants will work through online modules to refresh or cover various topic theory; face-to-face workshops will include several hour-long or hour-and-a-half long topic sessions, over a several half-days, (see Appendix A). Each day will end with a one-hour, hands-on, LMS session, where faculty members can integrate their learning from the modules or the workshops into their online course; for example, they may consider adding tools, new assessment ideas, additional content, or other relevant learning. The hands-on working sessions will include the workshop facilitators, and the LMS support personnel to assist faculty members with integrating new ideas.

With the exception of the end-of-day working session, each workshop will be video-recorded to allow faculty members unable to participate (for example, adjunct faculty) to benefit from the professional development topics. I will request participants to sign a consent to participate form to ensure they are aware of the digital recording; however, the recording will primarily focus on the facilitator and materials, rather than the participants. To allow for those who might be reluctant to ask questions within the workshop because of the recording or because of the question content, I will project a real-time question board onto one of the whiteboards, managed by an additional facilitator or college technical support staff member. Faculty members will be able to log on anonymously with their own devices and ask their questions in this manner, if desired.

Content

The topic sessions were generated from the study results, integrating the themes that addressed study observations, and suggestions for improvement or exploration. These themes were institutional presence; course design and best practices; OSE behavioral, emotional, and cognitive engagement; instructor presence and student social presence; and student development.

E-Learning Best-Practices Themes

The study results generated several themes regarding e-learning, including institutional presence; course design and best-practices; behavioral, cognitive, and emotional engagement; instructor presence and student social presence; and student development. Researching these themes helped to generate a broader understanding of scholarly evidence that could be integrated into the workshops. Finding researcher-generated information is a best-practice in advancing knowledge to better enhance one’s teaching practice.

Institutional presence. For effective e-learning student experiences to occur, institutional support is necessary before students even enter the e-learning classroom. According to Smith's (2016) research, there are numerous institutions that are directing efforts towards online student recruitment and retention, which Smith indicated is very different from traditional face-to-face cohort strategies. Services for online students must be accessible and up-to-date, and the use of video messages are some of the important considerations (Smith, 2106). Providing videos of e-learning student testimonials on the college website regarding their e-learning initial fears and experiences could serve to help reduce fears for students prior to enrollment. In addition, Valle (2016) promoted how services must be effectively developed for online students, including online orientation, advising, tutoring, and technical support. Ortagus and Tanner (2019) stated many institutions may not know how to recruit online students and agree that online students require different supports and services than traditional cohorts. These researchers also proposed that personalization of recruitment efforts need to be effective (Ortagus & Tanner, 2019). Hachey et al. (2013) evidenced providing first-time online students with targeted supports increased success for this cohort. Besides targeted supports specific to e-learning students, well-developed e-learning orientations should be made available before students enter their virtual classrooms.

Researchers demonstrated that first-year, e-learning students need specific skills and knowledge before entering their online courses. Abdous (2019) proposed online orientations, when self-paced and well-developed, could address student fears, increase support and e-learning readiness, build self-confidence, and address course requirements. Russo-Gleicher (2014) concurred, and felt online orientations were effective and should provide realistic expectations of

e-learning and time management strategies. Adkins (2104) contended that online orientations should also provide opportunity to experience some of the assignments students would face in their online classes, as well as provide technical skills. Marshall (2017) evidenced that online orientations for first-year students increased the likelihood of retention and success in the online course. However, Abdous (2019) indicated few researchers have addressed the impacts of online student orientations. Potentially, the online orientation could lead into a short, for-credit course where students practice their online skills, and where they experience immediate success. Providing student with microcredentials for online skills they mastered may also be an effective engagement strategy. The orientation, short course, and microcredentials may encourage students who do not see themselves as e-learners become more willing to see their abilities as skills they could develop and achieve success within the modality.

Furthermore, institutional awareness of the supports needed by e-learning students is paramount. Especially for students who see themselves as non-e-learners, but also for first-time e-learners, students must feel safe in their learning environment. Maslow's (1943, 1987) hierarchical needs have been applied to educational environments, including the e-learning environment. Guditus (2013) developed a visual pyramid applying Maslow's (1943, 1987) pyramid of needs to educational settings and his observations could further benefit faculty members in considering how to best support students (see Figure 20).

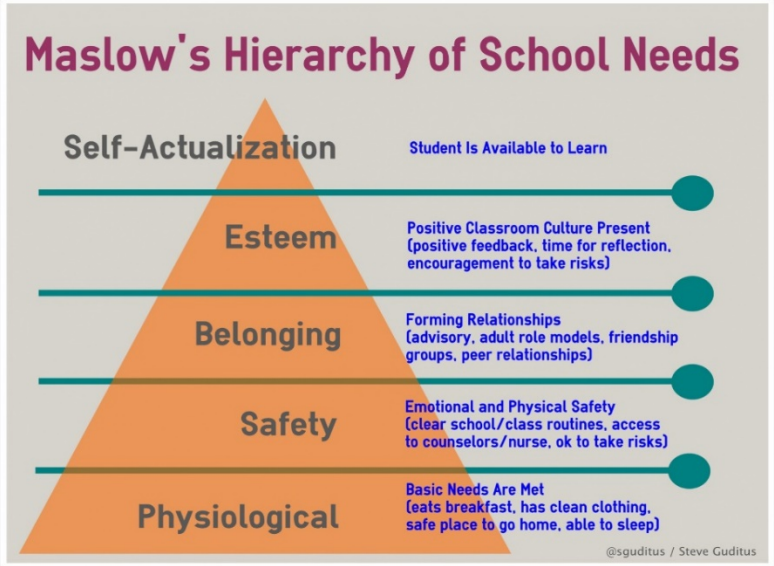

Figure 20. Maslow's hierarchy of school needs. From "Reflections of an educator" by S. Guditus, 2013. Retrieved from http://sguditus.blogspot.com/2013/02/maslows-hierarchy-of-school-needs-steve.html. Copyright 2013 by S. Guditus. Reprinted with permission (see Appendix T).

Milheim (2012) adapted Maslow's (1987) pyramid of needs to online education though she did not provide a visual with her observations. According to Milheim (2012), physiological needs in the e-learning modality include a concise checklist or requirements, necessary software, and sufficient internet bandwidth. Safety needs would involve a precourse orientation, early access, introduction to course tools, course design consistency, grading expectations, and rubrics (Milheim, 2012). In the belonging level of the pyramid, cultivating the student-instructor relationship through personalized feedback, and self-introductions can address this need; additionally, cultivating student interactions and collaboration, with clear guidelines on presence expectations, also falls into this level (Milheim, 2012). In the self-esteem level of the pyramid, Milheim (2012) identified providing exemplars of assessments, providing descriptive feedback, positive reinforcement, instructor flexibility, and inclusive climate. For the final pyramid

component, the self-actualization level encouraged students towards self-directed learning and self-development (Milheim, 2012). Given that no visual of Maslow's (1943, 1987) pyramid as it applies to e-learning yet exists, perhaps one could be developed from the literature review and the results of this study. Visual aids are effective methods to convey pertinent, succinct information, and may benefit faculty and others within the institution to address the needs of online learners for successful educational experience. A visual of Maslow's (1943, 1987) pyramid of needs applied to e-learning can successfully be used in a professional development setting, lending well to the study project.

Finally, institutional presence development involves creating awareness of e-learner needs throughout the many layers of staff within postsecondary colleges. Decision makers, IT staff, learning management system (LMS) employees, advisors, counsellors, program admin supports, and possibly others, must be responsive to the needs of e-learning students to support students' engagement, skills, and encourage their perceptions of their ability to succeed in the modality. Many of these services offered by some of these institutional departments should be made available virtually. Online library services, counselling support, writing support, financial and academic information should be developed for this cohort to help first-year, e-learning students achieve success (Valle, 2016). Evidently, many institutional staff are interconnected with the e-learning faculty member. According to Halverson and Graham (2019), "institutional engagement promotes retention and discourages dropout" (p. 152). Thus, while the learning community can be developed within the classroom (Chang, 2012; Hope, 2017), the learning support community should be developed outside of the classroom as well (Adkins, 2014). Within institutions, therefore, a culture of e-learning support must be developed and maintained.

Course design and best practices. Improving knowledge in e-learning course design and best practices are also integral to effective e-learning environments. Simplified learning platforms, and consistent layouts from course to course within a program area, and within the institution, are beneficial to students. Orr (2019) noted that simplified, easy-to-navigate course designs were beneficial to e-learning students who struggle with depression. In addition, providing a clear and easy-to-notice section where students can see available services, for example how to access counselling if required, can be of significant value to e-learning students, who might not otherwise be aware of available services (Hope, 2017; Orr, 2019). Other resources, such as assignment exemplars, clearly laid out schedules or due dates, and practice quizzes benefit all students, including those who struggle with content.

Another form of best practice in teaching and course design is the consideration of UDL strategies. Based on neuro-science research, the UDL framework features "multiple means of action and expression, multiple means of representation, and multiple means of engagement" (Houston, 2018, p. 2). UDL principles attempt to remove a "one-size-fits-all" approach to learning, and thus to improve barriers to learning for students who may have diagnosed or undiagnosed learning needs (Houston, 2018, p. 2). Though creating accessible content is only one design element of UDL, accessible content includes content headers, sans-serif fonts, hyperlinks, alternative text-descriptions for tables, captions and summaries, and exemplars and illustrations for major assignments (Houston, 2018). Including learning videos and visuals in platform content are also effective strategies (Wilson, 2017). UDL principles also can be applied to lesson delivery and includes creating peer collaboration opportunities and cultivating the learning community (Houston, 2018; Rogers-Shaw, Carr-Chellman, & Choi, 2018). Finally,

UDL strategies benefit learners with diverse backgrounds (Rogers-Shaw et al., 2018). Thus, integrating UDL principles are another form of best practice.

Further considerations for e-learning course design and delivery includes cognitive load theory (Mayer, 2014b). Stavredes' (2011) research suggests the importance of cognitive load in the e-learning course. If the material is highly complex for the students, faculty should limit its delivery and simplify the content (Stavredes, 2011). Cognitive load theory would also suggest minimizing the amount of content being delivered simultaneously to students (Ayres & Sweller, 2014; Mayer, 2014b; Pass & Sweller, 2014; Stavredes, 2011). For example, during a synchronous class having students review PowerPoint materials, listen to the lecture, and watching a video of the instructor, would split attention and increase cognitive load, thus hindering student learning (Ayres & Sweller, 2014; Mayer, 2014b; Pass & Sweller, 2014; Stavredes, 2011). Cognitive load theory research also evidences inexperienced learners process information better from a dual-mode presentation, for example a diagram accompanied by narration, but as learners become more experienced, the diagram-only presentation becomes more effective (Low & Sweller, 2014). Even the distance between a diagram and its written explanation can increase cognitive load if students are forced to move back and forth between the information (Ayres & Sweller, 2014). In addition, while it is important to present information to address multiple learning styles and needs (Dell et al., 2015), it is also important to avoid creating information redundancy for learners (Kalyuga & Sweller, 2014). Cognitive load theory is an important consideration when facilitating courses.

Other best practices include effective communication between faculty and students, student working groups, active learning opportunities, prompt feedback, and considering diverse

student backgrounds (Chickering & Gamson, 1987). As well, regular communication with students is an important best-practice, and can include a welcome message, weekly notifications of what students can expect to work on during the week, and reminder messages are effective strategies to assist students (Wilson, 2017). Another avenue is to create a mentee café, where students can interact with their peers, and can be useful in helping develop peer interactions and student social presence (Thongsawat & Davidson-Shivers, 2019).

Finally, providing early opportunities for success and multiple opportunities to demonstrate learning outcomes can also influence student engagement. "As with face-to-face conventional learning, students appear to be happiest when there is a range of learning approaches available and they can choose when to deploy such different learning approaches according to their own learning needs and rhythms" (Haythornthwaite & Andrews, 2011, p. 193). Best practices in online design and delivery is an important avenue for e-learning faculty in enhancing their courses.

OSE engagement measures: Behavioral, emotional, and cognitive. Though student e-learning engagement may be categorized into behavioral, emotional, and cognitive engagement strategies, researchers suggested these do not exist in isolation. Rather, the interrelationship of the three categories determines engagement, and thus engagement no longer considered a single dimension but a multidimensional process that requires active student participation (Hu & Li, 2017). According to Halverson and Graham (2019), e-learning educators should be aware of how engagement fluctuates in e-learning classrooms compared to traditional settings as a means to improving the e-learning setting. These researchers emphasized cognitive and emotional engagement over behavioral engagement, though acknowledged that behavioral engagement

could facilitate the other two (Halverson & Graham, 2019). The complexity of engagement is also supported by the study results.

In an online environment, students' levels of enjoyment, in other words having fun, associated directly to their engagement, according to Templaar, Niculescu, Rienties, Gijselaers, and Giesbers (2012). Likewise, removing psychological isolation can alleviate anxiety (Halverson & Graham, 2019). Confusion can be productive to learning when it accompanies enjoyment, curiosity or confidence; however, confusion also increases disengagement and decreases learning if accompanied by frustration or boredom (Halverson & Graham, 2019). Online engagement is a multifaceted challenge.

Martin (2019) indicated cultivating the teacher-student relationship was crucial to e-learning classroom management. Establishing effective relationships helps avoid negative situations that might otherwise occur (Martin, 2019). Relationships established meaningful conversations; without relationships, it appeared barriers existed to student learning (Martin, 2019). Creating and including personalized video content helps generate the beginning of student/teacher relationships; this is because personalization increases rapport quickly, which leads to decreased communication issues and increased student satisfaction (Martin, 2019). Video content that is instructor-created can include videos that contain course expectations, assignment tutorials, video biographies, and student-relevant personal experiences. Asking students questions, providing opportunities for them to share their own experiences, and providing personalized video feedback are additional suggestions that can aid in positive engagement (Martin, 2019). Thus, the relationship to personalized content, both instructor and student created, can better enhance engagement within courses.

Based on study results, integrating the quantitative data observation with the qualitative data observations, I determined that specifically targeting no and low association strategies could have an impact on moderate engagement strategies and engagement observations made by students and faculty. Martin and Bolliger (2018) indicated that strategies that focused on learner-content, learner-learner, and learner-instructor helped with engagement. In their research, these authors evidenced several learner-to-learner activities as very important, including ice-breaker discussions where students introduced themselves; working collaboratively on projects; interacting with peers through presentations; students selecting readings that drive discussions; participating in peer-reviews of assignments; and students facilitating discussions (Martin & Bolliger, 2018). Regarding learner-to-instructor engagement strategies, Martin and Bolliger (2018) again purported several important activities as highly effective for student engagement: instructors' regular communication via news, posts, or emails; including grading rubrics with all assignments; referring to students by name when communicating; creating ease of contact for questions; providing due dates and checklists; and creating course orientations. Finally, regarding learner-to-content engagement strategies, these authors found additional important activities: providing content in multiple formats; assignments structured with guided questions or prompts; and using realistic scenarios when applying content (Martin & Bolliger, 2018). Thus, according to the research, targeting specific strategies from multidimensional directions can be an effective method of engaging students.

Teaching presence and student learning presence. In the e-learning environment, teaching presence and student social presence are interconnected. "Teaching presence, which begins with the design of the course, is a direct facilitator of social presence, which reiterates the

importance of deliberate design choices to facilitate presence among learners" (Simunich & Grincewicz, 2018, p. 139). Course design and facilitation are components directed by teaching presence that affect cognitive and social presence (Hoffman, 2019). However, according to Hoffman (2019), teaching presence is the least studied of Garrison et al.'s CoI (2000) framework. While some studies have focused on the role of teaching presence in the asynchronous environment, teaching presence in the synchronous environment is less researched (Hoffman, 2019). According to Hoffman (2019), interactive lecture and interactive discussion are more likely to combine course content with participation, while straight synchronous lecture and passive listening do not foster student engagement. Lecture adjustment can potentially affect engagement improvements but evidently, further research regarding synchronous environments may be beneficial.

Other strategies can also affect teaching presence. According to deNoyelles, Mannheimer, and Chen (2014), one of the most effective strategies is prompt, responsive instructor feedback. Although deNoyelles et al.'s (2014) research was in asynchronous courses, this suggestion would be equally important to synchronous settings. Budhai and Williams (2016) supported scaffolding and differentiated instruction and posited that proactively addressing the diverse student backgrounds and needs would promote positive presence and have impact on student satisfaction. However, it can be noted that teaching presence and student presence can be directly connected to behavioral, emotional, and cognitive engagement strategies. Actively targeting engagement strategies through teaching and student presence should prove to be impactful. For example, an online instructor may need to deliberately help students find ways to make the course materials relevant. Or, for example, an instructor should perhaps consider how

opportunities for students to engage in online conversation could occur, and strategically enhance their course engagement. Potentially, opportunity may exist to review the no association to low association strategies and consider opportunities how these might be more purposely explored and included in e-learning courses.

Student development. As noted in the study results from student observations, students appreciated when they felt they had made improvements in their abilities and skills. Thus, I believe this topic to be an important inclusion to the professional development opportunity at the local study site. However, the literature that researches the importance of students' perspectives regarding their skill development in e-learning is minimal at best. E-learning instructors and the institution could place more emphasis on the development of skills that occur when students are able to progress in their e-learning courses. Starting with precourse orientation, for example, students could receive recognition in the form of digital badging upon successfully participating in a course scavenger hunt, discussion forums, scan-to-email, live chat in class, participating in break-out classrooms, or other skills necessary for the successful completion of their first-year courses. In addition, instructors could specifically target development skills, such as teaching how to make summary notes, how to carefully read course materials, scanning and identifying important components of assignments, and creating videos that show students how to successfully tackle multiple choice or other forms of course exams. It should not be assumed students enter with these skills or that they can develop them on their own. While some students may be able to self-develop without guidance or acknowledgement, self-perceived, non-e-learning students may need extra support to engage their emotional/psychological needs, their self-confidence, and their willingness to begin to see themselves as e-learners. Early success and

digital reinforcement may greatly benefit these students. According to Davies, Randall, and West (2015), digital badging allows students to receive success recognition in segments, and using an instructional badging method, where students apply for specific-competency badges from their instructor prior to assessment (Brauer, Korhonen, & Siklander, 2019). Digital instructional badging may greatly benefit nontraditional non-e-learning students. A summary table of the literature review for the professional development opportunity topics is provided in Appendix B (see Table B3).

Maslow's pyramid of needs applied to e-learning. To support increased learning regarding e-learning student needs, I developed a figure of Maslow's (1943, 1987) pyramid of needs to e-learning from study results and literature review observations. Figure 21 illustrates an expanded interpretation of the e-learning pyramid of needs. As a note, my study results concurred with Milheim's (2012) research suggesting a need for a student orientation prior to their e-learning course. However, I moved the precourse exposure into the physiological needs of Maslow's (1943, 1987) pyramid. I believe that nontraditional students who see themselves as non-e-learners need to see examples of student graduates who experienced e-learning success before they even consider the modality a viable learning opportunity. Non-e-learning students need early exposure to success, thus making pre-course exposure a base need.

The figure will assist with presenting information to college decision-makers regarding the need to expand institutional staff members' understanding of first-year, nontraditional e-learning students' needs as they attempt their educational journeys. In addition, the figure will provide an effective visual for faculty members who may already understand Maslow's (1943, 1987) theory, and how Maslow's theory aligns with e-learning.

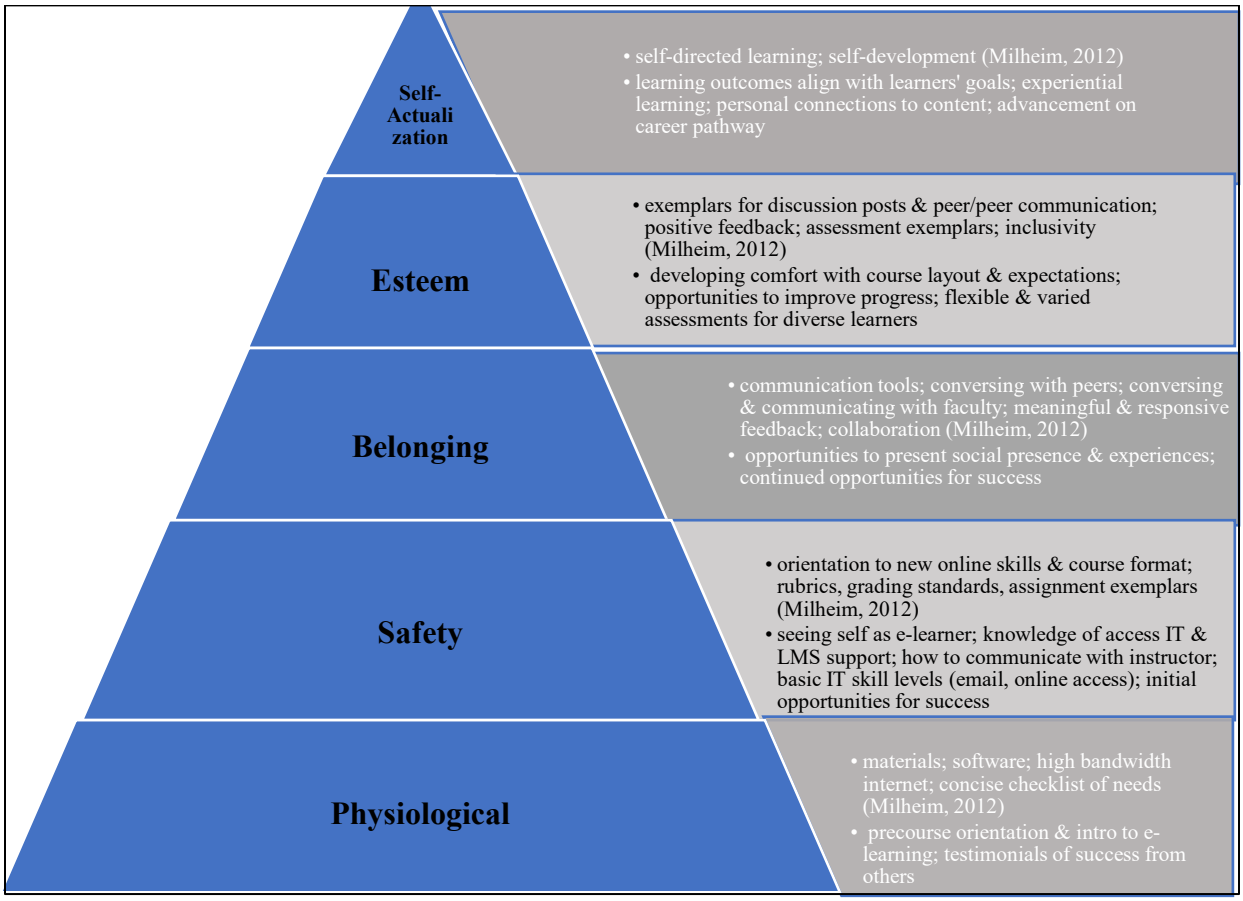

Figure 21. Maslow's (1943, 1987) pyramid of needs applied to e-learning. Adapted from "Towards a better experience: Examining student needs in the online classroom through Maslow's hierarchy of needs model," by K. L. Milheim, 2012, *MERLOT Journal of Online Learning and Teaching, 8*(2), 159 – 171.

Structure of Professional Development Opportunity

As much as possible, the hour to hour-and-a half face-to-face topic sessions will follow the Instructional Skills Workshop (ISW) model of teaching (see ISW Network, 2020). This model is designed to help new and experienced postsecondary level instructors follow a sustainable and engaging model of instruction and would be very applicable to the workshop format for this study project. Where applicable, I will share study participants' words via the

PowerPoints to exemplify topics or illustrate suggested directions. Using study participants' words will help generate better understanding regarding engagement perceptions.

ISW uses several templates of instruction, including the BOPPPS model of delivery (ISW Network, 2020). The acronym stands for an effective lesson structure, which begins with Bridge-in (or "hook") and gets people interested in the topic. Then it outlines the Objectives, followed by a form of Preassessment, to see where participants are with understanding the topic. This is followed by Participatory learning, a Post assessment, and a Summary of the lesson or topic presentation (ISW Network, 2020). A very effective visual of the BOPPPS model is available from Queens University, however, is too large and detailed to include in this description (Queens University, 2020). Another version is available from the University of Saskatchewan (University of Saskatchewan, 2019). The model structure aligns well with the themes generated from the literature review. Although I will introduce the BOPPPS model during the workshop, and the topic sessions' structure will follow the model, BOPPPS is not the focus of the workshop but rather the themes as generated by the study results.

The online, asynchronous learning modules will be built using the topics to lend better to effective face-to-face workshops. I will integrate any recorded sessions of the workshops into the online modules for further exploration by faculty unable to attend. These modules will be housed in the WCC Faculty Development LMS site, which is accessible to all faculty.

Supports, Resources, Barriers, and Solutions

Supports. To plan a successful profession development opportunity, I need to consider more than workshop contents. Firstly, I will need to ensure supports for the professional development opportunity are in place. I will need the support of the VPA at the local study site,

whose portfolio includes all faculty-related training. He would communicate his support to the study site's deans of the academic program, who would be responsible for identifying the best dates for their faculty members' participation during May/June. The VPA would also access any necessary funds for the workshop from his faculty development budget. such as small gifts for the guest speakers or guest speaker fees, coffee break refreshments and snacks, lunch, and necessary travel dollars or accommodations for out-of-town participants or guest speakers. To obtain support, professional development opportunities must align with institutional goals (Koonce, 2018). Thus, support from the VPA would be paramount for the workshops' success.

Resources. Besides financial, I will need to plan other required resources. According to Darling-Hammond et al. (2017), a lack of resources is the largest barrier to effective professional development implementation. I will need to book a smart technology classroom large enough to accommodate participating faculty members, along with an adjoining space where I can provide coffee breaks and lunch (if applicable). The workshop room(s) will be Smart classrooms, equipped with Smartboard technology and projectors. The Smartboards also act as white boards. Given there are less than 30 continuous faculty who teach online, almost any available classroom will be sufficient to meet the maximum participants. In addition, small moveable white boards with markers, and flip charts with markers would be equipped in each room. Should a presenter desire to use a personal laptop, IT staff will be available on standby throughout the workshops to help with the room's technology or any unforeseen technology issues. Finally, I will order ahead time any printing needed for the workshops, such as PowerPoints or other handouts. The study site's main campus has its own print shop, but I will need to complete the printing request one week ahead to allow sufficient time to print the materials.

Barriers and solutions. Potential barriers could include institutional and external mandates on faculty members' travel due to budgetary constraints. Should this occur, face-to-face workshops might have to be modified. In addition, another potential barrier may be the lack of support from supervisors (deans, associate deans, or chairs). Without support, faculty may not be able to participate in the professional development.

A significant barrier could be the disinterest in faculty in attending or participating in the professional development. Faculty may not be interested in the topics or may feel they do not require additional skills to improve their e-learning courses. According to Koonce (2018), poorly designed professional development can influence faculty members' hesitancy in further attendance. Mandating participation, although it would guarantee attendance, could possibly produce resistance to learning, resistance to implementing ideas, and would likely prove detrimental in the long run. The most effective way to combat this potential resistance will be to ensure a balance between face-to-face time, online expectations, and faculty members' semester loads; effective and timely communication regarding session topics; and informative communications regarding learning outcomes and potential implications to faculty members' e-learning courses. Additionally, it may be beneficial to gain the support of the faculty members' supervisors by presenting the value of the session topics, and the topics may enhance e-learning course results and student evaluations; should the deans support the professional development, they could encourage faculty attendance as well.

Another barrier may be the lack of availability by potential session presenters. Although I will present some sessions, it will be ideal to have other presenters so that faculty participants have a more varied perspective. Planning dates will need coordination with presenters'

schedules. Alternatively, it could be problematic if a presenter is booked and is unable to attend at the last minute. I should also consider backup plans to mitigate the inability of a presenter to attend. Inadequate time to plan effective professional development may affect outcomes (Koonce, 2018).

An additional challenge is that building an online training component for the professional development would take considerable time. It will be wise to begin this portion several months ahead of the face-to-face dates so that faculty will have time to participate in the online components before attending the face-to-face components. However, the online components will help to overcome geographical barriers (see Clarke-Cook, 2019).

A final potential barrier may be financial. Should there be budgetary constraints, travel costs and hosting costs might not be covered, and alternative ideas may have to be explored. At the local study site, the vice-president academic's (VPA) budget contains dollars for internal faculty development, and thus it would be wise to meet with the VPA to explore financial support.

Implementation and Timeline

To begin implementation of the professional development opportunity, it will be important to present the study findings to the VPA, who oversees all internal faculty professional development within the institution. A short presentation of the study results and recommendations will be required to garner support and approval for the professional development. With approval, the professional development will become available in the May/June semester. Therefore, building the online modules should start several months prior to the requested date. After receiving approval for the professional development opportunity, I will

book two rooms at the campus on the selected dates for the face-to-face components and make refreshment arrangements.

Although the professional development opportunity will involve three full days of training, this time will be split into online modules and face-to-face, hands-on workshops. Online modules will be built on Moodle, the LMS used by the study site, to cover each of the themes and will be made available to faculty participants two weeks ahead of the scheduled workshops. The online module components will cover one seven-hour day of the allotted training time while the other two seven-hour days would be the face-to-face and hands-on components (see Table 9).

Table 9

Schedule of Professional Development

Time period	Professional development component	Audience	Format
Day 1			
I hour synchronous	Study results & institutional presence	College decision-makers	PowerPoint presentation
2 hours asynchronous	Course design best practices	E-learning faculty	Moodle module
	Course facilitation best practices	E-learning faculty	
2 hours asynchronous	Behavioral engagement	E-learning faculty	Moodle module
	Emotional engagement	E-learning faculty	
	Cognitive engagement	E-learning faculty	
2 hours asynchronous	Teaching presence	E-learning faculty	Moodle module
	Student presence	E-learning faculty	
Day 2			
1 hour synchronous	Introduction & study results	E-learning faculty	Workshop
2 hours synchronous	Institutional presence & Maslow's needs applied to e-learning	E-learning faculty	
.75 hours	lunch		
2 hours synchronous	Course design & facilitation best practices	E-learning faculty	
2 hours synchronous	Hands-on course integration workshop	E-learning faculty	
Day 3			
1 hour synchronous	Ice breaker & faculty best-practices	E-learning faculty	Workshop
2 hours synchronous	Engagement strategies	E-learning faculty	
.75 hours	lunch		
2 hours synchronous	Student & teaching presence	E-learning faculty	
2 hours synchronous	Hands-on course integration workshop	E-learning faculty	

Training sessions would not take place in sequential days; likewise, Day 1 of training would not take place in one day. The presentation to decision-makers would take place at a time convenient to their schedule. The asynchronous modules for e-learning faculty will be available two weeks ahead of the face-to-face, hands-on workshops held in Day 2 and Day 3. Day 2 and Day 3 training will also not be on consecutive days, to allow for faculty members to continue working on the integration of the learning they obtained during the time between training, and then bring back any questions or comments they might have that can be shared with the group. Collaboration is a desired component of faculty development, and leads to peer collaboration, discussion, shared experience, positive culture, instructional change, critical thinking, and instructional change (Balta & Eryilmaz, 2019; Betts & Heaston, 2014; Borup & Evmenova, 2019; Darling-Hammond et al., 2017; El-Deghaidy et al., 2015; Evers et al., 2016; Hooks, 2015; Nishimura, 2017; Saberi & Sahragard, 2019; Shirazi et al., 2015). PowerPoints used in the presentation and asynchronous training module components are available in Appendix A.

Roles and Responsibilities

Regarding professional development opportunities, there are several roles that would be relevant. Firstly, I would need to design the online teaching components, and plan the face-to-face components, thus one of my roles would be that of curriculum designer. In addition, I will need to facilitate the online components, and I will also need to lead and/or facilitate the workshop components. I will also be responsible for room bookings, required materials, and refreshment bookings.

In addition, IT staff and Moodle Help staff will have to be available to help with the Moodle course design and the face-to-face workshop components, as needed. In order for them

to be prepared, once I have scheduled the dates for the face-to-face portions, I will need to notify IT staff regarding the possible help that might be required. In addition, for the hands-on component of the workshops, I will request a Moodle Help staff person to be present to assist with any Moodle design questions. Thus, IT and Moodle Help staff will also have facilitation roles.

The VPA will have a role to play in supporting, encouraging, and promoting the professional development opportunity. In addition, given that one of the observations made within the study was an improved e-learning orientation, and a pre-e-learning video accessible via the study site website for potential students, the VPA will need to be supportive of this venture, as it will involve some video recording of student observations regarding their e-learning success for potential students to hear.

Finally, the student role and peer support role will belong to the e-learning faculty members who choose to participate in the training. They will be responsible for completing the online components, and the activities therein before attending the face-to-face, hands-on workshops. Within the workshops, participants will be responsible for sharing their reflections, observations, and suggestions, as well as working on their Moodle courses to include some of the ideas regarding engagement enhancement. In addition, they will support their peers with observations or suggestions. Without commitment to the various roles by the various staff involved, a professional development opportunity is less likely to be successful.

Project Evaluation Plans

Evaluation is an important aspect of professional development (Borg, 2018). From an evaluation, the facilitator can determine if resources are being used effectively, if learning

outcomes were achieved, if improvements need to be made, and if further decisions regarding professional development should take place (Borg, 2018). Evaluations of the project will take place at the end of each session, online module, or presentation. Faculty participants will complete an electronic assessment using a Likert scale with open-ended questions on each of the workshops or modules they attended during the day (see Appendix A). The survey will include questions on design, delivery, and effectiveness of the training. From the evaluation results, I can make changes to future professional development or online course modules. One of the stakeholders for this workshop will be the faculty participants, who will want to see improvements made, if necessary, for upcoming topic sessions. In addition, future faculty who take advantage of the online asynchronous modules will benefit from changes that may result from evaluation comments. Another stakeholder is the college, who would want to determine if the resources, including personnel, time, and financial, are worth the investment. Evaluation is critical in measuring professional development success (Clarke-Cook, 2019). The evaluations will contribute to an effective measure for all of these stakeholders.

Project Implications

Local Implications

From the results of this study, several outcomes may occur. First, faculty members at the local study site may find student engagement improves within their e-learning courses. Increased engagement could lead to increased student satisfaction and success within their programs. Ideally, those students who might have previously dropped their program of studies could complete their training, and enter the workforce with postsecondary credentials, leading to an increased economic impact for their families and their communities. As well, with increased

student engagement, the potential exists that other staff members and non-e-learning faculty within the institution may increase their confidence in the success of e-learning courses as well, lending increased support for students in this modality. As noted by Glazier (2016), course design, learner support, instructor support and institutional support all influence student success.

Furthermore, employing study results and recommendations may lead to an increased number of students who see themselves as non-e-learners begin to see themselves as e-learners. When students see themselves as part a community of learners, this can lead to improved success (Maslow, 1987). This perception change could lead to increased opportunities for furthering educational goals for those unable to leave their home communities. As well, perception changes amongst potential and first-year, nontraditional students might also lead to change within their families who may choose to obtain educational opportunities they previously thought impossible.

Societal Implications

With the rise in the demand for e-learning, and the increasing e-learning offerings by postsecondary institutions, the results of this study may have further-reaching implications. Faculty members at other institutions may also find opportunities and recommendations that they could apply to their own e-learning course design and facilitation. By presenting at conferences and workshops to share the study results and the project information, I may be able to provide observations that other faculty members may be interested in adopting. E-learning can increase access; foster equity in the classroom given it is blind to colour, gender and class; create affordable and convenient learning opportunities; and increase student learning skills (Cleveland-Innes & Wilton, 2018). The knowledge from this workshop, and the developed skills, may encourage further observations that potentially further e-learning engagement and success.

Conclusion

From the study results, I designed a professional development opportunity involving online modules and face-to-face workshops. The topics for the professional development opportunity covered institutional presence; course design and facilitation best practices; targeting behavioral, emotional, and cognitive engagement strategies; student presence; and teaching presence; and student development. I could continue to update the e-learning modules I designed, which will benefit faculty members who join the institution after the workshops take place. As well, better orientation and preexposure opportunities to e-learning will enhance the overall e-learning college experience.

In Section 3, I have provided a literature review for professional development as well as for study results' themes. Then, I provided a description of the project and the required supports and resources. I further addressed the potential barriers and solutions to overcome those barriers. Then, I addressed the required timeline and implementation plan. As well, I discussed the roles and responsibilities of others and myself. I also presented an evaluation plan. Finally, I discussed the implications that could result from the project. Section 4 will provide reflections and conclusions and will discuss the project strengths and limitations; recommendations for alternate approaches; scholarship, project development, leadership, and change; my reflection on the importance of the work; and finally, implications, applications, and future directions.

Section 4: Reflections and Conclusions

Project Strengths and Limitations

By attempting to improve nontraditional student e-learning engagement as outlined in the project, there are several areas of strength and of limitation. Firstly, given that I designed the project directly from the results of the quantitative and qualitative study results, the project should better enable e-learning practitioners to incorporate changes, including learning and teaching strategies, into their e-learning course platforms, to better engage students at WCC in the e-learning modality. Faculty members can apply many of these potential changes in face-to-face classrooms as well because nontraditional students comprise over 50% of WCC enrollments (see Vladicka, 2015).

In addition, the project responded to current issues and practices addressed in the literature review. The scholarship of learning and teaching, including for the e-learning modality, continues to evolve and make recommendations to better enhance student engagement. With a focus on the nontraditional learner, the project fills a gap in practice both at the local level and within current scholarship practice.

A final strength of this project is to remind faculty of the importance of continuing to improve their learning and teaching practice. The project allows faculty to discuss and share best practices regarding their course platforms and teaching methodologies. By introducing college faculty to theoretical practices such as the CoI (see Garrison et al., 2000), faculty can become more purposeful in their course design and facilitation. In addition, by encouraging fellow WCC practitioners to contribute to the professional development, it creates a body of faculty member experts, which may encourage continual conversation to enhance teaching practices.

As with any study, there are also limitations. I developed the project to address nontraditional student e-learning engagement from the responses of only a small number of student respondents; 35 of a potential 149 e-learning students responded, and, of those, only 31 completed the survey. Thus, the respondents were not representative of the student body. However, though not representative, these nontraditional students addressed their personal experiences as first-year, e-learning students. Additionally, because the student responses were from varied programs and across varied subject areas, this could have affected how they responded, depending on which course or courses they were considering when responding.

Another limitation of the project is that it makes suggestions regarding faculty learning and teaching practices. While most faculty are very student-focused, making changes to e-learning platforms and teaching methodologies takes significant time. In addition, it also may fringe on academic freedom because it suggests faculty members should make changes to their online course design and facilitation. However, by focusing on evidence-based research that demonstrates the potential benefits by incorporating suggestions from study results and observations, faculty members are likely to want to try suggestions to improve student engagement and potentially student outcomes.

However, at the study site, while most faculty members are continuous employees, there are many e-learning faculty who are sessional (adjunct) instructors. Sessional instructors are not financially supported to attend professional development opportunities, nor are they financially supported outside of their teaching time to make changes to their courses or their teaching strategies. Thus, for these faculty members, there is little incentive to make change other than personal, internal motivation.

In addition, if these sessional faculty are unable to receive the project information, they may not even know of the potential changes they could make, even if this was something they desired to do on their own time. The lack of support for sessional instructors is not a site-specific problem but occurs in many institutions. Providing better learning opportunities for students is a responsibility that lies with everyone within the institution. Thus, the inadequacy of resources (money and time) is a significant limitation. However, the online components of the professional development will increase sessional faculty members' learning opportunities.

Recommendations for Alternate Approaches

An alternate approach to this study rather than a 3-day professional development would be developing a manual of best-practices for e-learning faculty members. A manual would be a beneficial resource that could be continually referred to and provided for future new e-learning faculty. Another option might be to continually add to the e-learning asynchronous course modules as further information or resources become available. Either of these options would be editable and updateable when new information arises. Both of these methods allow for working with faculty regardless of time or location boundaries. Given that WCC has a number of campuses from which its faculty teach, as well as faculty who teach from home, neither of these are good options.

Another alternate approach might be to hold face-to-face interviews with e-learning students. In my study, students answered qualitative questions regarding their e-learning engagement; however, I was not able to ask questions to expand my understanding regarding what they stated. A number of comments were vague or lacking specificity, and so being able to speak directly to student participants may provide even deeper insight into their thoughts

regarding their engagement. In addition, given that during the OSE quantitative analysis, several of the OSE questions analyzed with Kendall's tau-*b* demonstrated no association, it would be recommended to do further study using this method to determine if this was an anomaly or an accurate assessment.

Furthermore, the number of student respondents was low; only 31 students completed the surveys of a potential 149 students; while this number of respondents was sufficient for Kendall's tau-*b*, repeating the OSE survey in another semester might be beneficial to determine if other first-year, nontraditional students feel similarly. In addition, if the survey were repeated after changes have been made to courses, it would be interesting to see how students respond to the same questions.

Scholarship, Project Development, and Leadership and Change

Scholarship

As an educator, I have been very invested in the idea of continual learning and improving my teaching practice. Throughout my doctoral journey, I became significantly more focused on the practice of finding and analyzing scholarly evidence, and I have definitely improved my skills in this area. As I progressed through the prospectus and proposal, I gained new appreciation for doctoral writing and reflection. Having never conducted my own study previously, I made significant gains about the process to develop an appropriate study that would meet the rigorous expectations of the community of practitioners. Initially overwhelmed by a mixed-methods approach, I am very pleased to have accomplished this study. It challenged me to learn the rigor of both quantitative and qualitative methodology. I had no idea of the scope of the process until I was in the midst of the study. It has been an excellent experience, and I feel more

confident in my researching abilities. It has also been an emotional journey, one that challenged me to become a better practitioner. According to Darling-Hammond et al. (2017), the competencies students require for the 21st Century make it necessary that practitioners learn and refine their pedagogies and skills; thus, the doctoral journey has sparked for me an unquestionable respect for research-based practice.

In further reflection, I was surprised with the personal challenges I faced as I worked through data analysis. I was significantly worried about the quantitative analysis, but by using numerous resources to help me understand IBM SPSS (Version 25, 2017), as well as the support of Walden data analysis tutor, my chair, and my committee members, I found quantitative analysis unexpectedly less challenging than qualitative analysis. During qualitative analysis, I struggled with using Dedoose software and eventually reverted to hand-coding. In addition, because of the amount of qualitative data I gathered, it took significantly longer than I had ever expected to complete the analysis write up. However, once everything was completed, I was very pleased with my accomplishments.

I also experienced the challenge many doctoral students face when they complete the structured coursework and move into the less structured proposal development and research. According to Pifer and Baker (2016), these significant tasks bring "equally significant fears, concerns, and self-doubt" during this isolating time (p. 20). Personal relationships are sacrificed for research and writing, and many times there are no precedents for the doctoral student to connect with (Pifer & Baker, 2016). It became important to maintain email and texting relationships with my Walden peers and my work peer as we encountered the challenges faced

on our personal doctoral journeys. As well, many times I needed to reach out to my chair for reassurance.

The doctoral journey has, for me, reinforced the need for continued professional development to improve professional competency (Putech & Kaliannan, 2016). Short courses, conference attendance and presentations, and gaining new qualifications are examples of continued professional development opportunities (Putech & Kaliannan, 2016). I have recently enrolled in a short course on Blended Learning Practice (Commonwealth of Learning, 2020) to better enhance my understanding of e-learning best practices, even though I was still working on study completion. I have come to accept that my desire for continued learning to improve my practice is not likely to end.

Project Development

As an e-learning educator, I became very engaged in looking at ways to improve our e-learning courses at WCC. Overtime, as I began researching e-learning, it became clear that e-learning research was a significant area of interest for postsecondary practitioners. Throughout the journey, I began to focus on engagement, and, in particular, nontraditional students because of the increasing enrollment by this student group and because of the large percentage of enrollment of this student group at the local study site. I was most interested in student engagement because while many students were able to complete their course of study via e-learning, there were a number of students who continued to express their dislike for e-learning in general. Thus, this study evolved out of a local problem at WCC, and it helps to fill a gap regarding first-year, nontraditional student engagement in e-learning courses. As new knowledge continues to arise, the connection between research and practice remains of utmost importance

(Pifer & Baker, 2016). I hope to continue developing better, research-based teaching resources for fellow educators even after project completion.

Leadership and Change

Although I have no formal leadership role at my institution, I believe I have gained and enhanced leadership skills along this doctoral journey. I have worked with fellow doctoral peers both at a distance and within my institution. During my doctoral journey, I also presented workshops internally, presented my first workshop at an external conference, and I plan to continue to present at external conferences when the opportunities arise. Effective leadership in education requires a commitment to improving student learning outcomes while balancing the changing educational environment (Barker & Ayala, 2017). An additional result is, through my personal leadership, my children have developed aspirations for their own graduate journeys. I look forward to other leadership opportunities that may arise.

During the doctoral journey, I have also reflected on the changes I have made. I have gained a significantly better understanding of quantitative and qualitative analysis methods, which challenged me and led me to realize that I have acquired new skills. This doctoral journey has also led me to use my research skills in evidence-based practice in other areas of my employment and community involvement. I find myself continually referring to evidence-based practices and thought-processes. In addition, I have gained further appreciation of the far-reaching implications of social change and I continue to consider social change as part of my teaching methodologies. Finally, I try to approach the courses I teach with the idea of igniting social change in my students as they progress in their journeys. Educational leadership serves as the catalyst for effective change within educational institutions (Barker & Ayala, 2017).

Reflection on Importance of the Work

Reflective practice, according to de Caux, Lam, Lau, Hoang, and Pretorius (2016), is essential to improving professional practice. Reflection allows a practitioner to purposely explore personal experiences and acquired knowledge so that professional practice improves (de Caux et al., 2016). It further enables scholarly educators to identify future educational needs and make further improvements to personal skills and professional practice (Pretorius & Ford, 2016). Thus, reflecting on the work in this study is an important avenue for my future practice.

E-learning is still an important area for continuing research. With continued increasing enrollments in e-learning courses, and increasing enrollments in nontraditional students, it remains an important consideration for postsecondary institutions. By attempting to address teaching and learning strategies focusses on engagement for nontraditional e-learning students, this study has contributed to a better understanding of student and faculty perceptions. An important observation in this study were the students' perceptions of their overall behavioral, cognitive, and emotional engagement in comparison to engagement strategies as outlined in the OSE (Dixson, 2010, 2015). In addition, another important observation were the areas for suggested improvements regarding orientation opportunities, best-practices in course structure and design, best-practices in delivery, intuitional presence, and student development. Finally, it became clear that if an institution can focus on addressing students' fears of not seeing themselves as e-learners, doing so could have significant impact on these students' ability to engage or succeed in their postsecondary program.

Implications, Applications, and Direction for Future Research

Implications

The project addresses the need to continue to improve e-learning student engagement. By focusing on best-practice strategies, and strategically targeting areas identified for potential improvement from the study results, it can help promote e-learning engagement potentially for all students. Good course design, learner support, online learning communities, instructor rapport and facilitation, and institutional support can all influence e-learning student success (Glazier, 2016). From a social change aspect, improving e-learning strategies to increase student engagement can have a positive effect on student self-esteem, personal goals, success, and completion rates for all students, including marginalized students. Students who may have previously withdrawn due to their lack of engagement in e-learning courses might now be better equipped to stay and complete their program of studies. A 21st century skill is the ability to move from passive to active learner (Cleveland-Innes & Wilton, 2018), and improving practice can lend to this social change in students. Additionally, should the project be successful, it may help other scholarly practitioners to enhance their understanding of and improve their e-learning engagement strategies. As noted by Martin, Galentino, and Townsend (2014), many nontraditional students enter postsecondary programs underprepared, and thus meaningful social change occurs when they overcome their academic challenges.

Applications

This study has applications beyond the present. Study results will aid college practitioners to improve their current e-learning practice regarding engaging nontraditional students. In addition, through the creation of the professional development online modules,

future educators will also have a greater understanding of e-learning theories and best practices regarding engagement. College administration will also have opportunity to encourage practices that support the needs of future students, including and especially those who see themselves as non-e-learners but wish to improve their educational opportunities beyond their current limitations. Furthermore, I can present study results and professional development results at internal and external conferences, promoting better understanding of nontraditional e-learning student engagement.

Direction for Future Research

There should be continued research on e-learning engagement. Based on the observations in this study, future research could occur by using the OSE (Dixson, 2010, 2015) again after changes occur in e-learning course design and delivery, to determine if students' self-assessment of their engagement has increased beyond no association or low association teaching strategies. As e-learning practitioners develop enhanced an understanding of e-learning engagement, other research opportunities will arise as a result, and will continue to contribute to the scholarly community.

Conclusion

Section 4 outlined my reflections on my personal learning journey throughout this doctoral pursuit. As a scholar practitioner, Section 4 provided me with an opportunity for reflection, an important component of the research process. I discussed the project strengths and limitations, provided recommendations for alternate approaches, and I commented on my scholarship, the project development, leadership, and change. Then, I provided my reflection on

the importance of the work and finally the implications, applications, and future directions I see from the study results.

This case study employed a mixed-methods sequential approach to increase the body of knowledge on nontraditional e-learning student engagement. Important take-aways include institutional presence, instructor and student social presence, e-learning best practices, OSE engagement strategies, and student development. In addition, I designed a figure that applied Maslow's pyramid of needs to e-learning for the benefit of e-learning practitioners. With the continued rise of nontraditional students in postsecondary settings, and the continued increase of e-learning postsecondary opportunities, nontraditional e-learning will continue to be a necessary area for scholarly research.

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Appendix A: Faculty Professional Development Workshop

Faculty Professional Development Workshop

Appendix A Table of Contents

Goals, Audience, Outcomes, and Mode of Instruction

Goals. The goals of the professional development project are: (a) to provide a better understanding for college decision-makers of the institutional support needed by first-year, nontraditional e-learning students; (b) to increase institutional understanding of the need for improved e-learning orientation and introduction to e-learning success for first-year, nontraditional e-learning students; (c) to provide e-learning faculty examples of research-based best-practices in e-learning course design, tool integration, and facilitation; (d) to provide e-

learning faculty opportunity to collaborate with peers; (e) to provide e-learning faculty opportunities for hands-on application of theory and study results recommendations; (f) to integrate ideas for improving student social presence and instructor presence in e-learning courses; (g) to develop ideas for e-learning student self-development; (h) and to share study results.

Audience. The audience of the professional development project are WCC college executive, and e-learning faculty at the local study site. Faculty members range from relatively inexperienced e-learning instructors to those who have taught in this modality for over ten years.

Mode of instruction. The mode of instruction for this professional development experience includes an executive summary presentation for college decision-makers, asynchronous modules of instruction for faculty, and synchronous presentations for faculty. For the asynchronous modules, faculty participants will be able to access the full Moodle course; however, the participants will be asked to select a minimum of one Moodle to complete, whichever module is of the most interest to them; ideally, each module will be selected by several faculty from the total participants. Then, during the synchronous presentation, these faculty will lead the conversation, sharing what they learned in their selected Moodle module. Should one of more of the modules not be selected by a participating faculty member, the course facilitator would lead the discussion of that module. Using this method, faculty would be able to go through the entire module course, if time and interests permits, or would only have to asynchronously study one module.

Outcomes. The desired outcomes for the professional development include: (a) an increased understanding of first-year, nontraditional e-learning student needs; (b) creating

opportunities to improve e-learning course design and delivery; (c) and creating an enhanced community of learning amongst e-learning faculty.

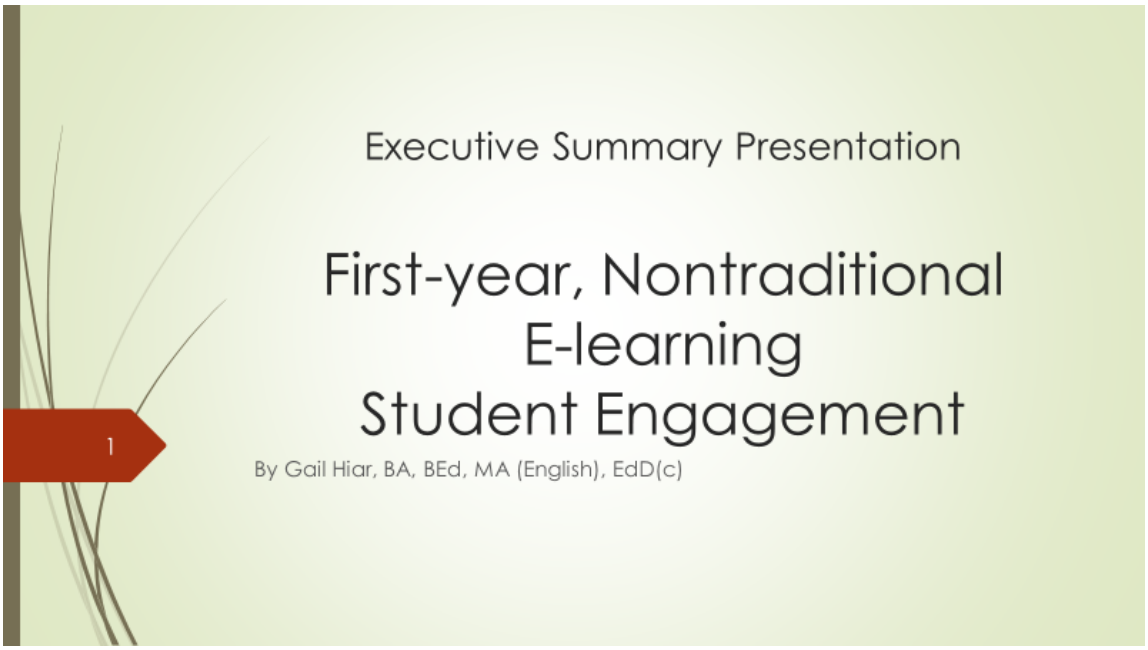
Components

Table A1

Components

Time Period	Professional Development Component	Audience	Format
Day 1			
I hour synchronous	Study results & institutional presence	College decision-makers	PowerPoint presentation
2 hours asynchronous	Course design best practices	E-learning faculty	Moodle module
	Course facilitation best practices	E-learning faculty	
2 hours asynchronous	Behavioral engagement	E-learning faculty	Moodle module
	Emotional engagement	E-learning faculty	
	Cognitive engagement	E-learning faculty	
2 hours asynchronous	Teaching presence	E-learning faculty	Moodle module
	Student presence	E-learning faculty	
Day 2			
1 hour synchronous	Introduction & study results	E-learning faculty	Workshop
2 hours synchronous	Institutional presence & Maslow's needs applied to e-learning	E-learning faculty	
.75 hours	lunch		
2 hours synchronous	Course design & facilitation best practices	E-learning faculty	
2 hours synchronous	Hands-on course integration workshop	E-learning faculty	
Day 3			
1 hour synchronous	Ice breaker & faculty best-practices	E-learning faculty	Workshop
2 hours synchronous	Engagement strategies	E-learning faculty	
.75 hours	lunch		
2 hours synchronous	Student & teaching presence	E-learning faculty	
2 hours synchronous	Hands-on course integration workshop	E-learning faculty	

Component 1: PowerPoint Presentation Day 1: Executive Summary Presentation



3

Nontraditional Student Engagement

- (Bridge-In)

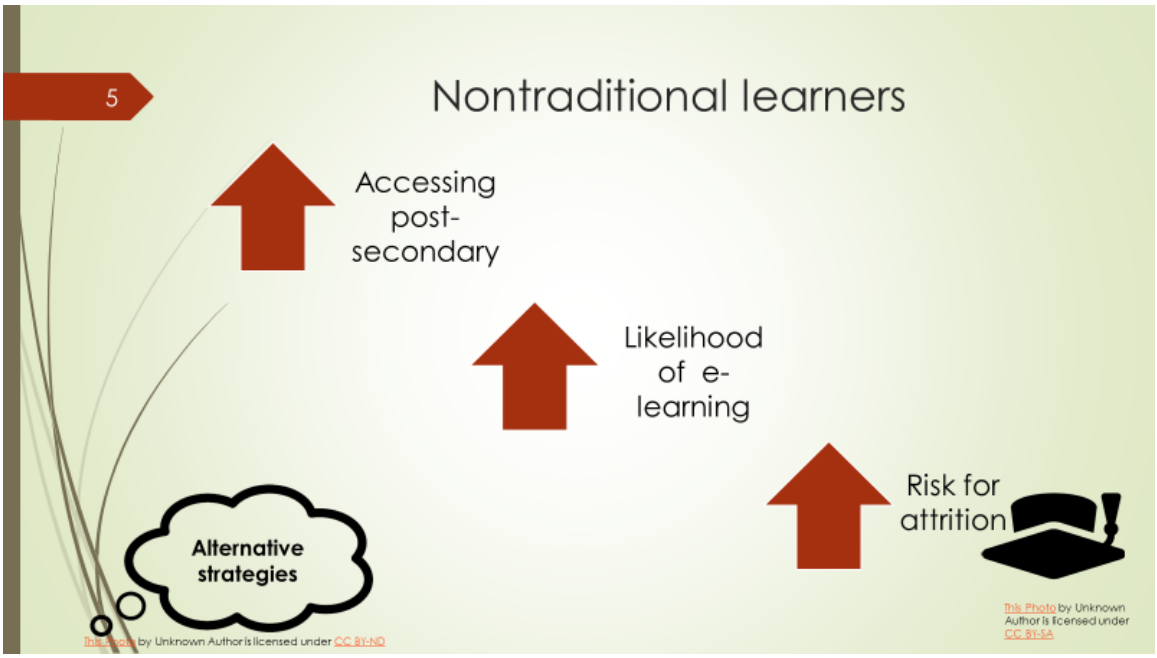
At Western Canadian College (WCC), over 50% of students are nontraditional learners (Vladika, 2018)

4

Why research first-year, non-traditional student e-learning engagement?

First-year student ↑ attrition

E-learning ↑ attrition


5
Nontraditional learners
Accessing post-secondary
Likelihood of e-learning
Risk for attrition
Alternative strategies
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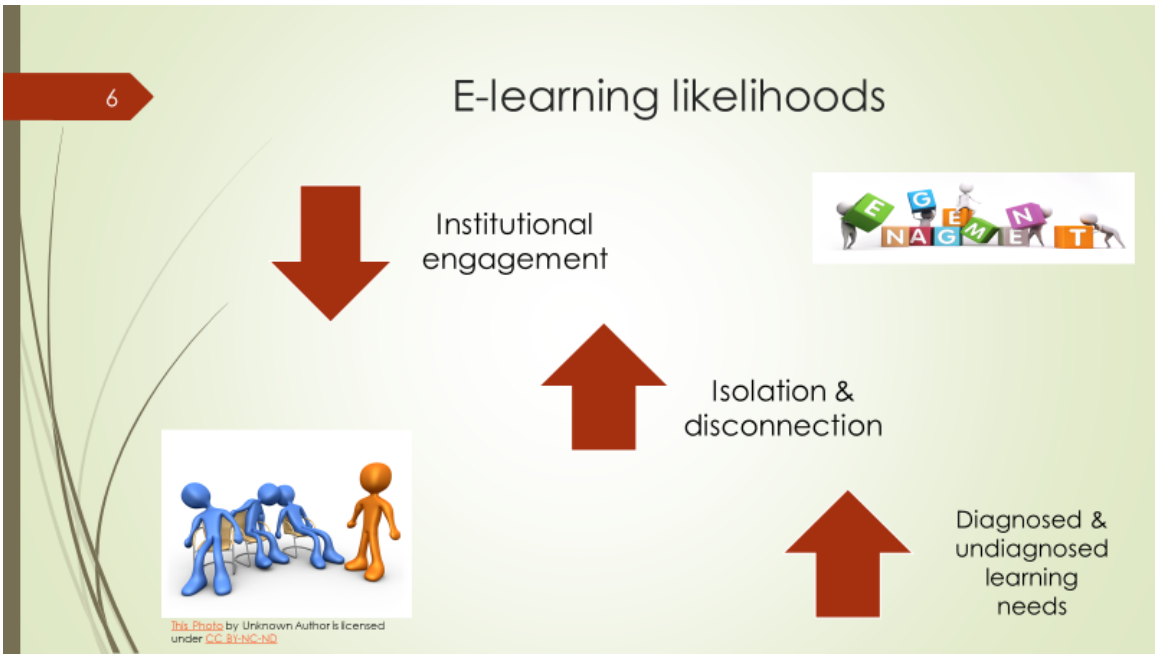
6
E-learning likelihoods
Institutional engagement
Isolation & disconnection
Diagnosed & undiagnosed learning needs
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7

Why research first-year, non-traditional student e-learning engagement?

increase understanding of how technology integration affects student engagement

8

Presentation purpose

(Learning outcomes)

- Audience will explore study results for first-year, nontraditional e-learners
- Audience will review recommendations for non-e-learners
- Audience will discuss impact of institutional presence for nontraditional e-learners

9

Nontraditional Student engagement

(pre-assessment)

- What do we know about nontraditional students?
- What do we know about engaging these students?
- What do we know about online engagement?

10

Nontraditional Student Engagement Study Purpose

to investigate what teaching and learning strategies contribute to first-year, nontraditional students' behavioral, emotional, and cognitive engagement in e-learning courses

11

Research Question: Quantitative
RQ1

As measured by the Online Student Engagement Scale (OSE), is self-assessed **behavioral, emotional, and cognitive** engagement associated with **learning strategies** that promote behavioral, emotional, and cognitive engagement amongst first-year, nontraditional e-learning students?

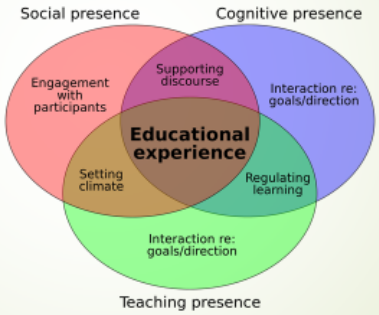
12

Research Questions: Qualitative
RQ2, RQ3, RQ4

- RQ2: How do first-year, nontraditional e-learning **students** in a community college **describe their behavioral, emotional, and cognitive engagement**?
- RQ3: How do **faculty describe behavioral, emotional, and cognitive engagement** amongst first-year, nontraditional e-learning students in a community college?
- RQ4: How can **teaching strategies** be used to **increase** first-year, nontraditional e-learning students' behavioral, emotional, and cognitive engagement?

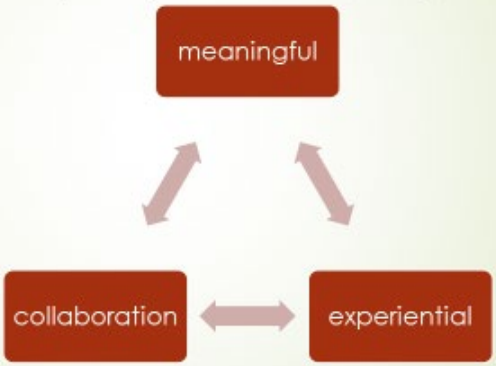
13

Conceptual or Theoretical framework
Community of Inquiry (CoI)
(Garrison, Anderson, & Archer, 2000)



14

Conceptual or Theoretical framework
Theory of Student Engagement
(Kearsley & Shneiderman, 2002)



15

Literature Review

Student engagement impacts learning

Nontraditional student engagement is not well understood

Engagement is even more crucial in e-learning

16

Explanatory sequential mixed methods case study

17

Participants and Sample Size

149 e-learning students invited to participate from College Prep, EA, ELCC

35 students responded

31 self-identified as non-traditional = data used

7 faculty members

18

Nontraditional student characteristics

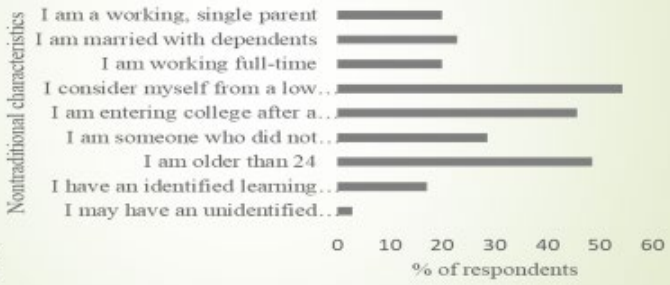
- I am a working, single parent
- I am a married with dependents
- I am working full-time
- I consider myself from a low-income background
- I am entering college after a few years away from high school

- I am someone who did not complete high school but am returning to upgrade
- I am older than 24
- I have an identified learning barrier
- I may have an unidentifiedl learning barrier

19

Quantitative Data Analysis

Demographic data



20

Quantitative Data Analysis

Kendall's tau-*b*

Measure of association

Ordinal level of engagement self-assessment

Ordinal level of engagement

21

Quantitative Analysis Summary

Behavioral Engagement

Moderate Association	Low Association	No Association
Being organized with notes	Studying at least 3x per week	Engaging in online conversations
Listening and reading carefully	Completing readings weekly	Getting to know other students
Posting regularly in live chat	Looking over notes between classes	
	Helping fellow students	
	Making own notes	

22

Quantitative Analysis Summary

Emotional Engagement

Moderate Association	Low Association	No Association
Applying course material to one's own life	Putting forth effort	Finding ways to make the course interesting to self
	Finding ways to make the course relevant to own life	Really desiring to learn the materials
	Having fun in online chats, discussions or via email with instructor or students	Helping fellow students
		Engaging in online conversations
		Getting to know other students

23

Quantitative Analysis Summary

Cognitive Engagement

Moderate Association	Low Association	No Association
looking over course notes between getting online	Applying course material to one's own life	Finding ways to make the course relevant to one's life
	Getting grades above 60% on assignments	
	Getting grades above 60% on test/quizzes	

24

Qualitative Data Analysis

1. Student open-ended survey questions

2. faculty interviews

code → themes → connect

25

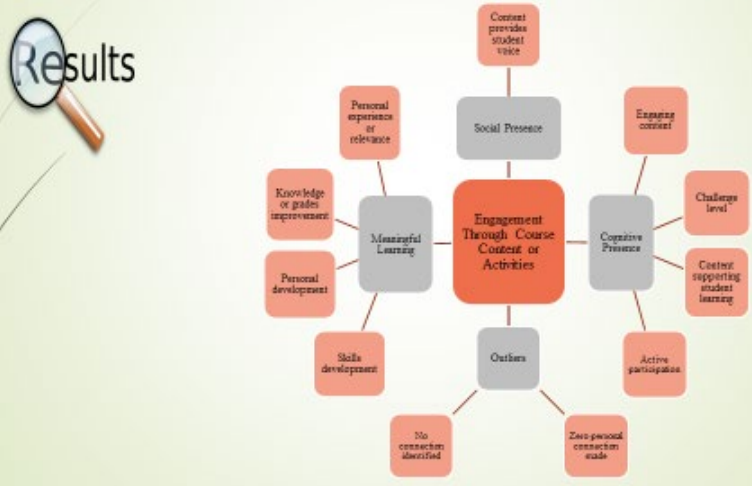
Qualitative Data Analysis
OSE Survey open-ended questions

22. Question set one: Engagement with Course

- a. What assignments, activities, or requirements of this course encouraged you to really think about or be interested in the content of this course? (please list one or two) (copyright Dixson, 2010)
- b. How do the materials or activities help you make personal connections to the course information? *(cognitive presence; meaningful learning; self-directed learning; RQ2, RQ4)*

26

Qualitative Data Analysis
Students' engagement with course content/activities



27

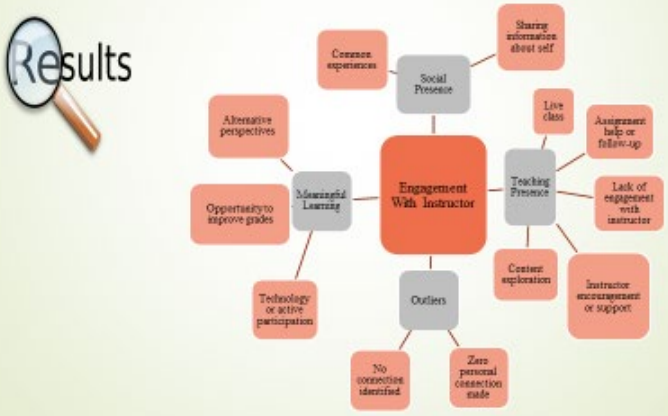
Qualitative Data Analysis OSE Survey open-ended questions

23. Question set two: Engagement with Instructor

- a. What assignments, activities, or requirements of this course encouraged you to interact with the instructor? (please list one or two) (copyright Dixson, 2010)
- b. What tools or strategies does your instructor use that increases your learning or participation? (*Social presence, teaching presence, cognitive presence; meaningful learning, collaboration, self-directed learning; RQ2, RQ4*)

28

Qualitative Data Analysis: Engagement with Instructor



29

Qualitative Data Analysis
OSE Survey open-ended questions

24. Question set three: Engagement with Peers

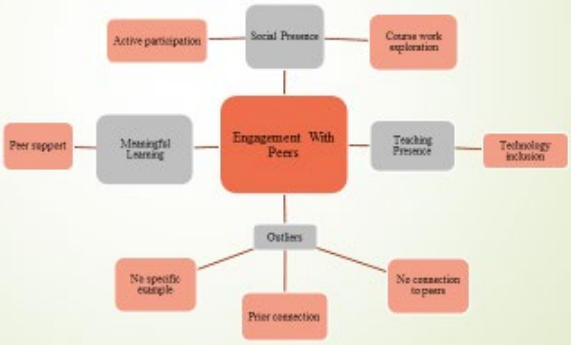
- a. What assignments, activities, or requirements of this course encouraged you to interact with the other students? (please list one or two) (copyright Dixson, 2010)

  (social presence; collaboration; self-directed learning; RQ2)

30

Qualitative Data Analysis: Engagement with Peers

Results



31

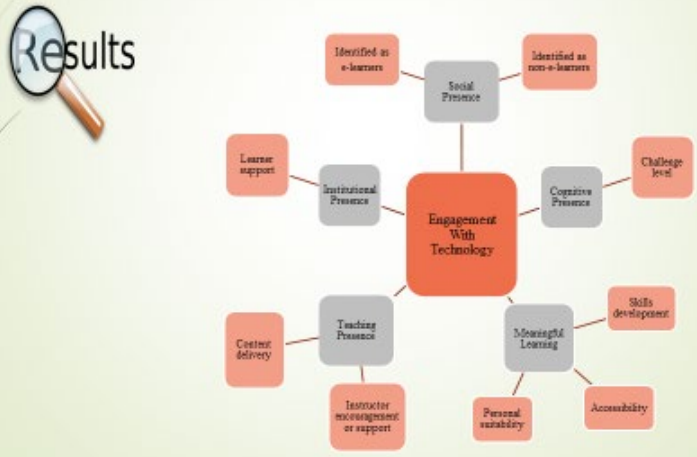
Qualitative Data Analysis
OSE Survey open-ended questions

25. Question set four: Engagement with technology

- a. Can you share how you felt learning to use the technology? (*social presence; meaningful learning; self-directed learning; RQ2*)
- b. What would you say was most helpful in working with the technology? (*cognitive presence; meaningful learning; collaborative learning; RQ2, RQ4*)

32

Qualitative Data Analysis:
Engagement with Technology



33

Summary of students' engagement perceptions: course, instructor, peers & technology

34

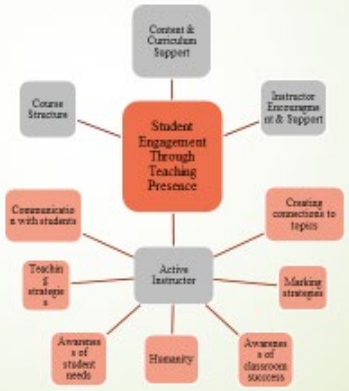
Qualitative Data Analysis Faculty Interviews

How do faculty describe behavioral, emotional, and cognitive engagement amongst first-year, nontraditional e-learning students in a community college?

35

Qualitative Data Analysis
Faculty Interviews: Teaching Presence

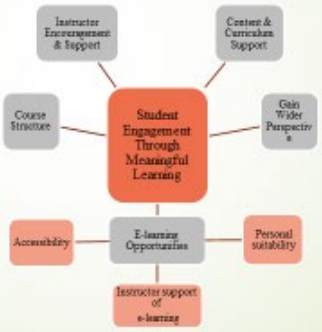
Results

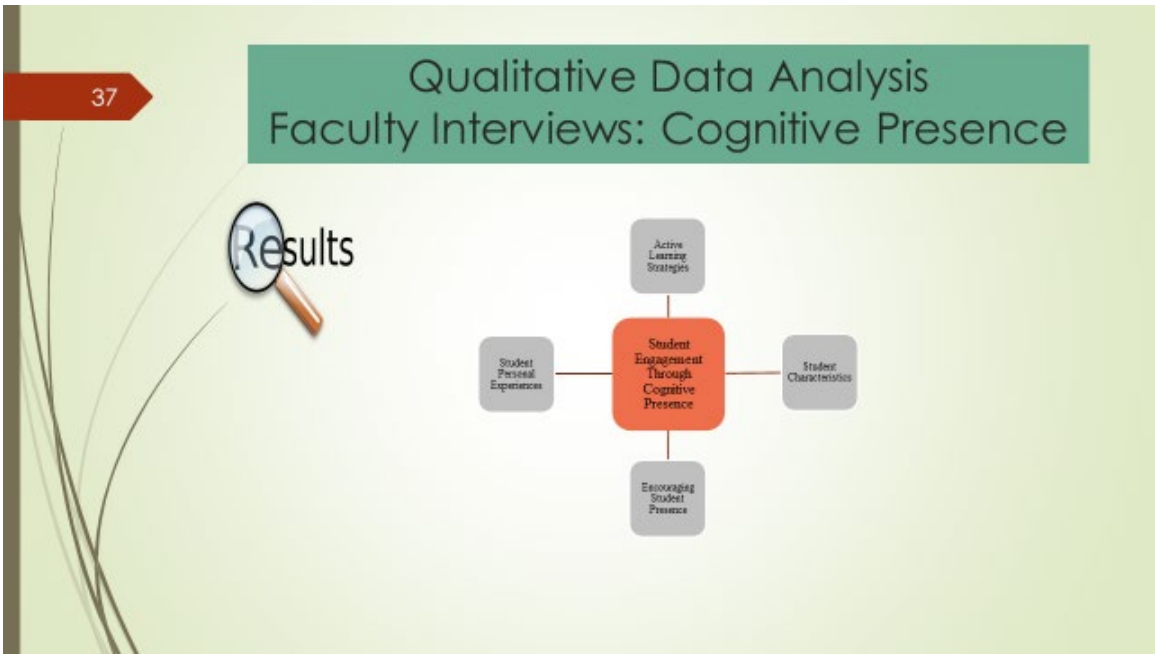


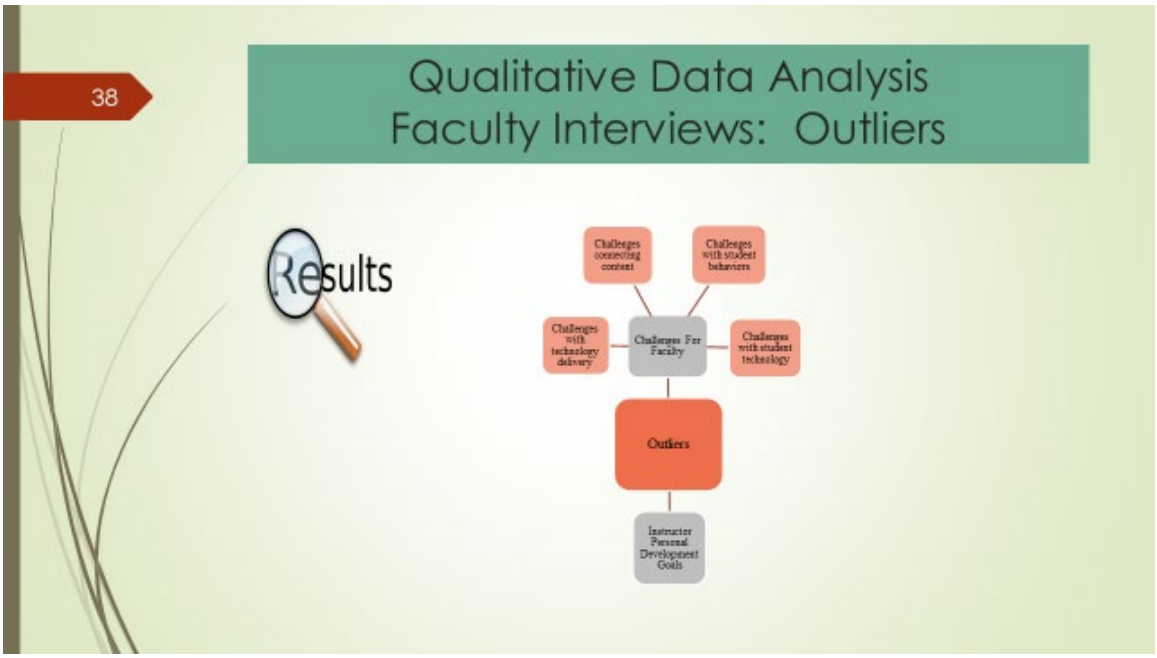
36

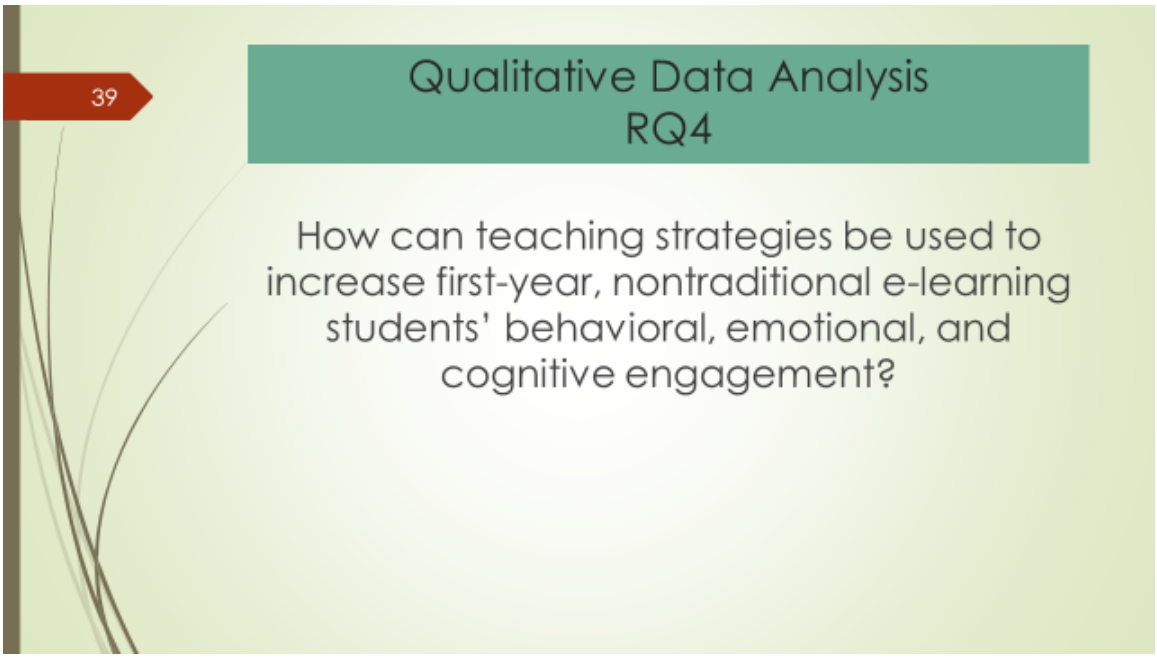
Qualitative Data Analysis
Faculty Interviews: Meaningful Learning

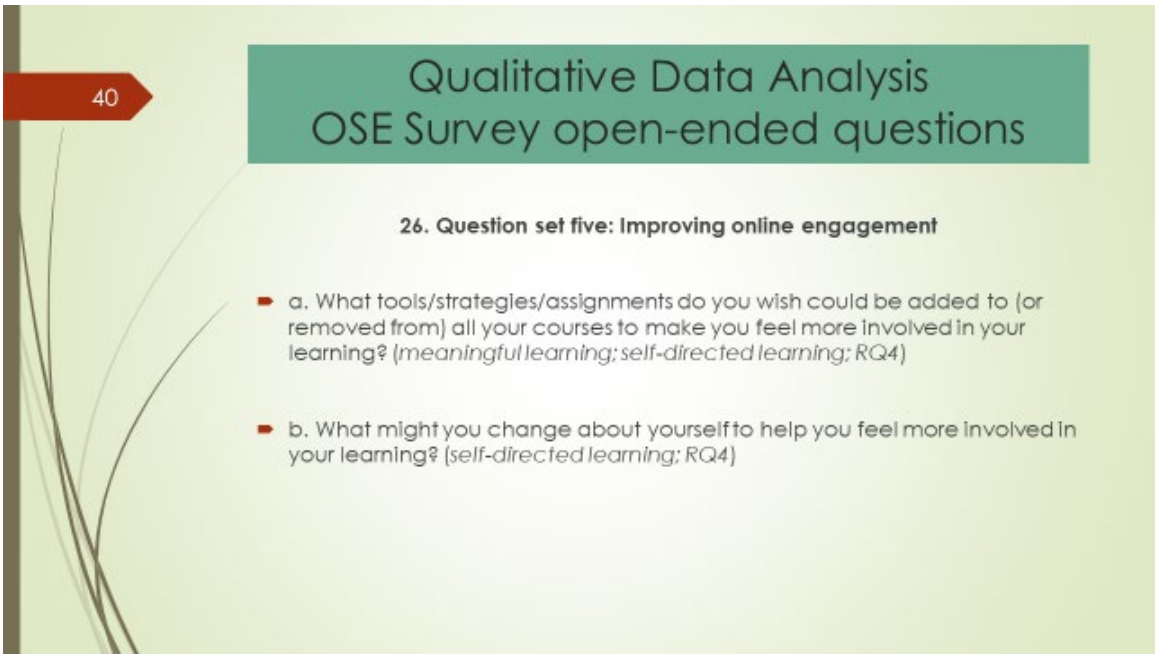
Results

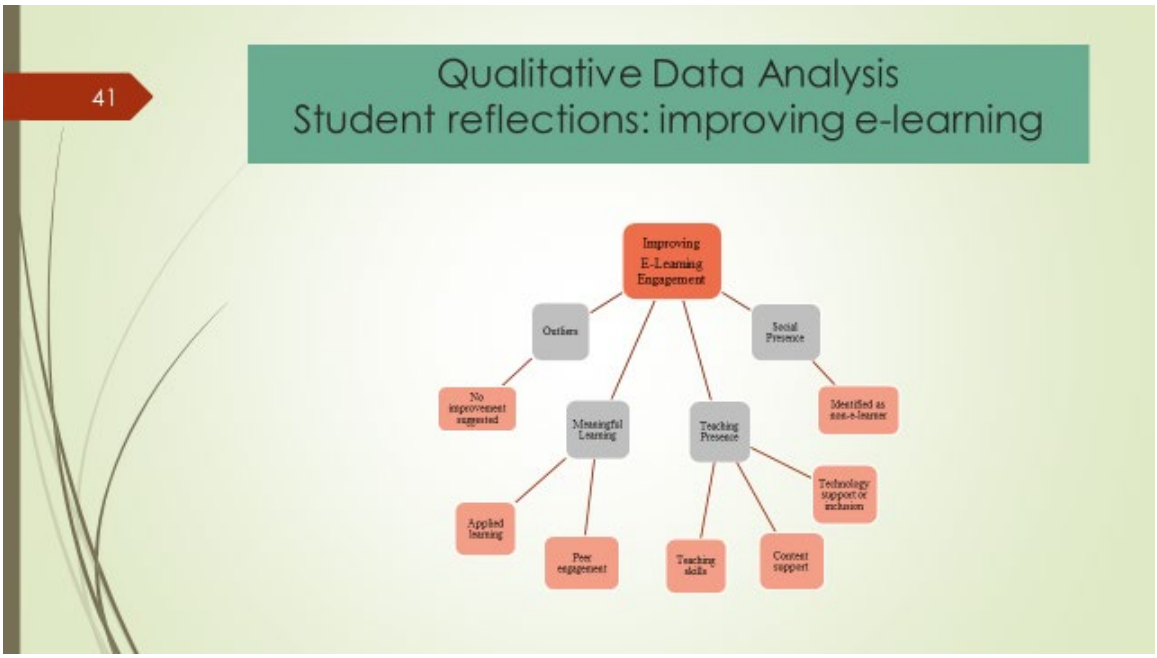


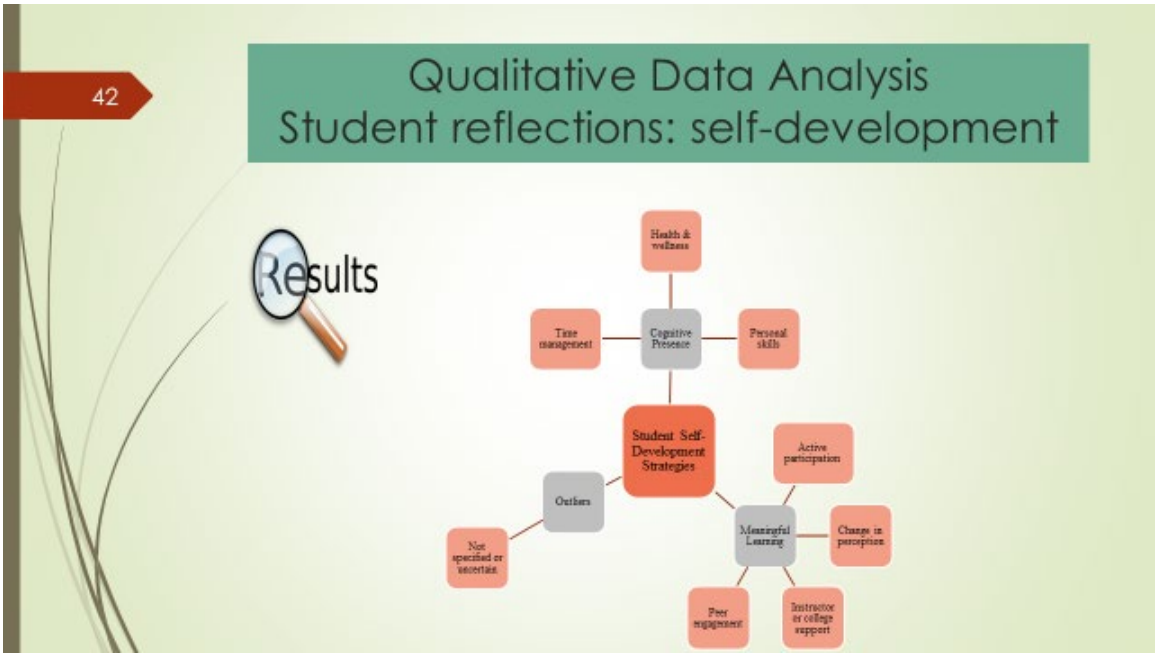

37
Qualitative Data Analysis
Faculty Interviews: Cognitive Presence
Results
Active Learning Strategies
Student Personal Experiences
Student Engagement Through Cognitive Presence
Student Characteristics
Encouraging Student Presence


38
Qualitative Data Analysis
Faculty Interviews: Outliers
Results
Challenges connecting content
Challenges with student behaviors
Challenges with technology delivery
Challenges For Faculty
Challenges with student technology
Outliers
Instructor Personal Development Goals


39
Qualitative Data Analysis
RQ4
How can teaching strategies be used to increase first-year, nontraditional e-learning students' behavioral, emotional, and cognitive engagement?


40
Qualitative Data Analysis
OSE Survey open-ended questions
26. Question set five: Improving online engagement
a. What tools/strategies/assignments do you wish could be added to (or removed from) all your courses to make you feel more involved in your learning? (meaningful learning; self-directed learning; RQ4)
b. What might you change about yourself to help you feel more involved in your learning? (self-directed learning; RQ4)

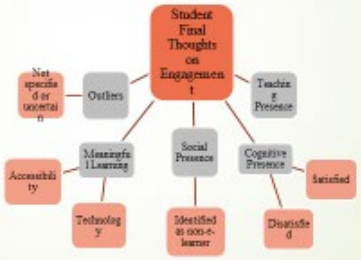

41
Qualitative Data Analysis
Student reflections: improving e-learning
Improving E-Learning Engagement
Outhers
Social Presence
No improvement suggested
Identified as non-e-learner
Meaningful Learning
Teaching Presence
Technology support or inclusion
Applied learning
Peer engagement
Teaching skills
Content support


42
Qualitative Data Analysis
Student reflections: self-development
Results
Health & wellness
Time management
Cognitive Presence
Personal skills
Student Self-Development Strategies
Active participation
Outhers
Meaningful Learning
Change in perception
Not specified or uncertain
Peer engagement
Instructor or college support

43

Qualitative Data Analysis
Student reflections: final thoughts

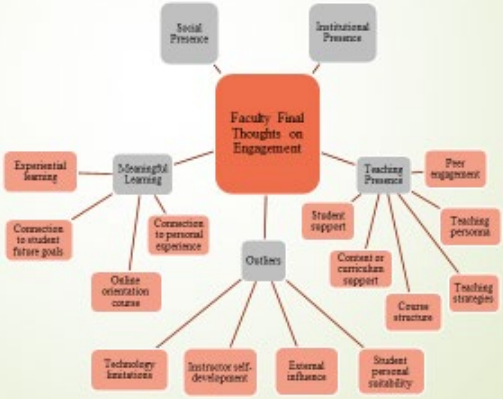
Results



44

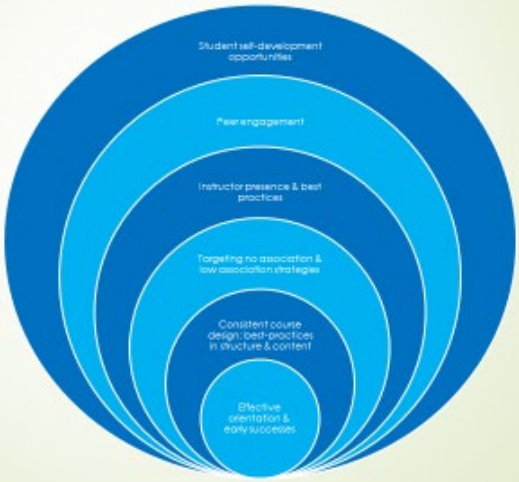
Qualitative Data Analysis
faculty reflections: final thoughts

Results



45

Summary of Observations



46

Where to?

- Institutional Presence
- Course Design & Best Practices
- OSE Themes: Behavioral, Emotional, Cognitive Engagement
- Instructor Presence
- Student Social Presence
- Student Development

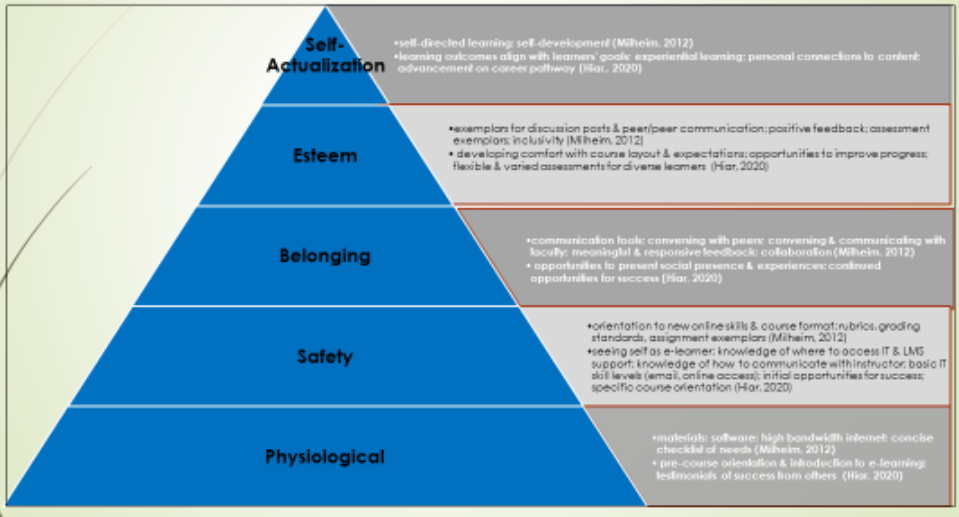
47

Where to?: Institutional Presence

- Effective introduction to online learning
  - E-learning advantages
- Effective student orientation
- Free, short online course to encourage non-e-learners to see themselves as possible e-learners
- Micro-credentials (badging for skills obtained)
- Increased theory understanding & support from college executive
  - Discuss learning community
  - Maslow's hierarchy need (safety & non-e-learners; self-esteem)

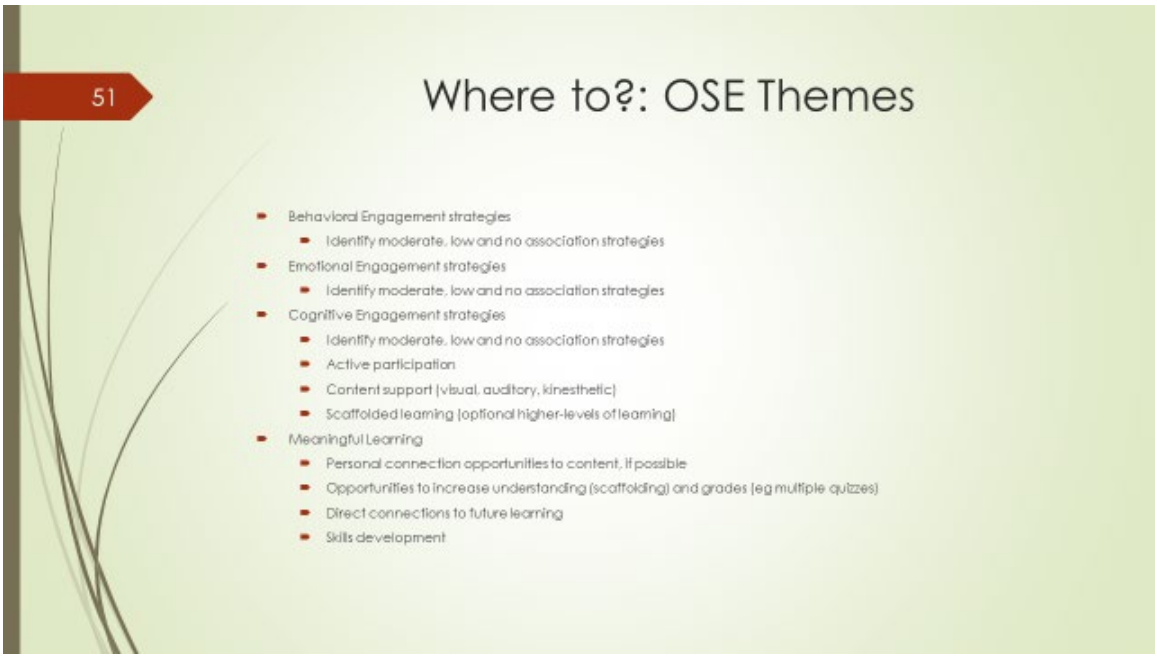
48

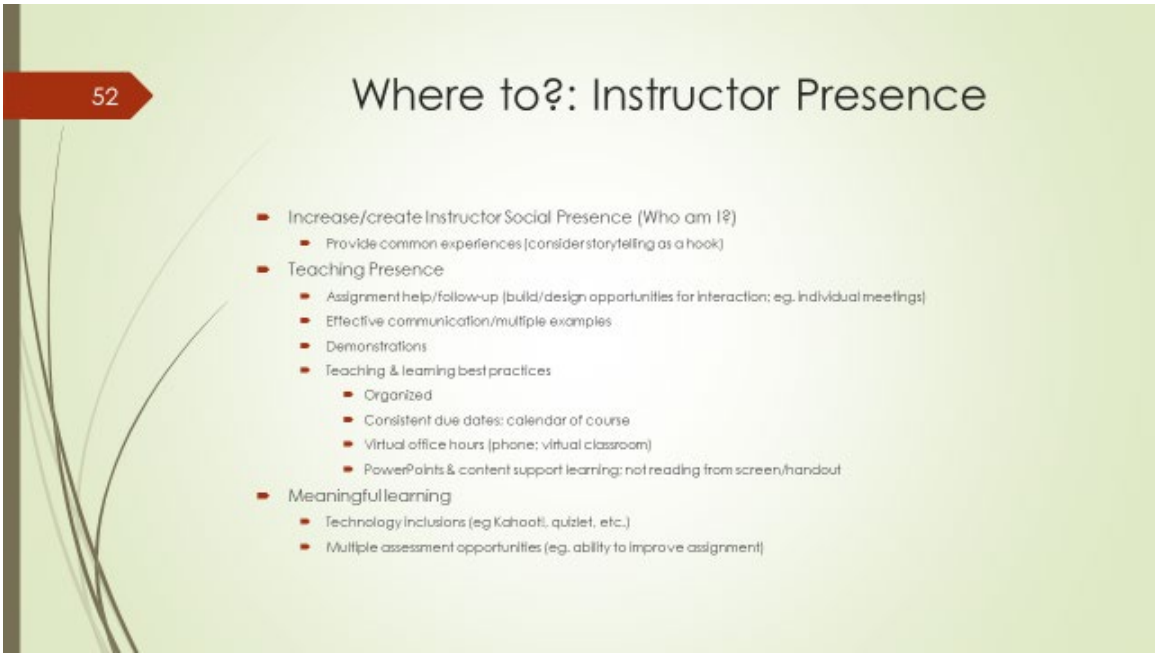
Maslow's (1943, 1987) pyramid of needs applied to E-learning (adapted from Milheim (2012) and study results

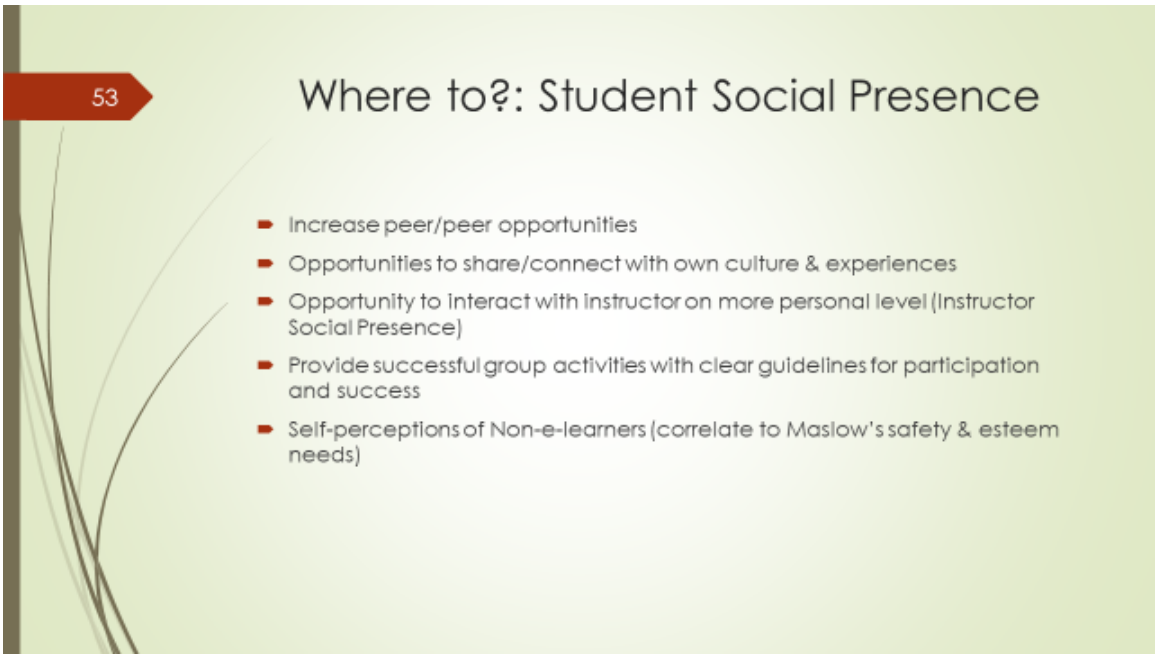



49
Institutional support
Have executive divide into pairs
Consider one factor that institution could promote to support non-e-learners before and upon entering institution
Share with group


50
Where to?: Course Design Best Practices
Consistent course design from course to course
Best practices in structure
Best practices in content/support
Exemplars
Audio/video/kinesthetic learning
Practice quizzes
Student connection/direct application of content
Early success opportunities


51
Where to?: OSE Themes
Behavioral Engagement strategies
Identify moderate, low and no association strategies
Emotional Engagement strategies
Identify moderate, low and no association strategies
Cognitive Engagement strategies
Identify moderate, low and no association strategies
Active participation
Content support (visual, auditory, kinesthetic)
Scaffolded learning (optional higher-levels of learning)
Meaningful Learning
Personal connection opportunities to content, if possible
Opportunities to increase understanding (scaffolding) and grades (eg multiple quizzes)
Direct connections to future learning
Skills development


52
Where to?: Instructor Presence
Increase/create Instructor Social Presence (Who am I?)
Provide common experiences (consider storytelling as a hook)
Teaching Presence
Assignment help/follow-up (build/design opportunities for interaction; eg. individual meetings)
Effective communication/multiple examples
Demonstrations
Teaching & learning best practices
Organized
Consistent due dates: calendar of course
Virtual office hours (phone; virtual classroom)
PowerPoints & content support learning: not reading from screen/handout
Meaningful learning
Technology inclusions (eg Kahoot!, quizlet, etc.)
Multiple assessment opportunities (eg. ability to improve assignment)


53
Where to?: Student Social Presence
Increase peer/peer opportunities
Opportunities to share/connect with own culture & experiences
Opportunity to interact with instructor on more personal level (Instructor Social Presence)
Provide successful group activities with clear guidelines for participation and success
Self-perceptions of Non-e-learners (correlate to Maslow's safety & esteem needs)


54
Where to?: Student Self-Development
Student Self-Development
Connections to future goals
Micro-credentials
Skills development (eg IT, skill levels)
Cognitive presence
Health & wellness
Time management

55

Recommendation for Faculty workshops

56

Professional Development Best Practices

Models of Professional Development			
PD offered	Impact on Knowledge	Impact on Skills	Impact on Practice
Theory	10%	5%	0%
Theory + Modeling	30%	20%	0%
Theory + Modeling + Practice	60%	60%	5%
Theory + Modeling + Practice + Coaching	95%	95%	95%

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57

Recommended theoretical approaches

- Community of Inquiry (CoI); Garrison, Anderson, & Archer, 2000
- Universal Design for Learning (UDL) principles
- Multimedia Learning Theories:
  - Cognitive load theory (Mayer, 2014)
  - Split Attention Principle (Ayres & Sweller, 2014)
  - Redundancy Principle (Kalyuga & Sweller, 2014)
  - Modality Principle (Low & Sweller, 2014)

58

Questions?

59

Closing

This concludes my final study results presentation.

60

References

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61

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62

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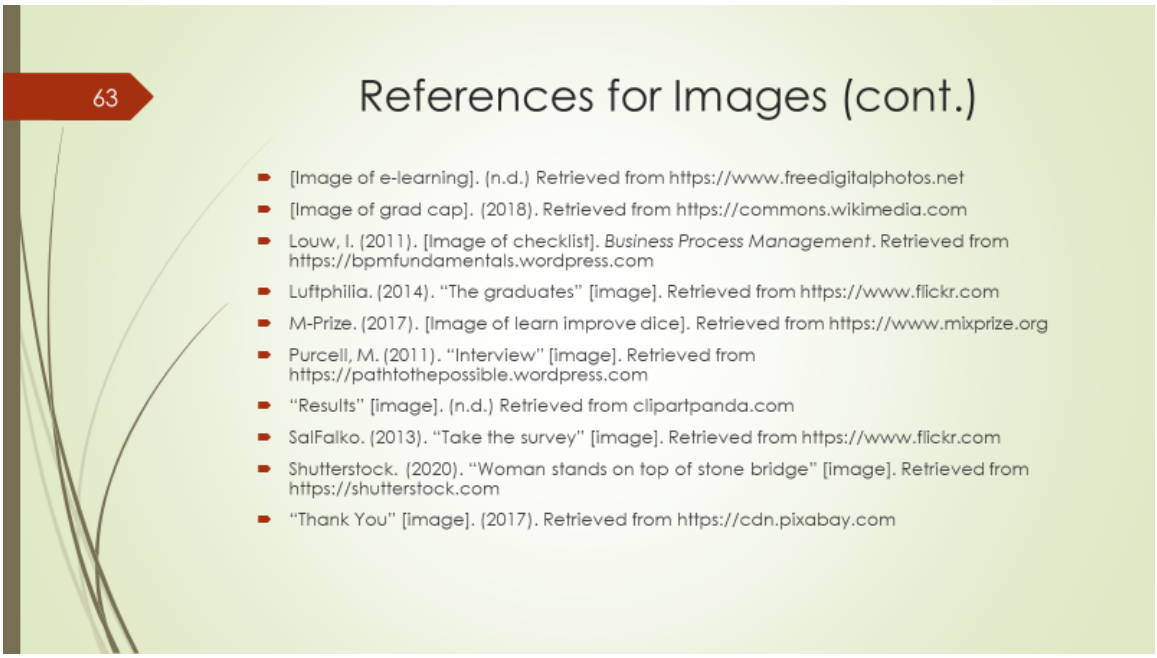
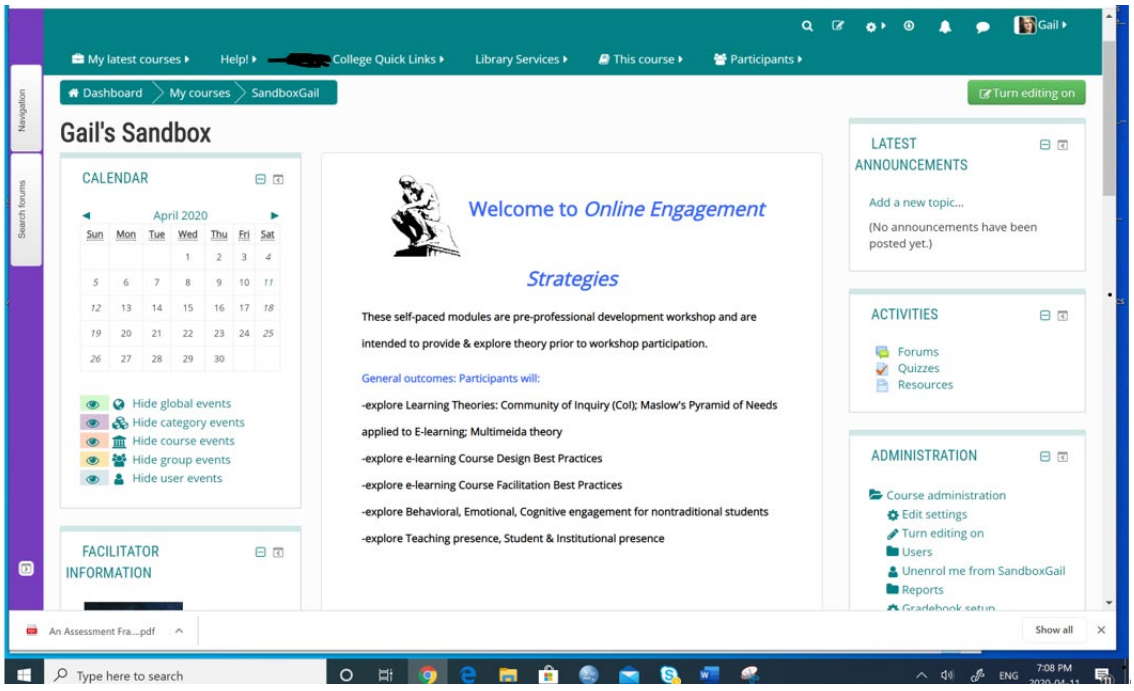
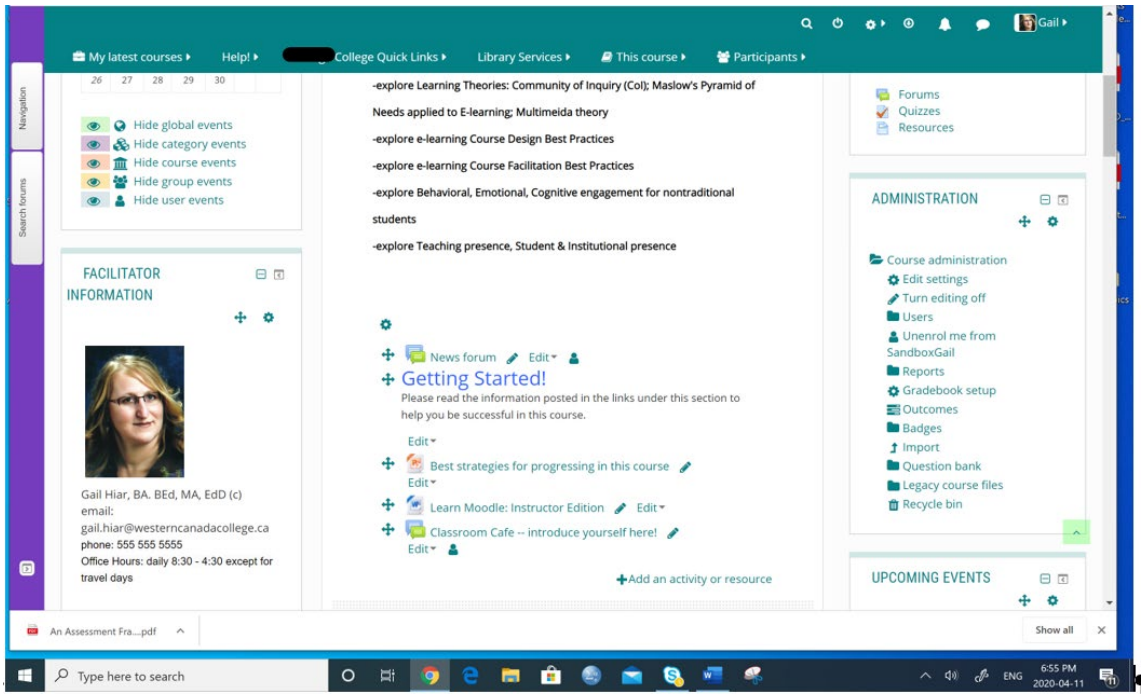


Component 2: Asynchronous Moodle Modules for Faculty Workshops Day 1




My latest courses
Help!
College Quick Links
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Participants
Gail
Hide global events
Hide category events
Hide course events
Hide group events
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FACILITATOR INFORMATION
Gail Hiar, BA. BEd, MA, EdD (c)
email: gail.hiar@westerncanadacollege.ca
phone: 555 555 5555
Office Hours: daily 8:30 - 4:30 except for travel days
-explore Learning Theories: Community of Inquiry (CoI); Maslow's Pyramid of Needs applied to E-learning; Multimeida theory
-explore e-learning Course Design Best Practices
-explore e-learning Course Facilitation Best Practices
-explore Behavioral, Emotional, Cognitive engagement for nontraditional students
-explore Teaching presence, Student & Institutional presence
News forum
Getting Started!
Please read the information posted in the links under this section to help you be successful in this course.
Best strategies for progressing in this course
Learn Moodle: Instructor Edition
Classroom Cafe -- introduce yourself here!
Add an activity or resource
Forums
Quizzes
Resources
ADMINISTRATION
Course administration
Edit settings
Turn editing off
Users
Unenrol me from SandboxGail
Reports
Gradebook setup
Outcomes
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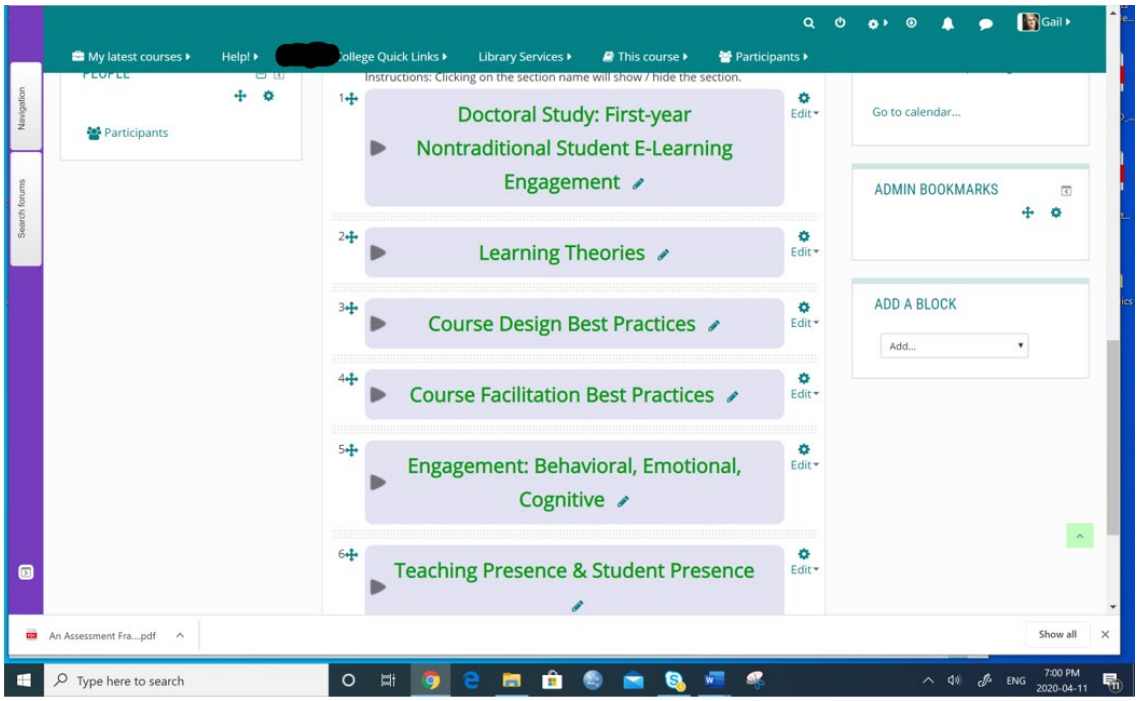
My latest courses
Help!
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Participants
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Participants
Instructions: Clicking on the section name will show / hide the section.
1 Doctoral Study: First-year Nontraditional Student E-Learning Engagement
2 Learning Theories
3 Course Design Best Practices
4 Course Facilitation Best Practices
5 Engagement: Behavioral, Emotional, Cognitive
6 Teaching Presence & Student Presence
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ADD A BLOCK
Add...
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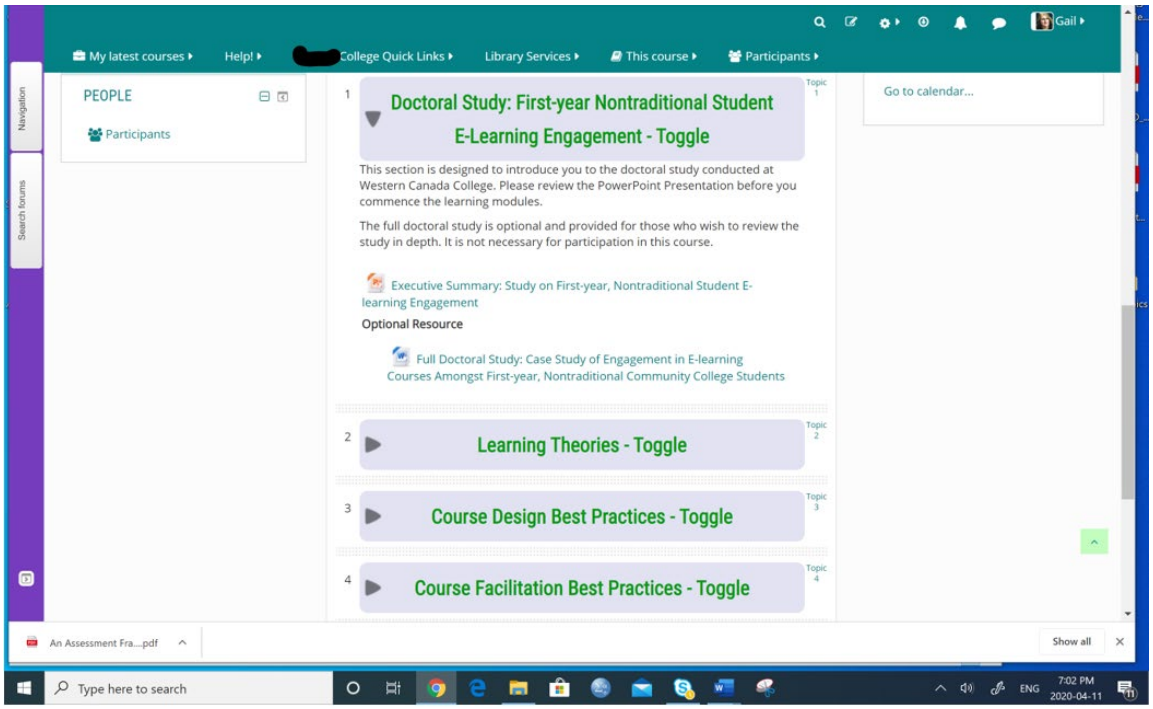
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Search forums
PEOPLE
Participants
1
Doctoral Study: First-year Nontraditional Student E-Learning Engagement - Toggle
Topic 1
This section is designed to introduce you to the doctoral study conducted at Western Canada College. Please review the PowerPoint Presentation before you commence the learning modules.
The full doctoral study is optional and provided for those who wish to review the study in depth. It is not necessary for participation in this course.
Executive Summary: Study on First-year, Nontraditional Student E-learning Engagement
Optional Resource
Full Doctoral Study: Case Study of Engagement in E-learning Courses Amongst First-year, Nontraditional Community College Students
Go to calendar...
2
Learning Theories - Toggle
Topic 2
3
Course Design Best Practices - Toggle
Topic 3
4
Course Facilitation Best Practices - Toggle
Topic 4
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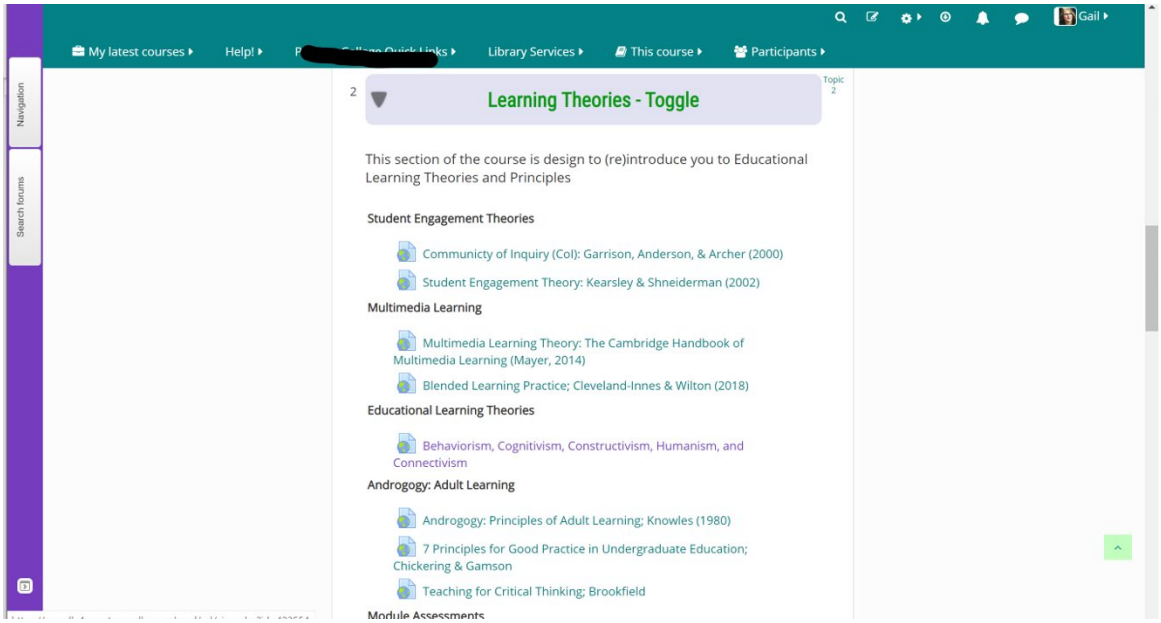
My latest courses
Help!
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Participants
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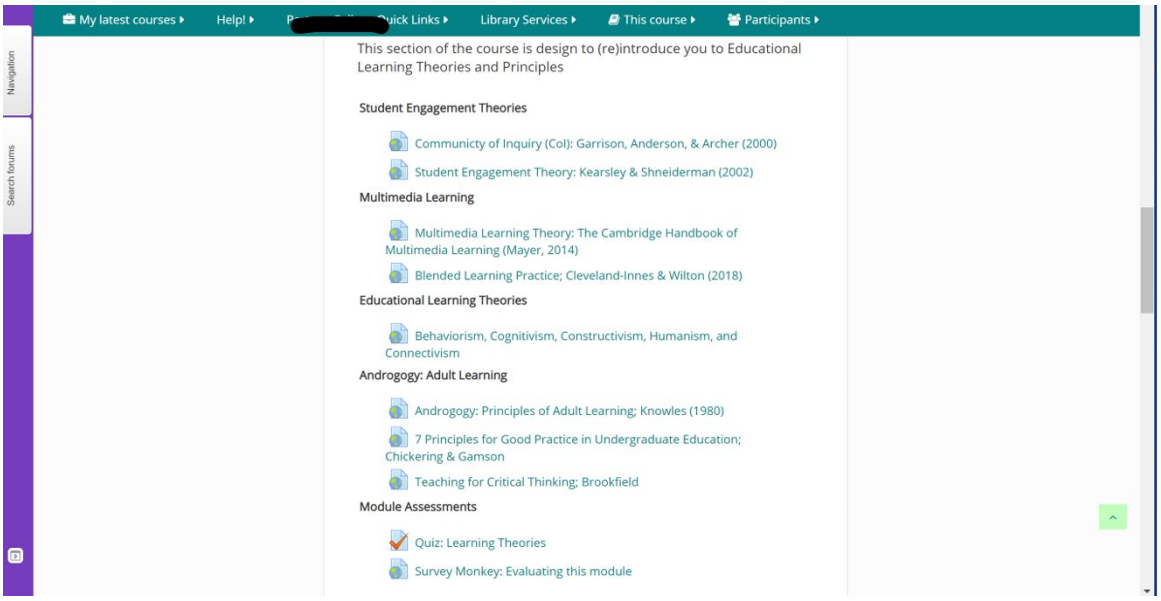
Navigation
Search forums
2
Learning Theories - Toggle
Topic 2
This section of the course is design to (re)introduce you to Educational Learning Theories and Principles
Student Engagement Theories
Communicty of Inquiry (CoI): Garrison, Anderson, & Archer (2000)
Student Engagement Theory: Kearsley & Shneiderman (2002)
Multimedia Learning
Multimedia Learning Theory: The Cambridge Handbook of Multimedia Learning (Mayer, 2014)
Blended Learning Practice; Cleveland-Innes & Wilton (2018)
Educational Learning Theories
Behaviorism, Cognitivism, Constructivism, Humanism, and Connectivism
Androgogy: Adult Learning
Androgogy: Principles of Adult Learning; Knowles (1980)
7 Principles for Good Practice in Undergraduate Education; Chickering & Gamson
Teaching for Critical Thinking; Brookfield
Module Assessments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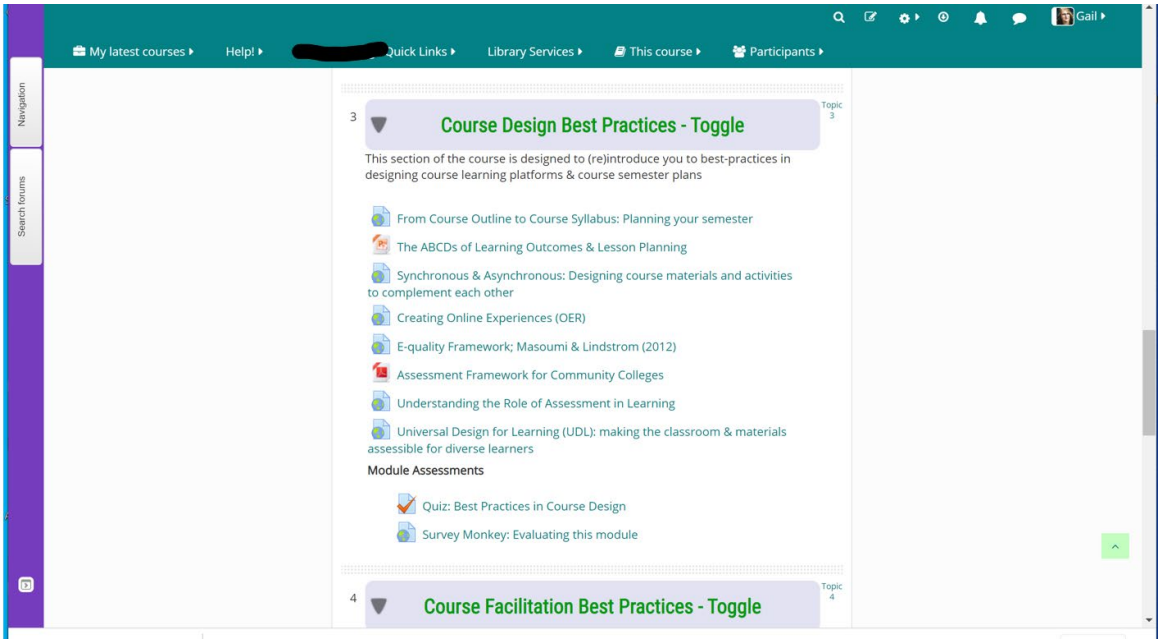
Multimedia Learning Theory: The Cambridge Handbook of Multimedia Learning (Mayer, 2014)
Blended Learning Practice; Cleveland-Innes & Wilton (2018)
Educational Learning Theories
Behaviorism, Cognitivism, Constructivism, Humanism, and Connectivism
Androgogy: Adult Learning
Androgogy: Principles of Adult Learning; Knowles (1980)
7 Principles for Good Practice in Undergraduate Education; Chickering & Gamson
Teaching for Critical Thinking; Brookfield
Module Assessments
Quiz: Learning Theories
Survey Monkey: Evaluating this module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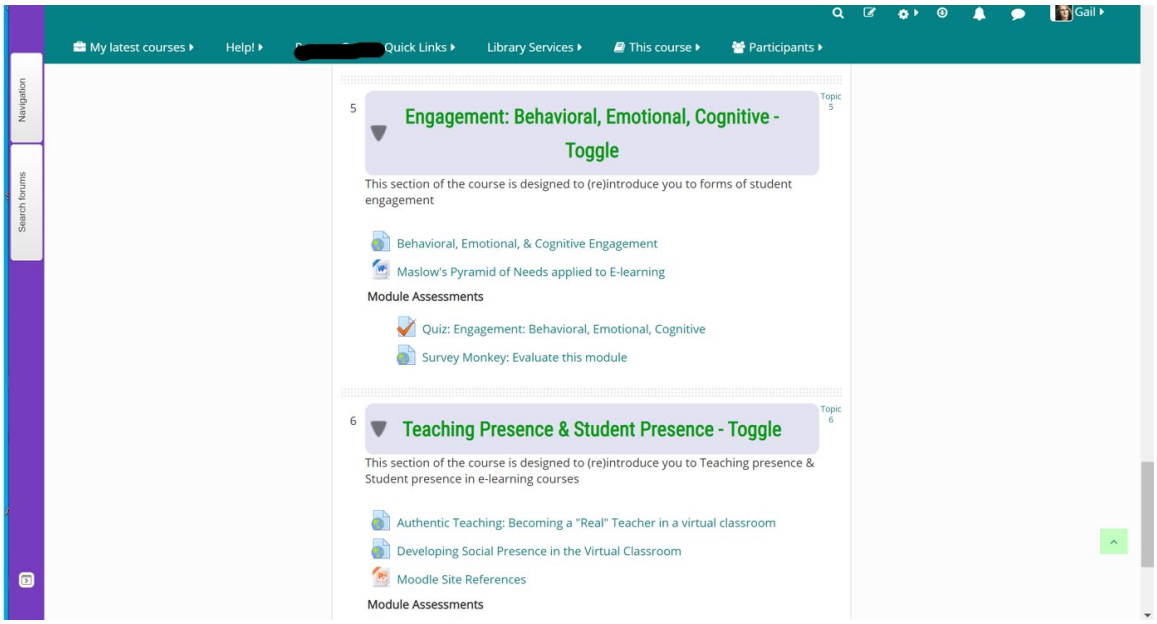
Navigation
Search forums
3
Course Design Best Practices - Toggle
Topic 3
This section of the course is designed to (re)introduce you to best-practices in designing course learning platforms & course semester plans
From Course Outline to Course Syllabus: Planning your semester
The ABCDs of Learning Outcomes & Lesson Planning
Synchronous & Asynchronous: Designing course materials and activities to complement each other
Creating Online Experiences (OER)
E-quality Framework; Masoumi & Lindstrom (2012)
Assessment Framework for Community Colleges
Understanding the Role of Assessment in Learning
Universal Design for Learning (UDL): making the classroom & materials assessible for diverse learners
Module Assessments
Quiz: Best Practices in Course Design
Survey Monkey: Evaluating this module
4
Course Facilitation Best Practices - Toggle
Topic 4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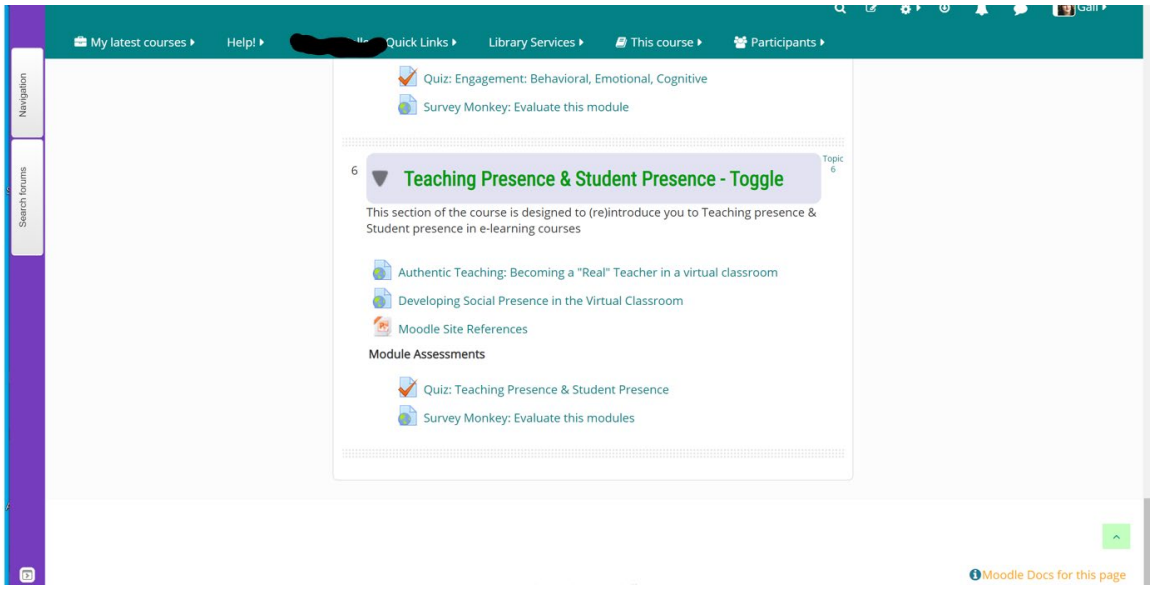
5
Engagement: Behavioral, Emotional, Cognitive - Toggle
Topic 5
This section of the course is designed to (re)introduce you to forms of student engagement
Behavioral, Emotional, & Cognitive Engagement
Maslow's Pyramid of Needs applied to E-learning
Module Assessments
Quiz: Engagement: Behavioral, Emotional, Cognitive
Survey Monkey: Evaluate this module
6
Teaching Presence & Student Presence - Toggle
Topic 6
This section of the course is designed to (re)introduce you to Teaching presence & Student presence in e-learning courses
Authentic Teaching: Becoming a "Real" Teacher in a virtual classroom
Developing Social Presence in the Virtual Classroom
Moodle Site References
Module Assessments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Quiz: Engagement: Behavioral, Emotional, Cognitive
Survey Monkey: Evaluate this module
6
Teaching Presence & Student Presence - Toggle
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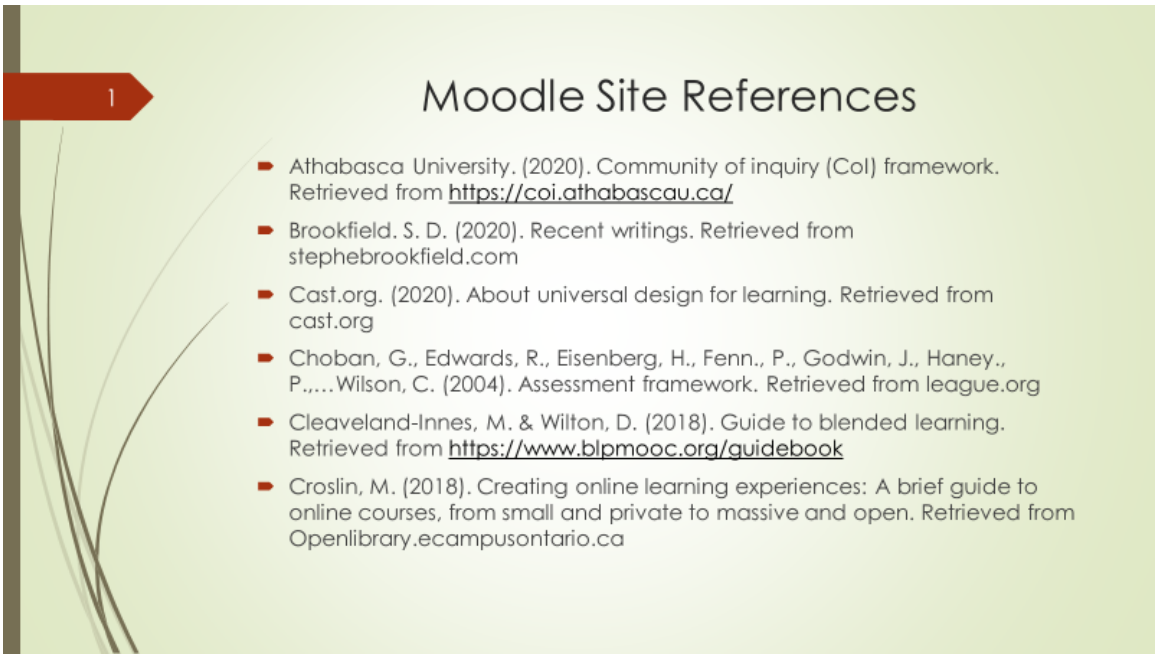
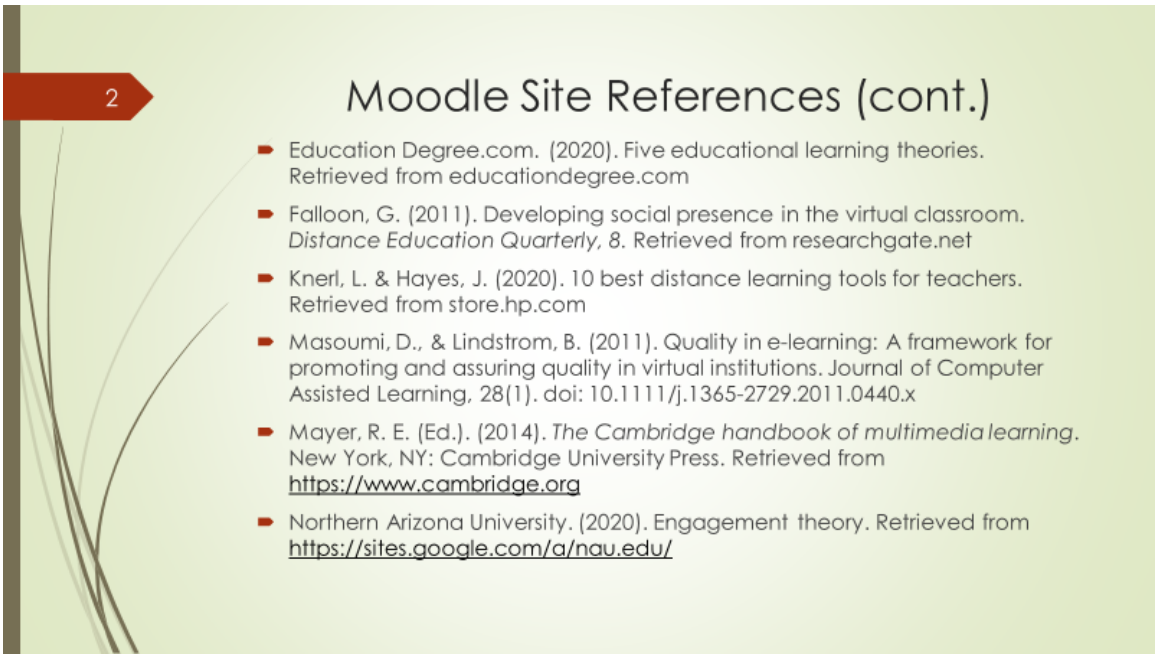
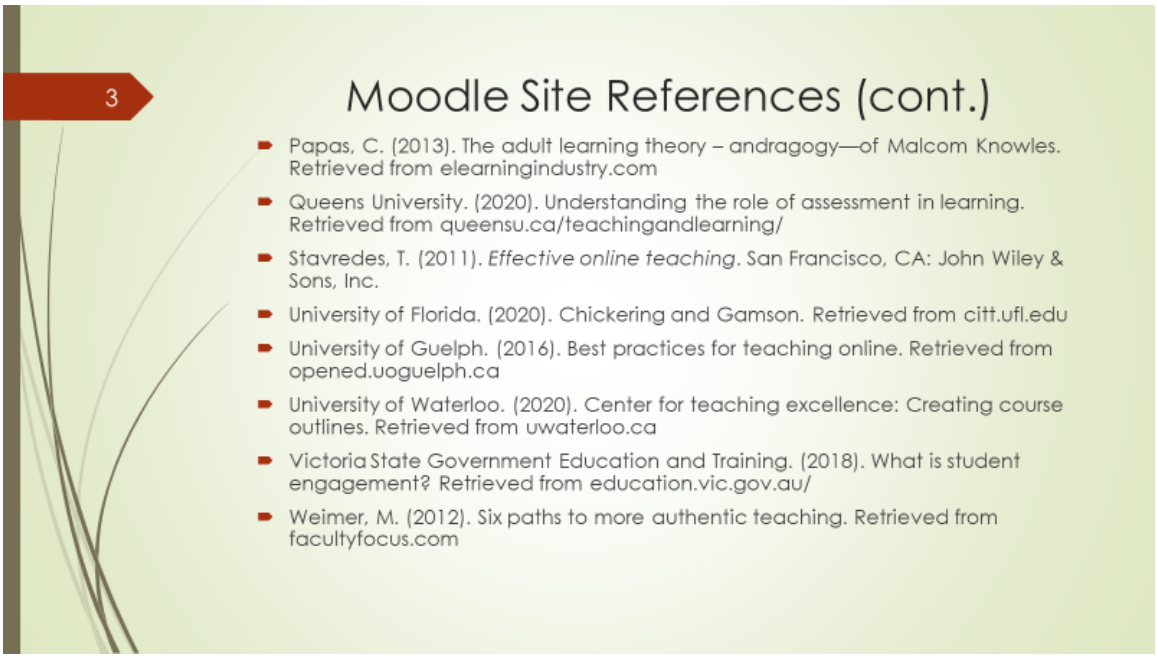
Moodle Site References
Module Assessments
Quiz: Teaching Presence & Student Presence
Survey Monkey: Evaluate this modules
Moodle Docs for this page

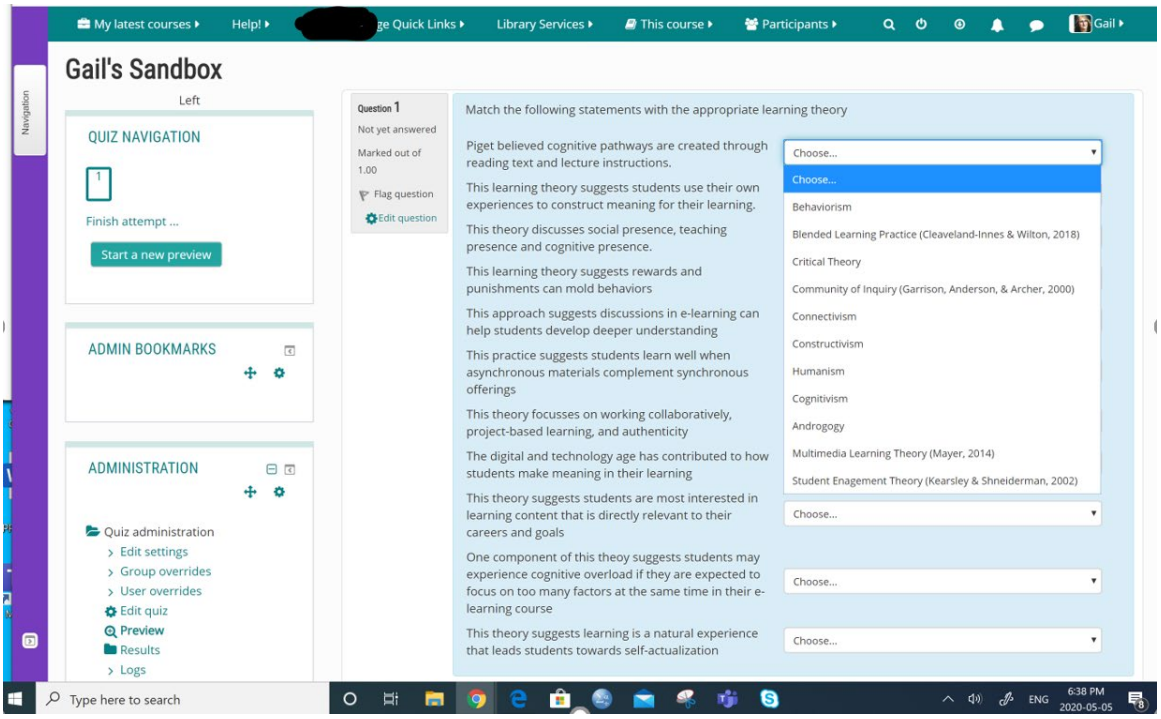
Moodle Site References







Sample Moodle Quiz: Learning Theories Module



Sample Survey Monkey: Evaluate This Module

Nontraditional Student E-Learning Engagement workshop components Survey

Moodle Asynchronous component

This survey will prvide opportunity for you to give feedback on the Moodle asynchronous component

OK

1. Please evaluate the content of the Learning Theories module

not at all satisfied with the content	somewhat satisfied with the content	satisfied with the content	
○	○	○	○

2. Please provide suggestions regarding how to improve the content

3. Please evaulate the format of the Learning Theories Module

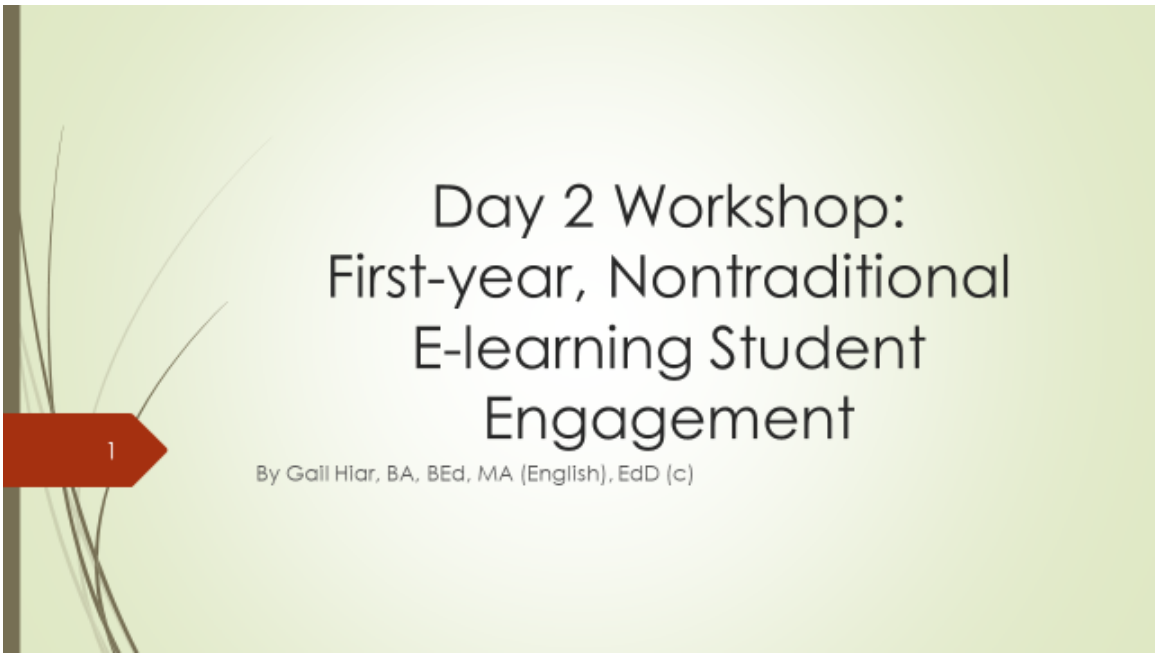
not at all satisfied with the format of the module	somewhat satisfied with the format of the module	satisfied with the format of the module
○	○	○

4. Please provide suggestions on how to improve the format of the Learning Theories module

5. Please indicate the amount of time you spent on this module

less than one hour	1 - 2 hours	3- 4 hours	more than 4 hours
○	○	○	○

Component 3: Faculty Synchronous Workshop Day 2: First-year, Nontraditional E-learning Student Engagement



2

Faculty PD Synchronous Workshop Study Results & Integration

- Learning outcomes: participants will…
  - Discuss study results & recommendations
  - identify institutional presence within courses
  - Apply Maslow's Pyramid of Needs to E-learning courses
  - Discuss Course Design & Facilitation Best practices
  - Identify tips to develop/improve lesson structures
  - Integrate learning into own Moodle courses

3

Workshop Schedule

- 8:15 – 8:45 am: Icebreaker
- 8:45 – 9:45: Study Results overview
- 9:45 – 10:00: coffee break
- 10:00 – 12:00: Institutional Presence & Maslow's Pyramid applied to E-Learning
- 12:00 – 12:45: Lunch
- 12:45- 2:30: Course Design & Facilitation Best Practices
- 2:30 – 2:45 coffee break
- 2:45 – 4:45 hands-on course integration workshop & workshop evaluations

4

Ice Breaker
8:15 – 8:45 a.m.

- Schedule overview
- Facilitator commence: **Two Truths & a Lie**
- All participants provide 2 truths about themselves and a lie; other participants need to determine which is the lie.
- Continue until all have participated

5

Overview of Study Results
8:45 – 9:45 a.m.

- Present PowerPoint presentation of study overview to faculty (see component 1)

6

Lifestyle break/coffee break
9:45 – 10:00 a.m.

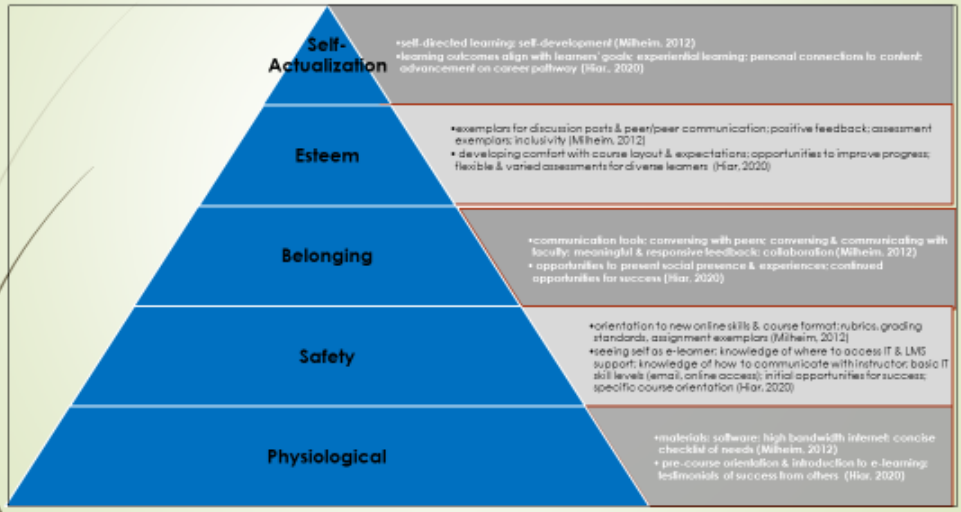
7

Institutional Presence & Maslow's Pyramid of Needs applied to E-Learning
10:00 a.m. – 12:00 p.m.

- Review student comments regarding engagement from OSE
  - Divide faculty in groups of 4
  - Have each group review a set of student comments from one OSE open-ended question(all identification of courses or instructors removed)
  - Reflect on both positive and negative comments
  - Small groups present observations to large group
  - Draw attention to non-e-learners' comments

8

Maslow's (1943, 1987) pyramid of needs applied to E-learning (adapted from Milheim (2012) and study results



9

Apply

- Divide faculty into pairs
- Have faculty consider one thing they each could do/add to in their course for each level of the pyramid of needs
- Have faculty consider how non-e-learners might be better supported before entering the institution
- Post-test: provide example statements which faculty categorize into Maslow's pyramid

10

Lunch time!
12:00 – 12:45 p.m.

11

Course Design & Facilitation Best Practices
12:45 -1:40

- Guest Presenter:
- Topics
  - Consistent course design from course to course
  - Best practices in structure
  - Best practices in content/support
    - Exemplars
    - Audio/video/kinesthetic learning
    - Practice quizzes
    - Student connection/direct application of content
  - Early success opportunities
  - Optional success opportunities

12

E-campus standards:

- **Briefly review E-campus standards (found in faculty course)**
  - **Course Information Standards**
  - **Organization standards**
  - **Pedagogy standards**
  - **Writing standards**
  - **Resource standards**
  - **Web design standards**
  - **Technology standards**

- [E-campusAlberta Standards. 2018. Retrieved from http://library.athabascau.ca/files/projects/ecampusalberta/quality/eCampusAlberta_QualityEQS2.0_Brochure_2017_FINAL.pdf]

13

Course Facilitation Best Practices 1:40 – 2:30 p.m.

- Guest presenter:
- Day 1 course delivery: Create welcoming video of self
- Incorporate
  - asynchronous video of course overview & how to succeed
  - Links to "how to" regarding modules, assignments, contacting instructor
  - Incorporate scavenger hunt quiz of course items
- Week 1:
  - have students create Animoto of selves & respond to others
  - Provide early success – engage students with early, achievable assessment
  - No significant difference: e-learning vs Face-to-face data
- Weekly greeting with overview

An effective lesson model:

BOPPPS (also CLAASS)

- B: Bridge-In
- O: Learning outcome
- P: Pre-Assessment
- P: Participatory Learning
- P: Post-Assessment
- S: Summary

14

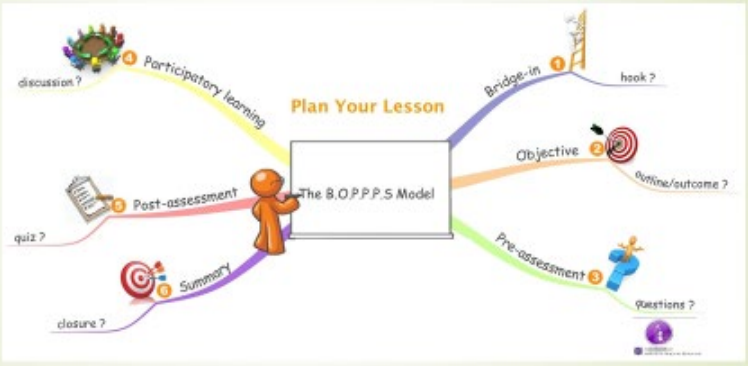
An effective lesson model:

BOPPPS (also CLAASS)

- B: Bridge-In
- O: Learning outcome
- P: Pre-Assessment
- P: Participatory Learning
- P: Post-Assessment
- S: Summary

15

ISW BOPPPS Instructional Model



Retrieved from: https://methodsmindmaps.files.wordpress.com/2015/05/the-b-o-p-p-p-s-model2.jpg

16

Lifestyle break/coffee break
2:30 – 2:45 p.m.

17

Hands-on!
2:45 – 4:45 p.m.

- Faculty access computers and work on individual courses in collaborative group setting
- IT & Moodlehelp will participate to help facilitate

18

Evaluate Day 2 workshop
4:40 – 4:45 p.m.

19

References

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20

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- Workaholic, J. (2015). "Truth lies." [image]. Retrieved from https://musingsbyaworkaholic.com

Sample Survey Monkey: Evaluate Day 2

Nontraditional Student E-Learning Engagement Day 2 Workshops

Please evaluatate the synchronous workshop components

OK

1. How satisfied are you with the content of the Institutional Presence & Maslow's Pyramid Applied to E-learning workshop?

not at all satisfied	somewhat satisfied	satisfied
○	○	○

2. Please provide suggestions on how to improve the content of this workshop

3. How satisfied are you with the presenter's knowledge of the subject?

not at all satisfied	somewhat satisfied	satisfied
○	○	○

4. How satisfied are you with the presenter's style of teaching the subject?

not at all satisfied	somewhat satisfied	satisfied
○	○	○

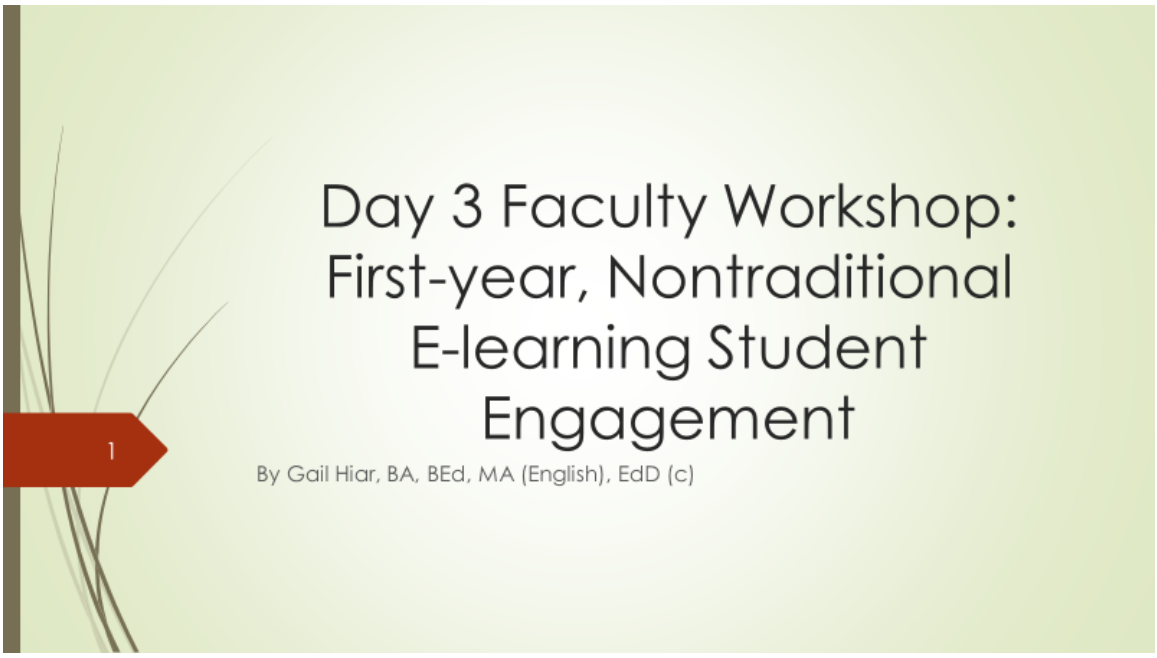
5. How satisfied are you with the materials (if any) provided during the workshop

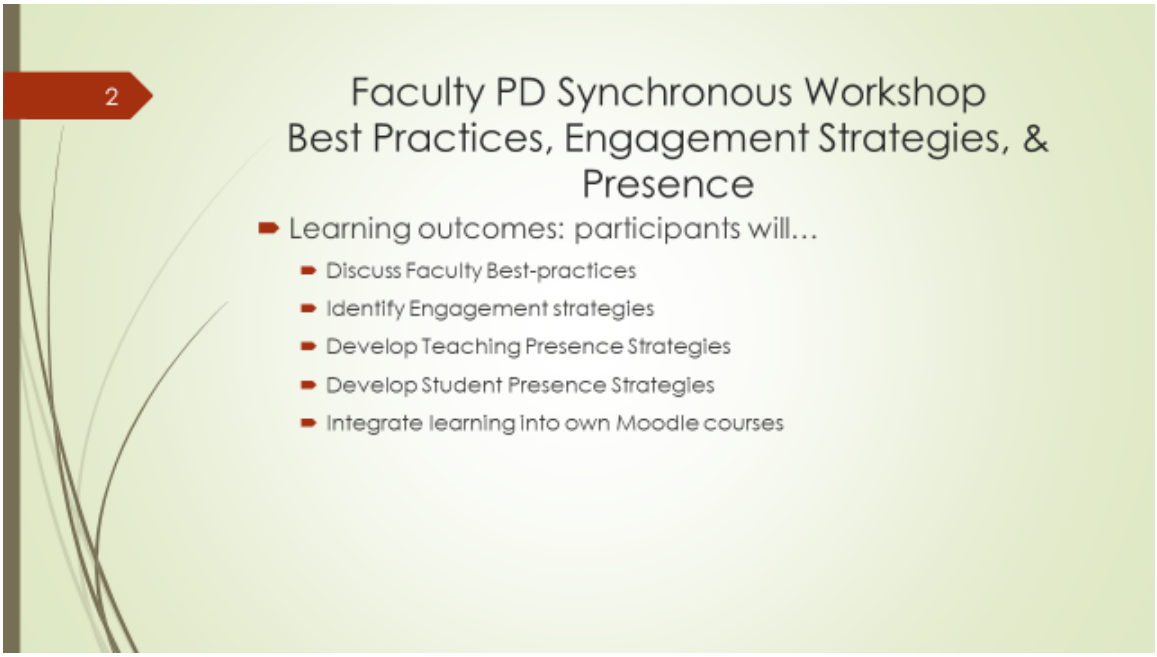
not applicable	not at all satisfied	somewhat satisfied	satisfied
○	○	○	○

6. Please provide suggestions on how to improve the materials (if applicable

7. Please comment on what you gained from the workshop and if your personal goals were met?

Component 4: Faculty Synchronous Workshop Day 3: First-year, Nontraditional E-learning Student Engagement





3

Workshop Schedule

- 8:15 – 8:45 am: Icebreaker
- 8:45 – 9:45: Faculty Best practices
- 9:45 – 10:00: coffee break
- 10:00 – 12:00: Engagement Strategies
- 12:00 – 12:45: Lunch
- 12:45- 2:30: Teaching Presence & Student Presence
- 2:30 – 2:45 coffee break
- 2:45 – 4:45 hands-on course integration workshop & workshop evaluations

4

Ice Breaker
8:15 – 8:45 a.m.

- Schedule overview
- Team Jeopardy!

5

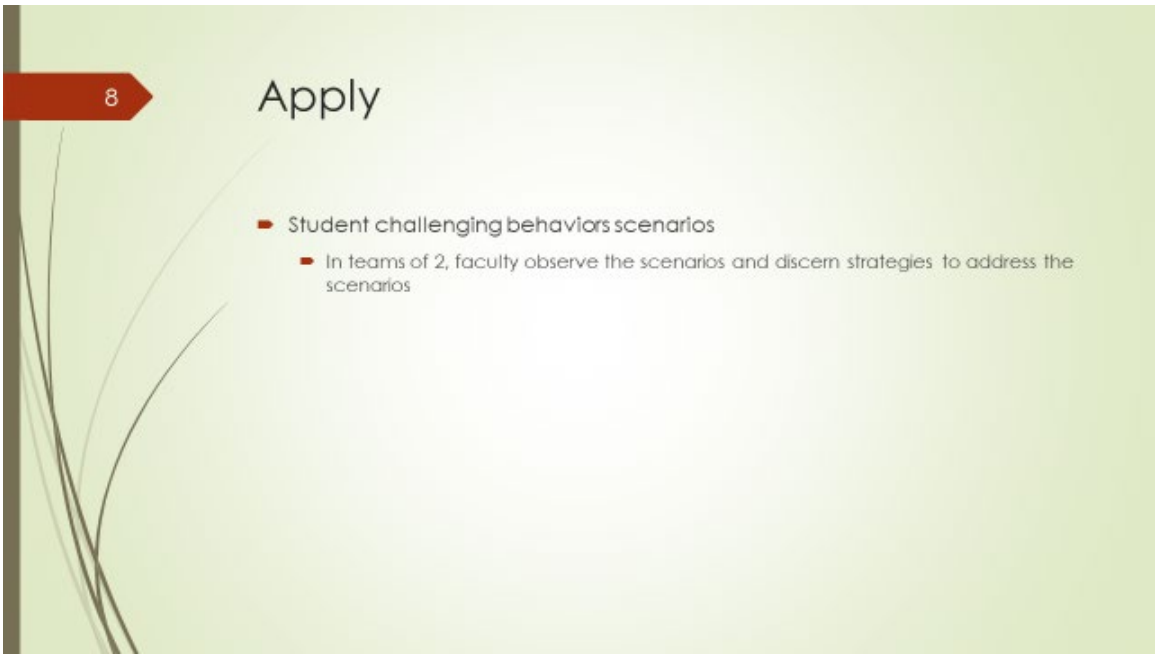
Faculty Best Practices
8:45 – 9:45 a.m.

- Guest Presenter:
- Topics
  - Day 1, Week 1, and beyond – Start the semester off right!
  - Understanding Challenging Student Behaviors
  - Spice up your classroom: Adding engaging technology tools and apps!

6

Lifestyle break/coffee break
9:45 – 10:00 a.m.


7
Engagement Strategies
10:00 a.m. – 12:00 p.m.
Guest Presenter:
Topics
Critical Thinking & cognitive domains
Story telling as a teaching medium
Experiential Learning
Blue printing the future


8
Apply
Student challenging behaviors scenarios
In teams of 2, faculty observe the scenarios and discern strategies to address the scenarios

9

Lunch time!
12:00 – 12:45 p.m.

10

Developing Teaching Presence
12:45 -1:40

- Guest Presenter:
- Topics
  - Teacher as "real"
  - Students as part of teaching presence

11

Developing Student Presence
1:40 – 2:30 p.m.

- Guest Presenter:
- Topics
  - Student voice in assignments
  - Differentiated instruction/materials
  - Discussion forums
  - Think/pair/share
  - Student as teacher
  - Group projects

12

Lifestyle break/coffee break
2:30 – 2:45 p.m.

13

Hands-on!
2:45 – 4:45 p.m.

- Faculty access computers and work on individual courses in collaborative group setting
- IT & Moodlehelp will participate to help facilitate

14

Evaluate Day 3 workshop
4:40 – 4:45 p.m.

15

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16

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Appendix B: Literature Review Emerging Themes

Table B1

Section I Review of the Literature

Theme	Authors & year
Definitions	
Engagement definition	Bundick, Quaglia, Corso and Haywood (2014); Clark and Mayer (2016); Dixson (2015); Deschaine and Whale (2017); Fredricks, Filseker and Lawson (2016); Great Schools Partnership (2016); Kahn (2014); Kahu (2013); Lietaert, Roorda, Laevers, Verschueren and Fraine (2015)
At-risk definition	Stella and Corry (2013)
Nontraditional (diverse) definition	Bates (2012); Johnson, Taasoobshirazi, Clark, Howell and Breen (2016); Phillips (2015); Schuetze (2014); Trowler (2015)
Theme: Engagement has impact	
Active engagement contributes to retention	Kizilcec and Halawa (2015); Kahu and Nelson (2017)
Engagement is linked to persistence	Bigatel and Williams (2015); Deschaine and Whale (2017); Kahu and Nelson (2017)
Engagement impacts college outcomes	Bigatel and Williams (2015); Hanover Research (2014); Hew (2016); Hope (2017)
Engagement is necessary for learning	Dixon (2015); Hew (2016); Kahu and Nelson (2017); Meyer (2014)
Engagement reduces attrition	Deschaine and Whale (2017); Greenberg, Wise, Frijters, Morris, Fredrick, Rodrigo, and Hall (2013); Hope (2017); Kahu and Nelson (2017); Meyer (2014); Stella and Corry (2013)
Active engagement contributes to success	Astin (1984); Bennett and Kane (2014); Deschaine and Whale (2017); Hanover Research (2014); Hope (2017); Meyer (2014)
Theme: At-risk for completion	
Higher attrition in first-year students compared to other years	Ruffalo Noel Levitz (2017); Stevenson (2013)
Nontraditional students poorly equipped to succeed	Trowler (2015)
Online retention rates lower including first-year	Fetzner (2013); Hachey, Conway and Wladis (2013); Kizilcec and Halawa (2015); Shaw, Burrus and Ferguson (2017); Stevenson (2013); Stone (2015)
Theme: Student characteristics/behaviors have impact	
Student characteristics contribute to engagement levels	Anthony (2012); Czerkawski and Lyman (2016); Dudley, Liu, Hao and Stallard (2015); Greenberg, Wise, Frijters, Morris, Fredrick, Rodrigo and Hall (2013); Kahu (2013)
E-readiness skills required	Fetzner (2013); Shaw, Burrus and Ferguson (2017); Stevenson (2013)
Student characteristics affect persistence & success	Bergman, Gross, Berry and Shuck (2014); Czerkawski and Lyman (2016)
Higher socioeconomic status positively correlated to persistence	Bergman, Gross, Berry and Shuck (2014)
Nontraditional adults persist at lower rates than those of traditional age	Bergman, Gross, Berry, and Shuck (2014); Bigatel and Williams (2015)

(continued)

Section I Review of the Literature (continued)

Theme	Authors & year
Student engagement is dynamic and situational	Kahu (2013)
External factors (goals, finances, familial encouragement) plays significant role in persistence	Bergman, Gross, Berry, and Shuck (2014); Kahu, Stephens, Zepke and Leach (2014); Stevenson (2013)
Nontraditional students want to know precisely what to do to achieve success	Barczyk, Ralston-Berg and Buckenmeyer (2016); Dixon (2015)
Nontraditional (at-risk) students often drawn to online	Hachey, Conway, and Wladis (2013); Hixon, Barczyk, Ralston-Berg and Buckenmeyer (2016); Kizilcec and Halawa (2015); Schuetze (2014)
Theme: Course factors have impact	
Satisfaction with courses contributes to persistence	Bigatel and Williams (2015); National Adult Learners satisfaction priorities report (2013)
Continued activity in online environment linked to retention predictor	Boston, Ice and Burgess (2012)
Community in e-learning contributes to persistence/success	Bigatel and Williams (2015); Czerkawski and Lyman (2016); Dixson (2015); Fredricks, Filseker and Lawson (2016); Hanover Research (2014); Hope (2017); Stevenson (2013); Stone (2015);
Collaboration contributes to engagement	Czerkawski and Lyman (2016); Kearsley and Shneiderman (2017); Stone (2015)
Technology use increases engagement (eg Socrative)	Dervan (2014)
Application of learning behaviors (eg. activities, polls) correlate to student perceptions of being engaged	Dixson (2015); Deschaine and Whale (2017); Hew (2016)
Observation learning behaviors (reading materials) do not correlate to student perceptions of being engaged	Dixson (2015)
Content relevance and connection to personal lives increase persistence	Bigatel and Williams (2015); Britt (2015); Hanover Research (2014); Stella and Corry (2013)
Assignment relevance orientated to student choice increase engagement	Kearsley and Shneiderman (2017); Stella and Corry (2013)
Consistency, relevance, variety & content prioritization helps with motivation	Bigatel and Williams (2015)
Application of learning behaviors (eg. activities, polls) correlate to student perceptions of being engaged	Deschaine and Whale (2017); Dixson (2015); Hew (2016)
Course design affects student success	Anthony (2012)
Theme: Instructor factors have impact	
Teacher Presence/support/interaction within the course increases engagement & persistence	Anthony (2012); Bigatel and Williams (2015); Dixson (2015); Deschaine and Whale (2017); Fredricks, Filseker and Lawson (2016); Hanover Research (2014); Hew (2016); Hope (2017); Lietaert, Roorda, Laevers, Verschueren and Fraine (2015); Shaw, Burrus and Ferguson (2017); Stella and Corry (2013); Stone (2015)

(continued)

Section I Review of the Literature (continued)

Theme	Authors & year
Timely, meaningful feedback important	Anthony (2012); Bailie (2014); Bigatel and Williams (2015); Fredricks, Filseker and Lawson (2016); Hanover Research (2014); Hew (2016); Hope (2017); Meyer (2014)
Instructor characteristics contribute to student engagement	Dudley et al. (2015)
Virtual office hours contribute to student engagement	Deschaine and Whale (2017)
Retention efforts of institutions focused on degree programs not student characteristics	Boston, Ice and Burgess (2012)
Retention strategies often ineffective	Leeds, Campbell, Baker, Ali, Brawley and Crip (2013)
Ability to obtain transfer credits contributes to retention (most meaningful predictor)	Boston, Ice and Burgess (2012)
Institutional response to student needs (campus environment) increased persistence	Bergman, Gross, Berry and Shuck (2014); Hanover Research (2014); Shaw, Burrus and Ferguson (2017); Stevenson (2013)
Theme: Problems identified in research	
Engagement is elusively or chaotically defined	Boekaerts (2016); Deschaine and Whale (2017); Fredricks, Filseker and Lawson (2016); Hew (2016); Kahu (2013)
Poor descriptors of completion	Greenberg, Wise, Frijters, Morris, Fredrick, Rodrigo and Hall (2013)
Rigorous research into online persistence lacking	Greenberg, Wise, Frijters, Morris, Fredrick, Rodrigo and Hall (2013); Hachey, Conway and Wladis (2013)
Difficult to measure engagement across disciplines with same survey tool.	Fredricks, Filseker and Lawson (2016); Kahu (2013)
Student interpretation of words affects survey responses	Bennett and Kane (2014)
Nontraditional student has no precise definition	Hixon, Barczyk, Ralston-Berg and Buckenmeyer (2016)
Differences between faculty's perceptions of student engagement & student perceptions of engagement	Bigatel and Williams (2015); Deschaine and Whale (2017); Dudley et al. (2015)
Online environment increases likelihood of psychological distance or isolation from learning experience	Bergman, Gross, Berry and Shuck (2014); Gillet-Swan (2017)
College leadership increasingly concerned about online retention	Allen and Seaman (2014);
Online retention rates lower including first-year	Anthony (2012); Fetzner (2013); Hachey, Conway and Wladis (2013); Kizilcec and Halawa (2015); Shaw, Burrus and Ferguson (2017); Stevenson (2013); Stone (2015)

Table B2

Section III Review of the Literature: Professional Development

Theme	Authors/year
Faculty needs	Batla and Eryilmaz (2019); Hamilton (2016); Hooks (2015); Kang (2012); Saberi and Sahragard (2019); Terosky and Heasley (2014); Wasserman and Migdal (2019)
Applied learning	Borup and Evemnova (2019); Elliot and Oliver (2016); Goodwin, Hall and Simeral (2019); Jacobi et al., 2019; Nishimura (2017)
Hands-on	Batla and Eryilmaz (2019); Borup and Evemnova (2019); Gachago et al. (2017); Hooks (2015); Joyce and Showers (2002); Joyce and Calhoun (2016); Kang (2012)
Collaboration	Batla and Eryilmaz (2019); Betts and Heaston (2014); Borup and Evmenova (2019); Darling-Hammond et al. (2017); El-Deghaidy et al. (2015); Evers, Kreijins, and Van der Heijden (2016); Hooks (2017); Nishimura (2017); Saberi and Sahragard (2019); Shirazi et al. (2015)
Challenges	Aust et al. (2015); Chalmers and Gardiner (2015); Elliot et al. (2015); Hirsh (2017); Bolitzer (2019); Reddick (2018); Shirazi et al. (2015)
Topic categories	Elliot et al. (2015)

Table B3

Section III Review of the Literature: Professional Development Opportunity Topics

Theme	Author/year
Institutional presence	Abdous (2019); Adkins (2014); Guditus (2013); Halverson and Graham (2019); Hatchey et al. (2014); Hope (2017); Maslow (1943, 1987); Marshall (2017); Milheim (2012); Ortagus and Tanner (2018); Russo-Gleicher (2015); Smith (2016); Valle (2016)
Course design/facilitation best practices	Ayres and Sweller (2014); Chickering and Gamson (1987); Haythornthwaite and Andrews (2011); Hope (2017); Houston (2018); Kalyuga and Sweller (2014); Low and Sweller (2014); Mayer (2014b); Orr (2019); Pass and Sweller (2014); Rogers-Shaw, Carr-Chellman and Choi (2018); Rouhiainen (2015); Stavredes (2011); Thongsawat and Davidson-Shivers (2019)
OSE engagement measures: Behavioral/emotional/cognitive engagement strategies	Halverson and Graham (2019); Hu and Li (2017); Martin (2019); Martin and Bolliger (2018); Templaar, Niculescu, Rienties, Gijselaers and Giesbers (2012);
Instructor & student Social presence	Budhai and Williams (2016); deNoyelles et al. (2014); Hoffman (2019); Simunich and Grincewicz (2017)
Student development	Brauer, Korhonen and Siklander (2019); Davies, Randall and West (2015)

Appendix C: Online Student Engagement Survey (Dixson, 2015)

Within that course, how well do the following behaviors, thoughts, and feelings describe you? Please answer using the following scale:

1. not at all characteristic of me
2. not really characteristic of me
3. moderately characteristic of me
4. characteristic of me
5. very characteristic of me

1. Making sure to study on a regular basis
2. Putting forth effort
3. Staying up on the readings
4. Looking over class notes between getting online to make sure I understand the material
5. Being organized
6. Taking good notes over readings, PowerPoints, or video lectures
7. Listening/reading carefully
8. Finding ways to make the course material relevant to my life
9. Applying course material to my life
10. Finding ways to make the course interesting to me
11. Really desiring to learn the material
12. Having fun in online chats, discussions or via email with the instructor or other students
13. Participating actively in small-group discussion forums
14. Helping fellow students
15. Getting a good grade
16. Doing well on the tests/quizzes
17. Engaging in conversations online
18. Posting in the discussion forum regularly
19. Getting to know other students in the class

*Modified with permission for this study (see Appendix E for modifications)

Appendix D: Open-Ended Questions From Online Engagement Survey (Dixson, 2010)

1. What assignments, activities, requirements of this course helped/encouraged/required you to really think about and be interested in the content of this course (just list one or two).

2. What assignments, activities, requirements of this course helped/encouraged/required you to interact with the instructor? (just list one or two)

3. What assignments, activities, requirements of this course helped/encouraged/required you to interact with other students? (Just list one or two)

Appendix E: Online Student Engagement Survey

Section I: Demographic questions:

I am a student in the first year of my program (in other words, I have not yet completed a full year of the program)

(if students do not identify as a first-year student, they will then exit the survey)

I am a student aged 18 or older

(if students do not identify as 18 or older, they will then exit the survey)

To help develop a better understanding of student engagement, please select all of the following characteristics that you believe apply to you:

I am a working, single parent
I am a married with dependents
I am working full-time
I consider myself from a low-income background
I am entering college after a few years away from high school
I am someone who did not complete high school but am returning to upgrade my education before my college program
I am older than 24
I have an identified learning barrier
I may have an unidentified learning barrier

(if students do not identify with any of the characteristics of nontraditional, they will then exit the survey)

Section II: Personal learning strategies within E-learning (18 questions total), (copyright, Dixson, 2015)

Please think of one of your current e-learning courses. Within that course, how well do the following behaviors, thoughts, and feelings describe you? Please answer using the following scale:

1. not at all characteristic of me
2. not really characteristic of me
3. moderately characteristic of me
4. characteristic of me
5. very characteristic of me

1. Making sure to study on a regular basis at least three times per week *(behavioral)*
2. Putting forth effort *(emotional)*
3. Completing all assigned readings on a weekly basis *(behavioral)*

4. Looking over class notes between getting online to make sure I understand the material *(behavioral/cognitive)*
5. Being organized by keeping all class notes/readings/information together *(behavioral)*
6. Making my own notes over readings, PowerPoints, or video lectures *(behavioral)*
7. Listening/reading carefully *(behavioral)*
8. Finding ways to make the course material relevant to my life *(cognitive/emotional)*
9. Applying course material to my life *(cognitive/emotional)*
10. Finding ways to make the course interesting to me *(emotional)*
11. Really desiring to learn the material *(emotional)*
12. Having fun in online chats, discussions or via email with the instructor or other students *(emotional)*
13. Helping fellow students *(behavioral/emotional)*
14. Getting a grade above 60% on assignments *(cognitive)*
15. Getting a grade above 60% on test/quizzes *(cognitive)*
16. Engaging in conversations online by messaging in Moodle or emailing *(behavioral/emotional)*
17. Posting in the chat box in live class regularly *(behavioral)*
18. Getting to know other students in the class *(behavioral/emotional)*

Section III: Overall self-assessment of your e-learning engagement:

19. Behavioral engagement can be defined as the actions you take in your e-learning courses, activities and tasks you actually do (Clark & Mayer, 2016).

Please assess your behavioral engagement for this course using the following scale:

1. I am not at all behaviorally engaged
2. I am not really behaviorally engaged
3. I am somewhat behaviorally engaged
4. I am behaviorally engaged
5. I am very behaviorally engaged

20. Emotional engagement can be defined as how positively you feel about your class, such as by enjoying it, feeling comfortable and interested, and wanting to do well (Cooper, 2014). However, you may also feel considerable angst, frustration and even anger over some aspects of the course or about some content and still be very emotionally engaged (M. Dixson, personal communication, October 2018).

Please assess your emotional engagement for this course using the following scale

1. I am not at all emotionally engaged
2. I am not really emotionally engaged
3. I am somewhat emotionally engaged
4. I am emotionally engaged
5. I am very emotionally engaged

21. Cognitive engagement can be defined as how much you take course information and develop meaning and understanding for yourself (Garrison et al., 2000).

Please assess your cognitive engagement for this course using the following scale

1. I am not at all cognitively engaged
2. I am not really cognitively engaged
3. I am somewhat cognitively engaged
4. I am cognitively engaged
5. I am very cognitively engaged

Section IV: Open-ended questions (5 question sets total): (copyright Dixson, 2010)

The following open-ended questions are designed to help me gain a better understanding of how you are engaged in your online courses. You will also be provided an opportunity to make recommendations to increase your engagement in online courses.

[*CoI model (Garrison et al., 2000): social presence, teaching presence, cognitive presence; Student engagement framework (Kearsley & Shneiderman, 1998): meaningful learning, collaboration, self-directed learning; RQ alignment*].

22. Question set one: Engagement with Course

a. What assignments, activities, or requirements of this course encouraged you to really think about or be interested in the content of this course? (please list one or two) (copyright Dixson, 2010)
b. How do the materials or activities help you make personal connections to the course information? *(cognitive presence; meaningful learning; self-directed learning; RQ2, RQ4)*

23. Question set two: Engagement with Instructor

a. What assignments, activities, or requirements of this course encouraged you to interact with the instructor? (please list one or two) (copyright Dixson, 2010)
b. What tools or strategies does your instructor use that increases your learning or participation? (*Social presence, teaching presence, cognitive presence; meaningful learning, collaboration, self-directed learning; RQ2, RQ4*)

24. Question set three: Engagement with Peers
a. What assignments, activities, or requirements of this course encouraged you to interact with the other students? (please list one or two) (copyright Dixson, 2010)
(*social presence; collaboration; self-directed learning; RQ2*)

25. Question set four: Engagement with technology
a. Can you share how you felt learning to use the technology? (*social presence; meaningful learning; self-directed learning; RQ2*)

b. What would you say was most helpful in working with the technology? (*cognitive presence; meaningful learning; collaborative learning; RQ2, RQ4*)

26. Question set five: Improving online engagement

a. What tools/strategies/assignments do you wish could be added to (or removed from) all your courses to make you feel more involved in your learning? (*meaningful learning; self-directed learning; RQ4*)
b. What might you change about yourself to help you feel more involved in your learning? (*self-directed learning; RQ4*)

c. Are there any additional comments that you would like to share about being engaged in your online course?

Thank you for participating in this short survey about your engagement in e-learning classes! Your responses may help improve online courses at our college!

The following information will not be found on the student survey and is only included here for committee clarity.

note: Question 13 from OSE (Dixson, 2015; see Appendix C) was removed as discussion forums are not always used at WCC
(Addresses RQ1, RQ2, RQ4)

note: words in italics, above, would not appear in the actual survey; they appear here only to show alignment or to show exit procedure for students who are not first-year, nontraditional.

note: Appendix E, from Question 1–18, Questions 19–21, and Question 22a, 23a, and 24a, showing how questions were modified, was provided to Dr. Dixson as part of the letter requesting permission to use the OSE.

note: if a student is exited from the survey, it is because he or she:
Did not identify as a student in first-year of the program
Did not confirm his or her age as 18 or older
Did not identify with one or more characteristics of nontraditional.
If this is the case, the student will exit the survey and will receive the following script:

Thank you for your willingness to participate in this survey! However, at this time, you have either not met the age requirement, (you must be 18 or over), the program year requirement (you must be in the first year of your program), or as having a nontraditional student characteristic. Best wishes for your studies this semester

Appendix F: Email Correspondence and Letter Requesting Permission to Use OSE

Tue 10-09, 3:36 PM

Greetings again, Dr. Dixson

Thank you greatly for your permission to use and adapt the OSE.

I appreciate your comments regarding the definition of emotional engagement and have shared those comments with my chair. You have shared an excellent observation and I appreciate the insight.

I will discuss with my chair how to address this; since my study is using a mixed methods approach, I hope to be able to further address various emotions students feel during the qualitative component.

Again, my sincere thanks!

Gail

MD

Marcia Dixson <XXX@pfw.edu>

Tue 10-09, 9:53 AM

You are welcome to use the instrument and to adapt it to your needs.

I would say, however, that I'm not sure I'd agree with your definition of emotional engagement as: **how positively you feel.** Students can feel considerable angst, frustration and even anger over some aspects of the course or about some content and be very emotionally engaged. You seem to be equating emotional engagement with simply liking the course. That waters down the engagement aspect and confounds it with satisfaction.

Marcia Dixson
Professor of Communication
Associate Vice-Chancellor for Teaching and Learning

Olga Salnikova

Greetings Dr. Dixson

I am an Ed.D. doctoral student from Walden University planning my doctoral study tentatively titled *Engagement in E-learning Courses Amongst First-year, Nontraditional Students in a Community College* under the direction of my Chair, Dr. Olga Salnikova. I would like your

permission to use your survey instrument entitled *Online Student Engagement Scale* for students in my doctoral study.

For the study, I would like to use the 2015 survey with some minor modifications made to questions (for clarity for students at the study institution), and the 2010 survey open-ended questions.

Please see the attached letter that outlines the request more fully, as well as the wording changes I would like to use.

Thank you for your consideration of my request. I look forward to your response.

Gail Hiar

Letter in attachment:

Gail Hiar
Email: XXX@waldenu.edu

October 10, 2018

Dr. Marcia Dixson
Assistant Vice Chancellor for Teaching and Learning
Indiana University, Purdue University, Fort Wayne
XXX@pfw.edu

Dear Dr. Dixson:

I am a doctoral student from Walden University planning my doctoral study tentatively titled *Case Study of Engagement in E-learning Courses Amongst First-year, Nontraditional Community College Students* under the direction of my Chair, Dr. Olga Salnikova. I would like your permission to reproduce and use your survey instrument entitled *Online Student Engagement Scale* for students in my study. I would like to use your 2015 survey with some minor modifications, to questions (attached, *Appendix D*) and the 2010 open-ended questions under the following circumstances:

I will use this survey only for my research studies and will not sell or use it for any compensated or curriculum development activities

I will show your copyright in a statement on all copies of the instrument

I will send the research study and one copy of any reports, articles, and the like, that make use of these survey data promptly to your attention

I will modify questions only as indicated (attached, *Appendix D*) for student clarity.

I expect to collect data in Fall 2018. If these are acceptable terms and conditions, please indicate so by providing permission via mail (above), text, fax, or email.

Sincerely,

Gail Hiar

Appendix G: Protecting Human Research Participants Certificate

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Gail Hiar** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 04/08/2017.

Certification Number: 2345857.

Appendix H: Letter Requesting Permission for Study at Western Canada College

January 10, 2019
Mr. X, Vice-President Academic
Western Canada College
RE: Permission to Conduct Research Study
Dear Mr. X:

I am currently a Walden University, Doctor of Education candidate, specializing in College Teaching and Learning. I am requesting permission to conduct a research study at Western Canada College. The study I plan to conduct is entitled *Case Study of Engagement in E-learning Courses Amongst First-year, Nontraditional Community College Students*.

I am requesting permission to survey first-year e-learning students in the College Preparation, ELCC, and EA programs. I am requesting that the associate vice-president student services provide a list of email address for eligible, first-year student students to a program advisor. The advisor will invite these students to participate in the survey via an email. In addition, posters will be placed in e-learning student classrooms and the program area offices on campus to invite those e-learning students who might not access email regularly. Should not enough students respond to the first email invitation, a second email will follow within two weeks. Again, should the response rate be lower, at the end of their online classes, e-learning faculty teaching those students will request students consider participating in the study.

The survey will be conducted anonymously online utilizing Dixson's (2010, 2015) *Online Student Engagement* instrument (copy enclosed), with additional open-ended questions added to help explore a deeper understanding of students' e-learning behavioral, emotional, and cognitive engagement.

As well, I will conduct one-on-one faculty interviews to gain understanding of the perceptions of faculty regarding first-year, nontraditional e-learning students' engagement. I will require a list of eligible faculty members who teach online to first-year, nontraditional students.

Interested students and faculty who volunteer to participate will be given consent forms. There will be an electronic consent form for the online survey as students enter the survey (copy enclosed), and there will be a consent form for the face-to-face individual interviews (copy enclosed).

If approval is granted, student participants will complete the online survey using Survey Monkey which should take no longer than 20 minutes. Students will be invited to complete this process between classes, on their lunch hours, or after classes are complete, so no class time will be lost. The survey results will be compiled, and individual results of this survey will remain confidential and anonymous.

The individual faculty interviews will occur in a classroom or other comfortable setting on the college site, with privacy measures in place. Should off-campus faculty wish to participate, this could be arranged to occur via phone or Skype should they desire. With your permission, faculty interviews will take place during faculty prep times, their lunch hours, or after the work day, at a time most convenient for the faculty member. These face-to-face sessions will be recorded for transcription and participants will have the opportunity to review their responses reflected in compiled themes to confirm meaning. The faculty member's identifying information will be removed, and their ideas coded for thematic understanding.

When this study is published in ProQuest, no identifying information will be used for participants or the institution. No costs will be incurred by either Western Canada College or the individual participants.
Your approval to conduct this study will be greatly appreciated. I would be happy to answer any questions or concerns you may have. You may contact me at my email address: XXX@waldenu.edu or via phone at XXX XXX XXXX.
To summarize, should you approve of the study, I am requesting the following supports:

1. Associate vice-president Student Services will provide email contact information for first-year students in the College Prep, Educational Assistant, and Early Learning and Child Care programs to a designated advisor
2. A program advisor will send the invitational email to student college emails
3. A faculty designate will send a Moodle message to students
4. Permission to put a link to the study on the Moodle landing page for students in the identified program areas
5. Permission for me to display posters regarding the study in program area classrooms and program office areas
6. List of faculty members teaching online to first-year, nontraditional students provided by your office to me.
7. Allowing me to recruit faculty participants onsite via email and phone call, if required.
8. Permission to use employees' paid time (obtaining student emails, sending email invitation, or data collection, if that is most convenient interview time for the faculty members)
9. Permission to book a private room in which to conduct faculty interviews for data collection

If you agree, kindly sign the provided letter (below) on your institution's letterhead and return the signed letter to the above email address. This study will also require the approval of Walden University's Institutional Review Board and Western Canada College's Research Ethics Board before it takes place.
Sincerely,
Gail Hiar,
Walden University, Riley College of Education and Leadership doctoral candidate
Enclosures
cc: Dr. Salnikova, Research Advisor, Walden University
Note: Appendices E and N were included as attachments in the letter to the study site vice-president academic requesting permission for the study.

Appendix I: Letter of Cooperation From Western Canada College

Western Canada College
[address redacted]
January X, 2019
Dear Ms. Gail Hiar:
Based on my review of your research proposal, I give permission for you to conduct the study entitled *Case Study of Engagement in E-learning Courses Amongst First-year, Nontraditional Community College Students.* As part of this study, I authorize you to:

1. display posters regarding the study in program area classrooms and program office areas
2. conduct an online student engagement survey
3. recruit and interview faculty participants
4. request faculty participants member check interview transcripts for accuracy

In addition, I understand that the results of the study will be published in ProQuest. Individuals' participation will be voluntary and at their own discretion.

We understand that our organization's responsibilities include the following:
1. Associate vice-president student services will provide email contact information for first-year students in the College Prep, Educational Assistant, and Early Learning and Child Care programs to a designated advisor
2. A program advisor will send the invitational email to student college emails
3. A designated faculty member will send a Moodle message to students via the online learning platform.
4. Allow you to put a link to the survey on the Moodle landing page for students in the 3 identified program areas
5. Provide a list of faculty members teaching online to first-year, nontraditional students to you so you can send the email invitation to faculty college emails, and follow up with a phone call if required.
6. Allow you to recruit faculty participants onsite
7. Allow employees' paid time to assist with study (obtaining student emails, sending email invitation, or data collection, if that is most convenient interview time for the faculty members)
8. The use of a private room (which would need to be booked) in which to conduct faculty interviews for data collection
We reserve the right to withdraw from the study at any time if our circumstances change.

You will be responsible for complying with our site's research policies and requirements, including completion and approval of Western Canada College's Research Ethics Board.

I understand that you will not be naming our organization in the doctoral project report that is published in ProQuest.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of your supervising faculty/staff without permission from the Walden University IRB.

Sincerely,

Appendix J: Invitational Poster Content

Are you a first-year student in the College Preparation, Educational Assistant, or Early Learning and Childcare programs? Do you want to help improve online courses?

If so, you may have been invited to participate in a study to better understand e-learning student engagement. Please check your college email to access your invitation. Alternatively, you will find a link to the survey on your Moodle home page.

Your participation will be entirely voluntary. Should you choose to accept the invitation, you will be asked to complete a 20-minute survey to potentially help improve online learning. Check your email for more details on the study or select the link on your Moodle homepage.

Please contact me, Gail Hiar, at XXX XXX XXXX or XXX@waldenu.edu with any questions. I am conducting this study for my Walden University Dissertation.

Thank you for thinking about participating.

(image from Creative Commons)

Appendix K: Moodle Messaging System Invitation to Students

Students, would you like to help improve online courses? Please check your college email for an invitation to an online survey which will ask questions about your online course experience.

If you prefer, there is also a link to the online survey on your Moodle home page. Please look for the survey link entitled *Student Survey about Online Learning.* The link will outline details of the 20-minute survey. Your participation is entirely voluntary. Your grades will not be affected if you decide to participate or not.

In order to participate, you will be asked to confirm you are over the age of 18, are a first-year student in College Prep, Educational Assistant, or Early Learning and Childcare, and you have one or more of the characteristics of nontraditional students.

The survey is part of a study about online learning being conducted by Gail Hiar, a doctoral student from Walden University and a faculty member of Western Canada College. It is part of her dissertation.

Thank you for considering this invitation to help improve online student learning.

Appendix L: Survey Link on Students' Moodle Home Page

Student Survey about Online Learning

This voluntary survey is part of a
dissertation study for Gail Hiar

To learn more, click here
This survey will be open from March 1–March 31

Informational script behind Moodle link:

You are invited to participate in a web-based survey about online engagement for first-year, nontraditional students.

The title of the study is *A Case Study of Engagement Amongst First-year, Nontraditional Community College Student.*

This is a research project being conducted by Gail Hiar, a doctoral candidate at Walden University. You may know her as a former e-learning teacher for Western Canada College.

This form is part of a process called "informed consent" to allow you to understand this study before deciding to participate. If you do decide to participate in this study, when you enter the survey, you will be asked to:

- confirm you are over the age of 18
- confirm you are a first-year student in College Prep, Educational Assistant, or Early Learning and Childcare
- identify with one (or more) characteristics of a nontraditional student

Background Information
The purpose of this study is to better understand students' engagement in e-learning (online learning).

Procedures

If you agree to participate in this study, which should take less than 20 minutes, you will enter the survey and you will be asked to:

- Answer 3 demographic questions
- Answer 21 survey questions that you will be asked to rank on a scale of 1 to 5
- Answer 5 written questions where you can provide examples of things you may find engaging, or improvements you would like to see in your e-learning courses.

Here are some sample questions:

- How often you look over class notes
- Do you find ways to make the course relevant to you?
- What assignments, activities, or requirements of this course encouraged you to interact with the instructor?

Voluntary Nature of the Study

This survey is voluntary. You are free to accept or turn down the invitation. No one at Western Canada College will treat you differently if you decide not to be in the study. If you decide to be in the study now, you can still change your mind later. You may stop at any time.

Risks and Benefits of Being in the Study

Being in this type of study involves some risk of the minor discomforts such as being tired of reading for 20 minutes on the computer screen. Being in this study would not pose risk to your safety or wellbeing.

One of the benefits of this study is that you are helping the researcher develop a better understanding about online students' engagement.

Payment

There is no payment for your participation in this survey.

Privacy

Your survey answers will be sent to a link at SurveyMonkey.com where data will be stored in a password protected electronic format. Survey Monkey does not collect identifying information such as your name, email address, or IP address. Therefore, your responses will remain anonymous.

No one will be able to identify you or your answers.

Data will be kept secure for a period of 5 years and then destroyed, as required by Walden University.

Contacts and Questions

This study has the approval of both Walden's Institutional Review Board and Western Canada College Research Ethics Board.

If you have questions at any time about the study or the procedures, you may contact my research supervisor, Dr. Olga Salnikova, via email at XXX@mail.waldenu.edu. Alternatively, you may contact me, Gail Hiar, via email at XXX@waldenu.edu or XXX XXX XXXX.

If you want to talk privately about your rights as a participant, you can call the Research Participant Advocate at my university at 1- 612-312-1210 or irb@waldenu.edu. Walden University's approval number for this study is **03-07-19-0584583 and it expires on March 6, 2020.**

Please print or save this consent form for your records. A pdf of this consent form is attached for your convenience.

To protect your privacy, no written consent form is requested. Instead, if you are interested in participating in the study, please click on the link provided below:

By choosing to participate by clicking on the link, you declare that

- You have read the above information
- You voluntarily agree to participate
- You are 18 years of age or older

☐ **Link to survey**

Appendix M: Follow-Up Email Invitation for Students

Greetings!

This is a reminder email about an invitation you were sent earlier to participate in a web-based online survey about online engagement for first-year, nontraditional students.

The title of the study is *A Case Study of Engagement Amongst First-year, Nontraditional Community College Student.*

If you have already responded to the survey, please disregard this email. If you have not yet responded, please consider doing so. Your responses could help create a better understanding of online student engagement. The following information is an exact copy of the first email invitation you received and provides details of the study.

Study details:

You are invited to participate in a web-based online survey about *First-year, Nontraditional E-learning Student Engagement*.

You are receiving this invitation because you are an e-learning student, in other words, you are taking at least one online course. Also, you are over 18 and are a first-year student in College Prep, Educational Assistant, or Early Learning and Childcare.

This is a research project being conducted by Gail Hiar, a doctoral candidate at Walden University. You may know her as a former e-learning teacher for Western Canada College.

This form is part of a process called "informed consent" to allow you to understand this study before deciding to participate. If you do decide to participate in this study, when you enter the survey, you will be asked to:

- confirm you are over the age of 18
- confirm you are a first-year student in College Prep, Educational Assistant, or Early Learning and Childcare
- identify with one (or more) characteristics of a nontraditional student

Background Information
The purpose of this study is to better understand students' engagement in e-learning (online learning).

Procedures
If you agree to participate in this study, which should take less than 20 minutes, you will enter the survey and you will be asked to:

- Answer 3 demographic questions
- Answer 21 survey questions that you will be asked to rank on a scale of 1 to 5

- Answer 5 written questions where you can provide examples of things you may find engaging, or improvements you would like to see in your e-learning courses.

Here are some sample questions:

- How often you look over class notes
- Do you find ways to make the course relevant to you?
- What assignments, activities, or requirements of this course encouraged you to interact with the instructor?

Voluntary Nature of the Study

This survey is voluntary. You are free to accept or turn down the invitation. No one at Western Canada College will treat you differently if you decide not to be in the study. If you decide to be in the study now, you can still change your mind later. You may stop at any time.

Risks and Benefits of Being in the Study

Being in this type of study involves some risk of the minor discomforts such as being tired of reading for 20 minutes on the computer screen. Being in this study would not pose risk to your safety or wellbeing.

One of the benefits of this study is that you are helping the researcher develop a better understanding about online students' engagement.

Payment

There is no payment for your participation in this survey.

Privacy

Your survey answers will be sent to a link at SurveyMonkey.com where data will be stored in a password protected electronic format. Survey Monkey does not collect identifying information such as your name, email address, or IP address. Therefore, your responses will remain anonymous.

No one will be able to identify you or your answers.

Data will be kept secure for a period of 5 years and then destroyed, as required by Walden University.

Contacts and Questions

This study has the approval of both Walden's Institutional Review Board and Western Canada College Research Ethics Board.

If you have questions at any time about the study or the procedures, you may contact my research supervisor, Dr. Olga Salnikova, via email at XXX@mail.waldenu.edu. Alternatively, you may contact me, Gail Hiar, via email at XXX@waldenu.edu or XXX XXX XXXX.

If you want to talk privately about your rights as a participant, you can call the Research Participant Advocate at my university at 1- 612-312-1210 or irb@waldenu.edu. Walden University's approval number for this study is **03-07-19-0584583 and it expires on March 6, 2020.**

Please print or save this consent form for your records. A pdf of this consent form is attached to the email for your convenience.

To protect your privacy, no written consent form is requested. Instead, if you are interested in participating in the study, please click on the link provided below:

By choosing to participate by clicking on the link, you declare that

- You have read the above information
- You voluntarily agree to participate
- You are 18 years of age or older

☐ **Link to survey**

Appendix N: Faculty Follow-Up Phone Call Script

Hi (faculty member's name). This is Gail Hiar calling. Am I calling at a good time?

I am just following up an email invitation that I sent inviting you to participate in a study called *Case Study of Engagement in E-learning Courses Amongst First-year, Nontraditional Community College Students*.

Your participation is completely voluntary, but I would greatly appreciate if you would consider doing so. You received the invitation because you teach students in your courses who would be considered first-year and nontraditional. The study is part of my doctorate with Walden University in which I am trying to determine what first-year, nontraditional e-learning students find engaging in their online courses. It would involve a one-on-one interview where I ask you questions about student engagement in the online modality. The possible benefits to result from the study could include improving teaching and learning strategies in e-learning courses to encourage student engagement.

Do you have any questions about the study that I might be able to address for you? Alternatively, of course, you could also contact my chair with any questions you have. Her contact information is in the email invitation, which also contains sample interview questions.

If you agree to participate, could you respond to me via email indicating you agree to participate

Thank you for taking my phone call.

Appendix O: Faculty Interview Script

Participants: e-learning faculty who teach first-year, nontraditional students

Date/time/location:

Interviewer: Gail Hiar

Procedures: First, I would like to again thank you for agreeing to participate in this interview process and thank you for sharing a little bit about yourself as we started this process. Although I have taught at this college both face-to-face and online, and while I currently serve in the workforce development role and serve as your faculty association president, I am conducting this study as a student at Walden University, under the supervision of my chair, Dr. Salnikova. I have shared with you her contact information should you wish to contact her at any time with questions or concerns. This study is part of my Doctor of Education program.

The purpose of this study is to better understand your perceptions about how students become engaged in your e-learning courses. This interview will last approximately 60 minutes. I would like to remind you that your responses will be recorded using Windows 10 sound recorder, and backed up with DP9Pro digital recorder, and then transcribed. But when I report the results of what was said here, it will remove all information regarding who might have said what to help your responses remain confidential. Also, I would like to remind you that your participation is completely voluntary and that you are free to stop your participation at any time. Once I have created the transcript, I will share it with you to make sure I accurately captured what you said, and then I will remove your name to keep your responses confidential. In the end, I hope that the results of this study will help our college make our online courses even more engaging for students. Do you have any questions before we begin?

The following open-ended questions are related to Garrison, Anderson, and Archer's (2000) community of inquiry model (social presence, teaching presence, cognitive presence) and Kearsley and Shneiderman's (1998) theory of student engagement framework (meaningful learning, collaboration, and self-directed learning). They are designed to help me gain a deeper understanding of your perceptions of instructional strategies that engage e-learning students.

I am most interested in how you believe students can become engaged behaviorally, emotionally, and cognitively in e-learning courses. Behaviorally engagement is the actions performed by students in their classes. Emotional engagement is the extent to which students enjoy their classes, feel comfortable, and want to do well. And cognitive engagement is the extent to which students construct meaning in their learning environment (*I will have these definitions visible on poster board*).

- From your experience in teaching via e-learning, what do you think students like about the design of your course? (*cognitive presence; meaningful learning; RQ2, RQ4*)
    - What structures in design have you incorporated that aid student engagement in your e-learning course? (Chakraborty & Nafukho, 2013; Hope, 2017). (*cognitive presence; meaningful learning; RQ2, RQ4*)
    - Can you describe some activities or assignments that successfully engage your students? (Chakraborty & Nafukho, 2013; Hope, 2017) (*cognitive presence; teaching presence; meaningful learning; self-directed learning; RQ2, RQ4*)
    - How often do you believe students go through the materials in their courses or spend time reviewing them? *(cognitive presence; self-directed learning; RQ2*)

  - How does the course content provide information that students connect to personally? (*cognitive presence; meaningful learning; RQ2, RQ4*)

- In what ways do you help students learn things that are relevant to them? (*teaching presence; cognitive presence; collaboration; self-directed learning; RQ2, RQ4*)
  - How do you communicate with your students that helps them to learn the materials? (*teaching presence; cognitive presence; collaboration; RQ2, RQ4*)
  - Are there any tools or strategies you use that increase students' learning or participation? (Chakraborty & Nafukho, 2013) (*Social presence, teaching presence, cognitive presence; meaningful learning, collaboration, self-directed learning; RQ2, RQ4*)
- How do you encourage students to work with peers and yourself? (*social presence; collaborative learning; RQ2, RQ4*)
  - How often do you contact students in your course? (*social presence; teaching presence; collaboration; self-directed learning; RQ2, RQ4*)
  - What strategies have you used to best create your presence or student presence in your e-learning classroom? (Hope, 2017) (*social presence; teaching presence; collaboration; RQ2, RQ4*)
- What do you believe students find difficult about learning how to use the technology? (*social presence; meaningful learning; self-directed learning; RQ2*)
  - What do you think they would find most helpful? (*cognitive presence; teaching presence; meaningful learning; collaborative learning; RQ2, RQ4*)

- Although every course and instructor are different, do you believe there might be some things that all e-learning courses should employ to increase student engagement? (*meaningful learning; RQ4*)
    - What do you believe students would indicate is the most important thing in encouraging them to learn more? (*meaningful learning; self-directed learning; RQ2, RQ4*)
    - What things would you change about the course or delivery to make students feel more involved in their learning? (*teaching presence*; *meaningful learning; self-directed learning; RQ4*)
- Are there any additional comments that you would like to share about engaging students in e-learning courses?

Other prompting questions:

- Can you tell me more about that?
- I'm not sure I understood; can you explain more about that?
- You mentioned….what stands out about that?
- What are some of your reasons for feeling that way?
- This is what I think I heard you say…is that correct?

Conclusion: Thank you very much for taking the time to participate in this interview. Once again, I want to reassure you that your responses will remain confidential. Would it be alright for me to contact you should I have any follow-up questions? Once I have the session recorded in writing, likely within two weeks, I will share it with you via email to confirm your thoughts.

note: words in italics, above, appear here only to show alignment.

Appendix P: Individual Quantitative Data Tables

Table P1

Kendall's tau-b Associations: Question 1 to Question 19

		Bivariate association	
OSE question #	Data	OSE question # Question 1	OSE question # Question 19
Question 1	Coefficient	1.000	.455**
	Sig. (2-tailed)		.004
	n	30	30
Question 19	Coefficient	.455	1.000
	Sig. (2-tailed)	.004	
	n	30	31

**Association is significant at the $p < 0.01$ level (2-tailed).

Table P2

Kendall's tau-b Associations: Question 2 to Question 20

		Bivariate association	
OSE question #	Data	OSE question # Question 2	OSE question # Question 20
Question 2	Coefficient	1.000	.391*
	Sig. (2-tailed)		.021
	n	30	30
Question 20	Coefficient	.391**	1.000
	Sig. (2-tailed)	.021	
	n	30	31

*Association is significant at the $p < 0.05$ level (2-tailed).

Table P3

Kendall's tau-b Associations: Question 3 to Question 19

		Bivariate association	
OSE question #	Data	OSE question # Question 3	OSE question # Question 19
Question 3	Coefficient	1.000	.356*
	Sig. (2-tailed)		.028
	n	30	30
Question 19	Coefficient	.356*	1.000
	Sig. (2-tailed)	.028	
	n	30	31

*Association is significant at the $p < 0.05$ level (2-tailed).

Table P4

Kendall's tau-b Associations: Question 4 to Question 19

OSE question #	Data	Bivariate association	
		OSE question # Question 4	OSE question # Question 19
Question 4	Coefficient	1.000	.308
	Sig. (2-tailed)		.050
	n	31	31
Question 19	Coefficient	.308	1.000
	Sig. (2-tailed)	.050	
	n	31	31

Table P5

Kendall's tau-b Associations: Question 4 to Question 21

OSE question #	Data	Bivariate association	
		OSE question # Question 4	OSE question # Question 21
Question 4	Coefficient	1.000	.526**
	Sig. (2-tailed)		.001
	n	31	31
Question 21	Coefficient	.526**	1.000
	Sig. (2-tailed)	.001	
	n	31	31

**Association is significant at the $p < 0.01$ level (2-tailed).

Table P6

Kendall's tau-b Associations: Question 5 to Question 19

OSE question #	Data	Bivariate association	
		OSE question # Question 5	OSE question # Question 19
Question 5	Coefficient	1.000	.539**
	Sig. (2-tailed)		.001
	n	31	31
Question 19	Coefficient	.539**	1.000
	Sig. (2-tailed)	.001	
	n	31	31

**Association is significant at the $p < 0.01$ level (2-tailed).

Table P7

Kendall's tau-b Associations: Question 6 to Question 19

OSE question #	Data	Bivariate association	
		OSE question # Question 6	OSE question # Question 19
Question 6	Coefficient	1.000	.471**
	Sig. (2-tailed)		.003
	n	31	31
Question 19	Coefficient	.471**	1.000
	Sig. (2-tailed)	.003	
	n	31	31

**Association is significant at the $p < 0.01$ level (2-tailed).

Table P8

Kendall's tau-b Associations: Question 7 to Question 19

OSE question #	Data	Bivariate association	
		OSE question # Question 7	OSE question # Question 19
Question 7	Coefficient	1.000	.591**
	Sig. (2-tailed)		.000
	n	31	31
Question 19	Coefficient	.591**	1.000
	Sig. (2-tailed)	.000	
	n	31	31

**Association is significant at the $p < 0.01$ level (2-tailed).

Table P9

Kendall's tau-b Associations: Question 8 to Question 21

OSE question #	Data	Bivariate association	
		OSE question # Question 8	OSE question # Question 21
Question 8	Coefficient	1.000	.301
	Sig. (2-tailed)		.067
	n	31	31
Question 21	Coefficient	.301	1.000
	Sig. (2-tailed)	.067	
	n	31	31

Table P10

Kendall's tau-b Associations: Question 8 to Question 20

		Bivariate association	
OSE question #	Data	OSE question # Question 8	OSE question # Question 20
Question 8	Coefficient	1.000	.380*
	Sig. (2-tailed)		.022
	n	31	31
Question 20	Coefficient	.380*	1.000
	Sig. (2-tailed)	.022	
	n	31	31

*Association is significant at the $p < 0.05$ level (2-tailed).

Table P11

Kendall's tau-b Associations: Question 9 to Question 21

		Bivariate association	
OSE question #	Data	OSE question # Question 9	OSE question # Question 21
Question 9	Coefficient	1.000	.437**
	Sig. (2-tailed)		.007
	n	31	31
Question 21	Coefficient	.437**	1.000
	Sig. (2-tailed)	.007	
	n	31	31

**Association is significant at the $p < 0.01$ level (2-tailed).

Table P12

Kendall's tau-b Associations: Question 9 to Question 20

		Bivariate association	
OSE question #	Data	OSE question # Question 9	OSE question # Question 20
Question 9	Coefficient	1.000	.522**
	Sig. (2-tailed)		.001
	n	31	31
Question 20	Coefficient	.522**	1.000
	Sig. (2-tailed)	.001	
	n	31	31

**Association is significant at the $p < 0.01$ level (2-tailed).

Table P13

Kendall's tau-b Associations: Question 10 to Question 20

OSE question #	Data	Bivariate association	
		OSE question # Question 10	OSE question # Question 20
Question 10	Coefficient	1.000	.157
	Sig. (2-tailed)		.342
	n	31	31
Question 20	Coefficient	.157	1.000
	Sig. (2-tailed)	.342	
	n	31	31

Table P14

Kendall's tau-b Associations: Question 11 to Question 20

OSE question #	Data	Bivariate association	
		OSE question # Question 11	OSE question # Question 20
Question 11	Coefficient	1.000	.031
	Sig. (2-tailed)		.853
	n	31	31
Question 20	Coefficient	.031	1.000
	Sig. (2-tailed)	.853	
	n	31	31

Table P15

Kendall's tau-b Associations: Question 12 to Question 20

OSE question #	Data	Bivariate association	
		OSE question # Question 12	OSE question # Question 20
Question 12	Coefficient	1.000	.323*
	Sig. (2-tailed)		.045
	n	31	31
Question 20	Coefficient	.323*	1.000
	Sig. (2-tailed)	.045	
	n	31	31

*Association is significant at the $p < 0.05$ level (2-tailed).

Table P16

Kendall's tau-b Associations: Question 13 to Question 19

		Bivariate association	
OSE question #	Data	OSE question # Question 13	OSE question # Question 19
Question 13	Coefficient	1.000	.378*
	Sig. (2-tailed)		.014
	n	31	31
Question 19	Coefficient	.378*	1.000
	Sig. (2-tailed)	.014	
	n	31	31

*Association is significant at the $p < 0.05$ level (2-tailed).

Table P17

Kendall's tau-b Associations: Question 13 to Question 20

		Bivariate association	
OSE question #	Data	OSE question # Question 13	OSE question # Question 20
Question 13	Coefficient	1.000	.255
	Sig. (2-tailed)		.111
	n	31	31
Question 20	Coefficient	.255	1.000
	Sig. (2-tailed)	.111	
	n	31	31

Table P18

Kendall's tau-b Associations: Question 14 to Question 21

		Bivariate association	
OSE question #	Data	OSE question # Question 14	OSE question # Question 21`
Question 14	Coefficient	1.000	.399*
	Sig. (2-tailed)		.014
	n	31	31
Question 21	Coefficient	.399*	1.000
	Sig. (2-tailed)	.014	
	n	31	31

*Association is significant at the $p < 0.05$ level (2-tailed).

Table P19

Kendall's tau-b Associations: Question 15 to Question 21

OSE question #	Data	Bivariate association	
		OSE question # Question 15	OSE question # Question 21
Question 15	Coefficient	1.000	.470**
	Sig. (2-tailed)		.005
	n	31	31
Question 21	Coefficient	.470**	1.000
	Sig. (2-tailed)	.005	
	n	31	31

**Association is significant at the $p < 0.01$ level (2-tailed).

Table P20

Kendall's tau-b Associations: Question 16 to Question 19

OSE question #	Data	Bivariate association	
		OSE question # Question 16	OSE question # Question 19
Question 16	Coefficient	1.000	.227
	Sig. (2-tailed)		.142
	n	31	31
Question 19	Coefficient	.227	1.000
	Sig. (2-tailed)	.142	
	n	31	31

Table P21

Kendall's tau-b Associations: Question 16 to Question 20

OSE question #	Data	Bivariate association	
		OSE question # Question 16	OSE question # Question 20
Question 16	Coefficient	1.000	.196
	Sig. (2-tailed)		.223
	n	31	31
Question 20	Coefficient	.196	1.000
	Sig. (2-tailed)	.223	
	n	31	31

Table P22

Kendall's tau-b Associations: Question 17 to Question 19

OSE question #	Data	Bivariate association	
		OSE question # Question 17	OSE question # Question 19
Question 17	Coefficient	1.000	.518**
	Sig. (2-tailed)		.001
	n	31	31
Question 19	Coefficient	.518**	1.000
	Sig. (2-tailed)	.001	
	n	31	31

**Association is significant at the $p < 0.01$ level (2-tailed).

Table P23

Kendall's tau-b Associations: Question 18 to Question 19

OSE question #	Data	Bivariate association	
		OSE question # Question 18	OSE question # Question 19
Question 18	Coefficient	1.000	.267
	Sig. (2-tailed)		.086
	n	31	31
Question 19	Coefficient	.267	1.000
	Sig. (2-tailed)	.087	
	n	31	31

Table P24

Kendall's tau-b Associations: Question 18 to Question 20

OSE question #	Data	Bivariate association	
		OSE question # Question 18	OSE question # Question 20
Question 18	Coefficient	1.000	.036
	Sig. (2-tailed)		.825
	n	31	31
Question 20	Coefficient	.036	1.000
	Sig. (2-tailed)	.825	
	n	31	31

Appendix Q: Qualitative Data Tables

Table Q1

Themes From OSE Question 23: Engagement With Instructor

Themes	Frequency (# of times referenced)	Percentage	Example
Social presence	2	3%	
Common experiences (1)			Chats during course help to get to know instructor and find common experience and form a relationship
Sharing information about self (1)			Letter of introduction
Teaching presence	45	73%	
Assignment help or follow-up (15)			On all of my assignments I've kept engaged with my instructor
Content exploration (7)			I found the notes [instructor provided] most helpful with learning the materials
Lack of engagement with Instructor (8)			I seriously do not know. I lost interest in the class because I found her boring
Live class (1)			[live] class time
Instructor encouragement/support (14)			There hasn't been such a thing as a "stupid" question
Meaningful learning	13	21%	
Alternative perspectives (1)			Reading the text and listening to the instructor talk about it differently
Technology/active participation (11)			The quizzes it helped me see which part of the chapter I need to work on to better understand it
Opportunity to improve grades (1)			Extra assignments
Outliers	2	3%	
Zero personal connection Made (1)			zero
No personal connection identified (1)			Not sure
Total	62	100%	

Table Q2

Themes From OSE Question 24: Engagement With Peers

Themes	Frequency (# of times referenced)	Percentage	Example
Social presence	10	36%	
Active participation (4)			responding to others in forums. This helps share experiences and find common situations
Course work exploration (6)			when im working [specific content] in class i talk with some students while working to get help or help them
Teaching presence	3	11%	
Technology inclusion (3)			online [live]class helps me to interact with other students from different campuses as well
Meaningful learning	3	11%	
Peer support (3)			students in the same course and campus helped me try to get an understanding
Outliers	12	43%	
No specific example (1)			Many
Prior connection (1)			I have a good friendship that was already occurring
No connection to peers (10)			No peer engagement what so ever, no friends in this class to boot
Total	28	100%	

Table Q3

Themes From OSE Question 25: Engagement With Technology

Themes	Frequency (# of times referenced)	Percentage	Example
Social presence	8	12%	
Identified as non-e-learners (4)			I used to hate classroom learning, now after online, I miss classrooms
Identified as e-learners (4)			now I wouldn't want to change the way I learned this semester
Teaching presence	6	10%	
Instructor encouragement/support (2)			I need help but sometimes the instructors were not available as they are so busy
Content delivery (4)			the tutorial online and all the basic navigation information. A lot of teachers had great layout of the course where things are easily found
Cognitive presence	22	35%	
Challenge level (22)			It was incredibly hard to grasp how to use moodle without someone showing hands on how to use it and figuring out how to upload assignments via WCC portal.
Personal impact	22	35%	
Skills development (8)			I was not good at using the technology at first but with help and constant use of it got me a bit more better at it, I now find it interesting and great to use
Accessibility (5)			not having to drive to class on a daily basis and save the gas money
Personal suitability (9)			being able to do classes at home, especially being a single parent
Institutional presence	5	8%	
Learner support (5)			the technology doesn't work properly on my laptop (Collaborate specifically). I have been waiting 2 months for [staff] help to fix this
Total	63	100%	

Table Q4

Theme: Teaching Presence (From Faculty Interviews)

Subthemes	Frequency (# of times referenced)	Percentage	Example
Active instructor	73	56%	
Humanity (13)			I was pretty drole. Is that the right word? Boring. Like just getting through the material, and I started to, I realized quite quickly that I had to have some fun. I had to have some fun and be a goof sometimes
Creating connections to topics (2)			they can see you have a real-life teacher and they can see. And I relate the material personally to my own experiences
Communication with students (17)			it doesn't take a lot of time for me to message them all
Awareness of student needs (9)			But I'm referring them to Student Learning Services too. And their advisors as well.
Awareness of classroom success (12)			But I always when I'm teaching online, I tend to give a lot more feedback to the students because I find…they're not in a face to face class. So, through my feedback to students then I find that a really good way to engage with them too.
Teaching strategies (19)			What I'm trying to create is a welcoming and warm environment where it's safe to learn like in every class.
Marking strategies (1)			I don't ever take off marks for late stuff because I think if it's a, it's a 90% *assignment*, but it just took them four more days. They still deserve the 90% or whatever
Instructor encouragement/support	23	17%	So, when I'm seeing that someone really failed an assignment or a unit exam or something like that, then I'm, "hey, by the way, I'm here, please contact me".
Course structure	21	16%	Moodle is a, is a good learning platform as long as instructors take the time to build it in a way that suits students' needs. If it becomes a repository where just there's so much information for the student to look at in the month, it doesn't work.
Content/curriculum support	14	11%	Colorful [PowerPoints], they're very visual and I think that the let be the enjoy the combination of the theory and the content coming alongside displays that are representative of the theory but add a little touch of visual fun
Total	131	100%	

Table Q5

Theme: Meaningful Learning (From Faculty Interviews)

Subthemes	Frequency (# of times referenced)	Percentage	Example
Gain wider perspective	10	13.3%	I try and do use [relevant & current examples from their daily experience] to get them involved in the actual lesson before I actually move into the content for that particular day
E-learning opportunities Instructor support of e-learning (2)	15	20%	the data I share with them, the data really does indicate that online delivery does not impede one's ability to get the grades that they can achieve. There's no negative relationship if you compare online delivery with face to face our traditional learning style
Accessibility (7)			it benefits students with outside lives in a way that they can miss a class and still receive the information through the recording at a later date when they have some time to do it
Personal suitability (6)			They can't afford to go to school full time during the day. They need a job. So, it is very important that they're able to do their job during the day
Encouraging active participation	22	29.3%	So, another way to phrase that is “is there anything you're having difficulties with that?” Sometimes that helps because they don't have a specific question, but still they were struggling with a concept or with an exercise
Student development & future goals	12	16%	The career goal is most important [to students]... huge factor in a student's motivation
Peer engagement	16	21.3%	I'm still working on a little bit more of that because I know some people don't like group work because of course there's always that one person that rides the coattails of others and everybody does the work,
Total	75	100%	

Table Q6

Theme: Cognitive Presence (From Faculty Interviews)

Subthemes	Frequency (# of times referenced)	Percentage	Example
Active learning strategies	5	20.8%	I suggest to them for every hour I spend with you, you should be spending one hour a day. And some of them will probably spend at least that much and some will spend half that much to be successful
Student characteristics	3	12.5%	Some of them will spend five hours everyday after class going through my course and their other courses of the day. Those are usually the students who don't need it.
Student personal experience	10	41.6%	There's a lot of practicality to their job and their life. I think there's some courses ….that gives them a real chance to relate to who they are
Encouraging student presence	6	25%	If they have to be perfect in the instructor's eyes as far as they're concerned, you're never going to go forward
Total	24	100%	

Table Q7

Theme: Outliers (From Faculty Interviews)

Subthemes	Frequency (# of times referenced)	Percentage	Example
Challenges for faculty	29	85%	
Student behaviors (7)			I've repeated it [daily] for the last two weeks…and its in Moodle…[but they still ask the same question over and over]
Challenges connecting content (5)			The same tools not do not necessarily have the same impact. That's the tough part of the job
Challenges with technology delivery (5)			Their internet fails. The technology itself, Moodle and blackboard collaborate work. It's, the Internet, it's where our students live. So it's bandwidth.
Student challenges with technology (12)			Preconceptions are often the biggest barrier in any type of activity you might have. So yes, "I've never been good at computers" is this is something that like the, "I've never been good at math"
Instructor personal development/goals	5	15%	[I want to use] more polling type activities [to help with student engagement]
Total	34	100%	

Table Q8

Themes From OSE Question 26a: Improving E-learning

Themes	Frequency (# of times referenced)	Percentage	Example
Social presence	6	22%	
Identified as non-e-learner (6)			it would be nice if where *(were*) able to have actual class with teachers in the room with us as [opposed] to doing them online
Teaching presence	12	44%	
Teaching skill (4)			Instructors talking for extended amount of time without some sort of break such as a video, quiz, survey, discussion, etc.
Content support (3)			It would be helpful to have a list of [content example] for the course and diagrams/sample problems with answer for them to better understand
Technology support/inclusion (5)			Automatic grading on all answers in assignments. [Elimination] of all paper tests. All questions and answers should be digital so that grading turnaround can be done with more efficiency
Meaningful learning	3	11%	
Applied learning (1)			More practical learning
Peer engagement (2)			group activities
Outliers	6	22%	
No improvements suggested (6)			Happy with how it is
Total	27	100%	

Table Q9

Themes From OSE Question 26b: Self-Development Strategies

Themes	Frequency (# of times referenced)	Percentage	Example
Cognitive presence	8	35%	
Time management (5)			Don't procrastinate
Health and wellness (2)			get more sleep
Personal skills (3)			if there was one thing that I can change it would be my learning disability
Meaningful learning	5	22%	
Active participation (2)			making sure my chapters are read ahead of time and making my own notes first then adding from instructor
Change in perception (1)			know Im (sic) going to have to try and be successful with the online course because I don't think they will change that
Instructor/college support (1)			going to the school more to get help
Peer engagement (1)			being able to work with other students
Outliers	10	43%	
Not specified or uncertain (10)			I don't feel I need to be involved. I rarely attend class and all of my grades are above 95
Total	23	100%	

Table Q10

Themes From OSE Question 26c: Final Thoughts

Themes	Frequency (# of times referenced)	Percentage	Example
Social presence	3	12%	
Identified as non-e-learner (3)			Other than I prefer a personal instructor in class, I think I would do better in [specific course], but for what it is, I'm doing okay
Cognitive presence	5	21%	
Satisfied (4)			The online courses were really great I really enjoyed it
Dissatisfied (1)			I feel that the courses I have taken have been a huge waste of money
Teaching presence	3	12%	teachers that are able to communicate and not get offended by being challenged with questions
Meaningful learning	3	12%	
Technology (1)			I don't like computers! I understand I must use them or get left behind
Accessibility (2)			I'm very grateful to have this mode of education. I would not otherwise be in a position to better myself due to family dynamics
Outliers	10	43%	
Not specified or uncertain (10)			Nope but thanks for the opportunity
Total	24	100%	

Table Q11

Themes From Faculty Interviews: Strategies for Increasing E-learning Engagement

Themes	Frequency (# of times referenced)	Percentage	Example
Social presence	3	5%	
Student presence (3)			Tell us about it or show us where you got that, we engage that student because that student feels like the part they're contributing or not just receiving
Teaching presence	28	47%	
Teaching persona (7)			I think I'm going to do like a screen cast or a short *welcome* video.
Teaching strategies (3)			Facilitation via camera
Course structure (1)			Have a formula…for creating Moodle sites to make sure that that all students, so they all that every course can have the same advantages
Content/curriculum support (8)			open source text books
Student support (8)			We as the educator, we need to be, not so much the authority figure, but we need to let students know that we know what we're talking about.
Peer engagement (1)			a few more projects that encourage them to bounce their ideas off of each other
Institutional presence	5	8%	I think there needs to be somebody there too, even in the first two weeks ready to help them
Meaningful learning	16	27%	
Online orientation course(6)			if they could see beforehand what can be done and how it works, I think that'd be really effective
Connection to personal experience(1)			Well, if it's applicable to their lives, this is always helpful
Connection to student Future goals (2)			they think it's going to benefit them in future courses, that's always helpful
Experiential learning (7)			having hands-on activities
Outliers	8	13%	
External influence(2)			Do they have a quiet place in the evening?
Student personal suitability (1)			Add some face-to-face
Technology limitations (3)			collaborate will only work on some devices
Instructor self-development (2)			I think that the biggest changes I can make are my own.
Total	60	100%	

Appendix R: Example of Coding Process

Qualitative Data Student Coding/Round 1 Themes

RQ2: How do first-year, nontraditional e-learning students in a community college describe their behavioral, emotional, and cognitive engagement?

Themes from theories- purple highlight

Additional Theme from literature-purple highlight

Institutional presence

Themes from OSE—green highlight
Cognitive engagement
Behavioral engagement
Emotional engagement

Researcher generated themes – blue highlight

22. Question set one: Engagement with Course

a. What assignments, activities, or requirements of this course encouraged you to really think about or be interested in the content of this course? (please list one or two) (copyright Dixson, 2010)

Cognitive Engagement—green highlight

Personal experience/relevance– blue highlight
(Meaningful learning)-purple highlight

-reproductive system
-The *course* assignments were really interesting to do and very great reference material as well as the notes from class, but my favorite was assignment one with *content specific*. In *course,* I thought the assignments were helpful but i thought the handout work sheets the instructor put on moodle were also helpful with understanding the material.
-*specific* course gave me alot of self awareness which helped me be aware of others and how they relate to me . this made me engage all course material to relate to me and how it relate to others -- *provide as quote in text*
- I am most engaged in a course if I can directly relate it to my own life. I will often look for a way to fit the course or lesson into daily life. -*provide as quote*
- Our visual reflection essay and the OMAM assignment
- You interact more with the children for assignment

-Assignments provide you to look more into a daycare you're working with
- the kids and learning about them on a deeper level

Skills development– blue highlight
(meaningful learning) -purple highlight
-Essays
- Specific course. At first, I thought it would be challenging, but I found it to be quite enjoyable. This class is the only I found interested in -- *(researcher note: discard. This was a face-to-face class)*
- specific course and specific course
- Essay
- specific courses listed
- The writing assignments.

Personal development– blue highlight
(meaningful learning) -purple highlight
-Well, I really want to become a social worker, so I had to upgrade, I've been challenged alot in the last couple of months and it's been very hard. But I've gots this
-My body can no longer do physical labor jobs so i am seeking a career that will allow me to work with a moderately lower physical demand.
-I'm upgrading
-Returning to school is an academic requirement, as i want a steady job. It is also a block in life that id like to overcome.
I'm not sure what this means but I am back in school to get my high school done so that I can do better things.

Active participation– blue highlight
(cognitive presence) -purple highlight
Flipgrid and discussion forums encourage engagement and thinking of the content of the course.
- Class discussions

Knowledge/grades improvement– blue highlight
(meaningful learning) -purple highlight
-the quiz helps a lot becoz there are 3 attempts to do it so more practice
- the kids and learning about them on a deeper level
- the quizzes getting higher grades

None specified

-all of them

No Personal Connection made
-none

-n/a

Challenge level– blue highlight
-I am not interested in the content of the course. It is very straight forward and simple. I feel that this course could be covered in a week-*provide as quote*
-it's my biggest challenge

22b. How do the materials or activities help you make personal connections to the course information? *(cognitive presence; meaningful learning; self-directed learning; RQ2, RQ4)*

Emotional Engagement—green highlight

No personal connection made
-no personal connection
-n/a
-no connections
- They don't.
-they don't
-no

No personal connection identified
-not sure
-I have no idea
-I'm not sure what this means
-the materials are easy to read
Personal experience/relevance– blue highlight
(meaningful learning) -purple highlight
-The materials and activities helped me understand and notice that what i learn is or can be happening around me its interesting to think about, and notice what i didn't before I started the courses. *-provide as quote*
-by restricting examples to my region and showing examples that are likely to come up in daily life. *-provide as quote*
-They specifically ask you how you have experienced similar things to what the course is talking about in your own life-*provide as quote*
-learning more about myself through bio and how the work works together in chem-
-When I read parts of the textbooks I could apply certain situations to the kids I already work with at the daycare
-personal response
-sometimes I write about my culture depends on what the topic is on-*provide as quote*
-Aside from learning how to count cards using probability and combinations, the interest principle is most relevant for day to day banking purposes.
- It reinforces what i have learned and helps me to remember by putting it into life situations
-by comparing them to daily life
-by being relatable and realistic

Personal development– blue highlight
(meaningful learning) -purple highlight
-It gives me confidence in the world. Im starting to feel more equal to others. -*provide as quote*

Skills development– blue highlight
(meaningful learning) -purple highlight
-they help me study
- not really personal connections, but my specific course class has really helped me spell better on a social aspect.
Connection to future goals– blue highlight
(meaningful learning) -purple highlight
-The way Info pro makes a connection to me, is that I enjoy doing the assignments, and I plan on going to a program after im done attending college, that works on computers. – *researcher note: discard. Info Pro was a face-to-face class)*
-
Content structured to support learning– blue highlight
(cognitive engagement)—green highlight
-watching videos helps to connect the topics
-when i read over what im stuck on it helps me with the assignments

Appendix S: Permission from Dr. Joyce

BJ

Bruce R. Joyce <
Mon 2020-02-03 8:16 AM
To: Gail Hiar

> You've got it.
> And, good luck!
> Would love to have the abstract of your work.
> Bruce

...

GH

Gail Hiar
Sat 2020-02-01 3:19 PM
To:

Greeting Dr. Joyce

I am a doctoral student working on my dissertation in e-learning, addressing first-year nontraditional engagement. In my dissertation, I make reference to Joyce & Shower (2002)'s table of Models of Professional Development, which I found in *Student Achievement through Staff Developmen*t. I am requesting your permission to include the table in my dissertation, with acknowledgement to its authors, of course.

Would you kindly consider giving me permission to do so?
Thank you for your consideration.

Gail Hiar

Appendix T: Permission from S. Guditus

Steve Guditus

JAN 17

Gail Hiar • 9:11 PM

requesting permission

Hi Steve
I am writing my doctoral dissertation and would like your permission to include the Maslows Hierarchy of School Needs figure that you created into my dissertation. I will, of course, acknowledge you and include the source.
Please let me know
Gail

Steve Guditus • 9:47 PM

No problem! Permission granted!