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Syncing Up On Satisfaction: A Mixed Methods Study Exploring Synchronous Online Classroom Learning Satisfaction in the Corporate Training Environment

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SYNCING UP ON SATISFACTION: A MIXED METHODS STUDY EXPLORING
SYNCHRONOUS ONLINE CLASSROOM LEARNING SATISFACTION IN THE
CORPORATE TRAINING ENVIRONMENT

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A Dissertation Submitted in Partial Fulfillment of the

Requirements for the Degree of

DOCTOR OF EDUCATION

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May 2020

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DEDICATION

I humbly dedicate this work to my parents who have always challenged me, in good times and bad, to be guided by the journey and not the destination.

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NOMENCLATURE & ABBREVIATIONS

LMS	Learning Management System
VILT	Virtual Instructor-led Training
ILT	Instructor-led Training
Adobe Connect	Technology used to facilitate online
Level-1 Survey	Post-training satisfaction survey
Synchronous Online Learning	Learning that takes place in real-time in a virtual platform that facilitates two-way communication (typically this is instructor-led)
Synchronous Online Classroom	Any type of virtual platform used to facilitate learning in real time where learners and teachers are not co-located.
In-Person/Physical Classroom	Learner(s) and teacher(s) are co-located in a physical location.
Asynchronous Learning	Learning that is not scheduled (typically this is self-paced learning)
Hybrid/Blended Learning	Learning that blends asynchronous and synchronous learning components
Modality	A term used to refer to types of classrooms
MOOC	Massive Online Open Course
VOD	Video on Demand
SPSS	Statistical Package for the Social Sciences

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ABSTRACT

Online learning classrooms continue to grow as a popular addition and/or alternative to the traditional face-to-face classroom. Along with tremendous growth, online classrooms have also experienced rapid evolution and innovation to the point where the term "online learning" is no longer a universal term. There is a need to expand the existing research base to include subsets of online classrooms and include more diverse populations of learners. The purpose of this convergent mixed-methods study was to better understand subsets of online learning by exploring learning satisfaction in synchronous online classrooms at a Fortune 125 financial institution. The overarching question for this researcher was, "how does learning satisfaction in the synchronous online classroom compare with similar experiences facilitated in a face-to-face classroom in the corporate training environment." With synchronous online classroom adoption expanding, there is a need to better understand learner perspectives to shape recommendations for improving synchronous online teaching practices. Additionally, using a corporate population provides an opportunity to further expand generalizability of previous online learning satisfaction studies to a new population. A casual-comparative approach was used to analyze four years of historical learning satisfaction survey data from the company's learning management system (LMS) and contextualize it with focus group data collected from employees. The final results provided a deeper exploration of synchronous online satisfaction, how it compares to traditional face-to-face learning satisfaction for adult learners, and recommendations for improving the synchronous online learning experience.

CHAPTER 1.   SYNCHRONOUS ONLINE CLASSROOM SATISFACTION

Introduction

The advent of the Internet was truly one of the most impactful and influential disruptions in the modern era to impact the classroom learning experience. For centuries, traditional education was primarily delivered with students sitting in the physical presence of a teacher in a school building and surrounded by other students. Today, online classrooms are continually evolving and changing and attracting new learners at a rapid pace. Allen and Seaman (2013, 2017) found that online learning enrollments in higher education alone have continued to grow year-over-year with the number of online learners now topping over six million students. With the removal of time and space barriers, online classrooms allow unprecedented access to education and have truly changed the status quo and foundational bedrock of traditional education.

While innovative and impactful beyond measure, online classrooms are not free of flaws. This study attempted to explore the topic of student satisfaction with regard to synchronous online classrooms in the corporate environment. Since little research exists regarding synchronous online classrooms or corporate populations, and there is a significant need to better prepare educators to teach in online environments, this study helped to fill a knowledge void and make pedagogical recommendations.

Problem Statement

Online classrooms are vastly popular and have continued to help expand the reach of educational opportunities, yet critics of online education have raised concerns about the quality of online classrooms (Sun, Tsai, Finger, Chen, & Yeh, 2008; Johnson, 2014, Richardson et al., 2017). Vernadakis et al. (2012) noted, "Many studies have found students

in online classes to be less satisfied with their course experiences as compared to their traditional, face-to-face colleagues" (p. 138). Understanding that gap became a pivotal issue for this study because learner satisfaction can often be a slippery slope that further impacts learning outcomes and student retention (Sun, Tsai, Finger, Chen, & Yeh, 2008; Johnson, 2014, Richardson et al., 2017).

Online learning is hot topic in the world of educational research right now (Choi, 2016). Satisfaction studies are innumerable but are often plagued by a myriad of shifting terms. As Dennis and El-Gayar (2002) noted, "Distance education comes in different forms and flavors and can be classified along multiple dimensions including type of communication (synchronous versus asynchronous), place, and technology to name a few" (p.176). This bundling of terminology is problematic in studies because it generalizes online learning, which significantly impacts the transferability of the results. A great deal of studies noted that learning is often cited as less satisfactory than traditional face-to-face experiences but terms are often used simultaneously to encompass an online learning experience. Martin and Parker (2014), suggested that synchronous online classrooms alleviate many of the concerns cited in studies of online satisfaction and could be helpful in raising satisfaction.

Beyond exploring some of the more specialized areas of online learning, many studies fail to encompass diverse sample populations outside of K-12 and higher education institutions. Online classrooms continue to become an affordable and versatile tool for the delivery of learning. Professional industries and the corporate sector are regularly using synchronous online classrooms. While studies of adult learners do exist in higher education, it is important to note that training environments often differ compared to the experience of taking a course at the collegiate level. Corporate populations need a voice to ensure training

for facilitators and instructional designers matches the needs of their learners. A more thorough review of the problem will be outlined during the literature review in Chapter 2.

Purpose of Study

The purpose of this study was to address several gaps that exist within current research on learning satisfaction in online environments. Specifically, this study explored differences in learning satisfaction between synchronous online and traditional face-to-face classrooms in a corporate learning environment, representing both an under-researched subset of online classrooms with an under-represented sample population. Using a mixed-methods approach, this study utilized historical data to understand the magnitude of factors influencing learning satisfaction and combined those results with focus group responses to more fully contextualize what learner satisfaction looks like and how modality may have an impact. Addressing learner satisfaction in synchronous online classrooms and contrasting it with the experience of face-to-face classroom experiences provided an opportunity to expand upon existing theories and make recommendations for future studies. Using a corporate population also expanded the existing population of learners to provide a comparison to learners in formal educational institutions.

This study added information to expand on the understanding of how learners experience online classrooms. This study provided a targeted contextualization that aims to better the synchronous online classroom experience. Many instructors who find themselves teaching in online environments have very little training, and "What worked for them in the past in their traditional classroom may no longer be helpful or reliable in their distance education classroom" (McQuiggan, 2007, p.4). This study provides data to fill the void in the evolution of the synchronous online classroom experience.

Significance of Topic

As online classrooms continue to evolve and grow, so too must the breadth of research topics. A vast majority of existing studies focus on asynchronous or hybrid forms of learning versus an exclusive look at synchronous online environments. Additionally, few studies focus on corporate populations of learners, and instead are almost exclusively focused on K-12 and college populations. By combining the understudied modality of synchronous online classrooms with a corporate population, this study provided a focus on a unique population and a critically overlooked subset of the online learning experience. This study not only affirms some previously held beliefs about how satisfaction is constructed/formed in online classroom experience, but it also provides unique context for improving the synchronous online classroom in the corporate training world. Studies have identified a number of variables that contribute to learner satisfaction, and those variables have helped create awareness and development of training for educators on how to improve delivery in the online environment. While strides have been made, there are still areas of concern to explore related to learner satisfaction with virtual learning, especially as it relates to online teacher pedagogical practices and sample populations of study.

A review of the literature on student satisfaction in online learning revealed several significant gaps that offer up an area of opportunity for this study to fill. Many studies, regardless of methodology, tended to focus on K-12 and higher education students for satisfaction studies (Allen & Seaman, 2013, 2017; Boton & Gregory, 2015; Deshpande, 2017; Fincham, 2017, Luo et al., 2017). While there is a growing body of research related to corporate learning and development, few studies were found that looked at satisfaction of learning within this population for synchronous online environments. This study offered an

opportunity to look more closely at the lived experiences and perceptions of adult learners in a setting where classrooms have a different look and feel.

Another important area of significance for this study was the intended focus on synchronous virtual classroom experiences. Online learning has evolved into a rather broad and lofty term that encompasses many forms of virtual classrooms. Asynchronous tends to be the favored medium when it comes to studies and conversations for online learning as it was the most dominant definition in the early days of distance education (Chin & Williams, 2005).

As virtual learning continues to grow out of necessity for business operations, there is a strong business need to improve the learner experience. To restate an earlier point, while the virtual learning satisfaction scores are lower than in-person classes, this does not indicate a negative reaction from learners to virtual experiences. Understanding ways to improve the virtual training experience is paramount to offering the best experiences possible as well as adding development opportunities for virtual training facilitators. This research study was significant in that it addressed two important gaps within the literature: corporate student populations and synchronous (vs. asynchronous) delivery vs. in-person student satisfaction scores. Chapter 2 of this study will explore the current literature related to online learning satisfaction. From the literature review, the topics of significance mentioned above will be explored more fully to illuminate the gap in the literature and share the trends that have emerged from current research.

Research Paradigm

Kivunja and Kuyini (2017) defined the purpose of a research paradigm as, "…the conceptual lens through which the researcher examines the methodological aspects of their

research project to determine the research methods that will be used and how the data will be analyzed" (p. 26). In other words, the research paradigm frames the beliefs of the researcher and offers an avenue to understand what and how the researcher approaches his or her work. The researcher for this study framed his work within the Pragmatic Paradigm because "…it was not possible to access the 'truth' about the real world solely by virtue of a single scientific method as advocated by the positivist paradigm, nor was it possible to determine social reality as constructed by the Interpretivist paradigm" (Kivunja & Kuyini, 2017, p. 35). The core tenants of this paradigm helped to define how the researcher executed the study and framed his understanding of knowledge. Kivunja and Kuyini (2017) provided a detailed overview of the paradigm as follows:

> …a relational epistemology (i.e. relationships in research are best determined by what the researcher deems appropriate to that particular study), a non-singular reality ontology (that there is no single reality and all individuals have their own and unique interpretations of reality), a mixed methods methodology (a combination of quantitative and qualitative research methods), and a value-laden axiology (conducting research that benefits people). (p. 35)

The pragmatic paradigm fit with the researcher's beliefs in exploring learning satisfaction to better improve the experience of learners and to build better training for facilitators and instructional designers. It also fit with the desire to understand people and to work with participants who are passionate about sharing experiences for a similar worldview.

Researcher's Bias

The researcher for this study had a strong familiarity with synchronous online learning having previously experienced the modality as a student, teacher, and Adobe Connect platform administrator. Additionally, the researcher had a familiarity with the department that was selected for the qualitative portion of the research and a working relationship with several members selected for focus groups. While the researcher approached this study with a thorough background of online learning, he remained open to the possibility of new realities impacting satisfaction.

Definition of Terms

In reviewing the research questions for this proposal, "satisfaction" and "Level-1 surveys" were two key terms that required a detailed definition. Although many factors can contribute to learning satisfaction, it was the definition "referred to as a multifaceted attitude towards: learning environment and conditions, learning activities, learning outcomes and the peer relationships in learning" (Topala & Tomozii, 2014, p. 381).

Level-1 satisfaction surveys are often employed to measure and quantify satisfaction. The term "Level-1" can be further broken down, but it can be essentially contextualized for this study as a company-standardized tool which is used to measure how a learner feels about certain aspects of an educational event (setting, design, interest, facilitator, and engagement). These surveys serve as a universal tool which can be used to attain student feedback. The Level-1 survey utilized for data analysis in this study (and explained in more detail in Chapter 3) was based on the works of Don Kirkpatrick. A constitutive definition of Level-1 surveys can therefore be used to help explain what is being looked at to define and measure satisfaction:

Don Kirkpatrick developed the four levels of evaluation in the mid 1950s. He

coined the term *reaction* back then to describe what soon came to be known as

"Level-1." Don defined Level-1 (L1) as "The participants' reactions to a

training event. It is basically a measure of (internal) customer satisfaction."

Today, organizations around the world conduct some form of Level-1…. They

are surveys typically administered immediately after any type of training

event and completed either with paper and pencil or online. (Kirkpatrick, n.d.)

Although the above constitutive definition provides some operational characteristics,

the operational definition for a Level-1 survey can be drilled down even further. A Level-1

survey can be identified as any uniform measurement instrument that is used in a setting

where formal learning is delivered. An expert can identify this instrument as a tangible data

collection tool that is administered at the conclusion of a learning event that asks learners to

rate statements on a Likert scale related to their perception of the learning invent, including

but not limited to, facilitator, facility, curriculum design, learning activities, usefulness of

content in current role, and pacing. The results of these surveys typically produce a score

which can be used as a measurement of satisfaction. Each institution where a Level-1 survey

is implemented may choose to treat these scores in different ways.

The idea of "synchronous online classroom" must also be defined. Although this

term is becoming more common in the vernacular of online education, it warrants a clear and

decisive definition as a variety of similar and/or conflicting terms exist. This term

encompasses a teaching and learning experience that takes place between a teacher and

students in real-time but mediated through a technological medium. Although numerous

types of platforms have the ability to mediate this experience, there are a number of

platforms such as Adobe Connect, Zoom, GoToMeeting, and WebEx that are commonly

utilized. These mediums typically allow for multiple methods of visual, auditory, and written

communication between participants. The definition can further be expanded by the

following definition:

> Synchronous virtual classrooms….allow real time communications in which
>
> multiple users can simultaneously interact with each other via the Internet to
>
> conduct meetings and seminars, lead discussions, make presentations and
>
> demonstrations, and perform other functions. Virtual classrooms allow
>
> students and instructors to communicate synchronously using features such as
>
> audio, video, text chat, interactive whiteboard, application sharing, instant
>
> polling, emoticons, and breakout rooms. (Martin & Parker, 2014, p. 193)

A synchronous online classroom can be identified by experts with regard to a number

of characteristics identified in an operational definition and can be identified by several

characteristics, some of which are very similar to a traditional in-person classroom:

a. Class is lead/organized/guided by a "teacher" or other designated training

   individual who has knowledge and background in facilitating learning.

b. Learners are present and have an expectation to gain knowledge.

c. The "classroom" space is facilitated through a virtual platform that allows for

   multiple types of interactions (e.g., text, video, voice, whiteboard, widgets, etc.).

d. Class takes place in the present (real-time).

e. Learners and teachers are not co-located, but rather are separated by some

   distance but connected over phone/computer/internet connections.

f. Classes include a variety of interactions.

Class sessions do not have a typical length; however, similar to any in-person learning event, the beginning and end of a session is usually limited to a few hours. Dennis, El-Gayar, and Zhou (2002) helped define and show the differences between synchronous and asynchronous and hybrid sessions, which are detailed in Figure 1.

	Classroom-based	**Hybrid**	**Virtual**
Timing	Synchronous	Synchronous	Asynchronous/Synchronous
Place	Limited to in-class & DDN	In class, DDN and Internet only	Internet only
Space	Many resources (if Supported by a website)	Provide wide access to resources.	Provide wide access to resources.
Technology	In-class DDN	In-class + DDN (optional), Video Streaming, phone, live chat.	Synchronous: Video streaming, live chat, phone Asynchronous: Web site, Web-Board, email
Interaction	Live and technology mediated (for DDN)	Live and technology mediated	Technology mediated
Control	Low	Low	Greatest depends on synchronous vs. asynchronous

Figure 1. The environments model provides an overview of major classrooms variables along the left-hand column and how they change based upon the modality listed along the top row. Adapted from "A Conceptual Framework for Hybrid Distance Delivery for Information System Programs," by T. Dennis, O.F. El-Gayar, and Z. Zhou, 2002, *Issues in Information Systems (IIS),* Volume III, p. 139.

Research Questions

Guiding this research study, a mix of both qualitative and quantitative questions were used to understand and explore how satisfaction is formed between the synchronous online and face-to-face classrooms. The overarching question guiding this researcher was this: "How does learning satisfaction in the synchronous online classroom compare with similar experiences facilitated in a physical classroom in the corporate training environment?" The following sub-questions further guided the mixed-methods research approach:

RQ1: "Does the synchronous online classroom modality have a higher, lower, or

equal level of Level-1 survey composite scores compared to traditional in-

person classrooms?"

RQ2: "How do the scores of the categorical Level-1 questions differ between the

synchronous online and in-person classroom modalities?"

RQ3: "What attitudes and perceptions do corporate learners have about satisfaction

in the synchronous online classroom compared to the in-person classroom

modality?

RQ4: "What recommendations do participants have for improving satisfaction in the

synchronous online classroom modality?"

The above questions required a blended approach of quantitative and qualitative data

collection to achieve an optimal picture of satisfaction at the institution studied. The

researcher for this study believed more than one data collection method was important to

create a well-rounded understanding of learning satisfaction and how it is formed. One

method was used to help quantify the magnitude and another method was used to

contextualize the data in a qualitative manner. Kivunja and Kuyini (2017) stated that using

data from two methods "…in conjunction could shed light on actual behavior of participants"

(p. 35). In designing the quantitative data analysis approach, the researcher utilized a casual-

comparative framework, which involved calculating mean satisfaction scores by modality, to

compare learning satisfaction between synchronous online and traditional face-to-face

classrooms. The qualitative portion leaned more toward a phenomenological framework to

understand the experiences of learners and their perceptions of how satisfaction is formed

and/or influenced by each modality.

Finally, the analysis and convergence of this data allowed both methodologies to come together and answer the research questions. The quantitative component helped to suggest correlations between satisfaction and modality on a large scale while the qualitative portion contextualized how learners felt about specific aspects of modality. A detailed analysis of the data will be explored in Chapter 3.

Limitations

A mixed methods study provided a great deal of context on the concept of learning satisfaction, but certain limitations existed with regard to the data collection process. The most notable limitation of the quantitative portion of this survey was that the researcher utilized data that was previously collected using a company-created measurement tool. Because this tool could not be validated for internal reliability prior to implementation, the accuracy and constructs of the scores are not available.

The researcher was given access to a Fortune 125 company for purpose of this study. However, while open to participation in the research, the company did not allow the researcher to have access to the entire population for the qualitative phase of the study. The single department that was targeted for this study includes a broad range of potential variables including a mix of geographic location, tenure, job-level, age, gender, race, and education levels. However, a company of this size generates a rather lengthy list of variables. The choice of selection for this particular department was its geographic spread, thus increasing the likelihood that users had experienced both modalities of training. Since the sample population available was limited by the company, the researcher had to rely on convenience and purposive sampling that may not have completely captured the totality of variables amongst learners in the organization.

The Level-1 survey used by the organization does not directly ask learners about their satisfaction with the delivery modality. A casual-correlation analysis was utilized as the primary data analysis tool to identify a potential relationship between satisfaction and the type of classroom experience selected. While casual-comparative analysis can suggest potential relationships, they remain suggestions and not directly compared.

Assumptions of the Study

All learners in the organization who completed the Level-1 survey did so under their own free will with no incentives or consequences for providing feedback. It was also assumed that since no time limits were imposed for providing Level-1 feedback, there was a degree of uncertainty for quality of responses. If a participant received the post-class survey and did not complete it immediately after the completion of the class, the potential for memory decay increases. For the focus group study participants, it was assumed that participants were over 18 years of age, were legally employed to work in the United States, answered to the best of their abilities, and provided truthful responses to questions.

Conceptual Frameworks

A number of frameworks exist to help provide guidance in exploring learning satisfaction in online environments. Piccoli et al. (2001) outlined the "Dimensions and Antecedents of VLE Effectiveness" framework (often shortened to Dimensions of Virtual Learning Effectiveness framework) which attempted to show how learning effectiveness is influenced by both the design and human dimensions. Effectiveness in this case refers to a

blend of performance, self-efficacy, and satisfaction. A detailed copy of the Piccoli et al.

(2001) framework can be found below in Figure 2.

Human
Dimension

Student
e.g:
Maturity
Motivation
Technology comfort
Technology attitudes
Previous experience
Computer security
Epistemic beliefs

Instructors
e.g:
Technology control
Technology attitudes
Teaching style
Self-efficacy
Availability

Effectiveness

Performance
e.g:
Achievement
Recall
Time on task

Self-efficacy

Satisfaction
e.g:
Evaluation of the
learning experience
Drop rate
Anxiety

Design
Dimension

Learning method
e.g:
Objectivist
Constructivist

Technology
e.g:
Quality
Reliability
Availability

Learner control
e.g:
Pace
Sequence
Content

Content
e.g:
Factual knowledge
Procedural knowledge
Conceptual knowledge

Interaction
e.g:
Timing
Frequency
Quantity

Figure 2. The Piccoli et al. Framework provides an overview of constructs that influence the effectiveness of online learning. The three large circles represent the main constructs, the bolded headings within the circles represent the factors that make up the broader category. Adapted from "Web-based Virtual Learning Environments: A Research Framework and a Preliminary Assessment of Effectiveness in Basic IT Skills Training," by G. Piccoli, A. Rami, & B. Ives, 2001, *MIS Quarterly*, 25(4), p. 406

The model outlined by Piccoli et al. (2001) does provide a strong foundation and framework to follow, but the broad focus on overall "effectiveness" deviates slightly from the overall goal of this study. To that end, a similar yet simplified framework created by Malik (2010) was used to serve as a guiding framework for this study. Malik (2010) noted that "…the main factor of E-L [e-learning] implementation failure is the student's satisfaction. There are so many factors that are affecting student's [sic] satisfaction towards E-L. The main factors are students, instructor, interface of E-L environment and technical assistance" (p. 77). This simplified framework offered a suitable framework to guide the research questions and literature review.
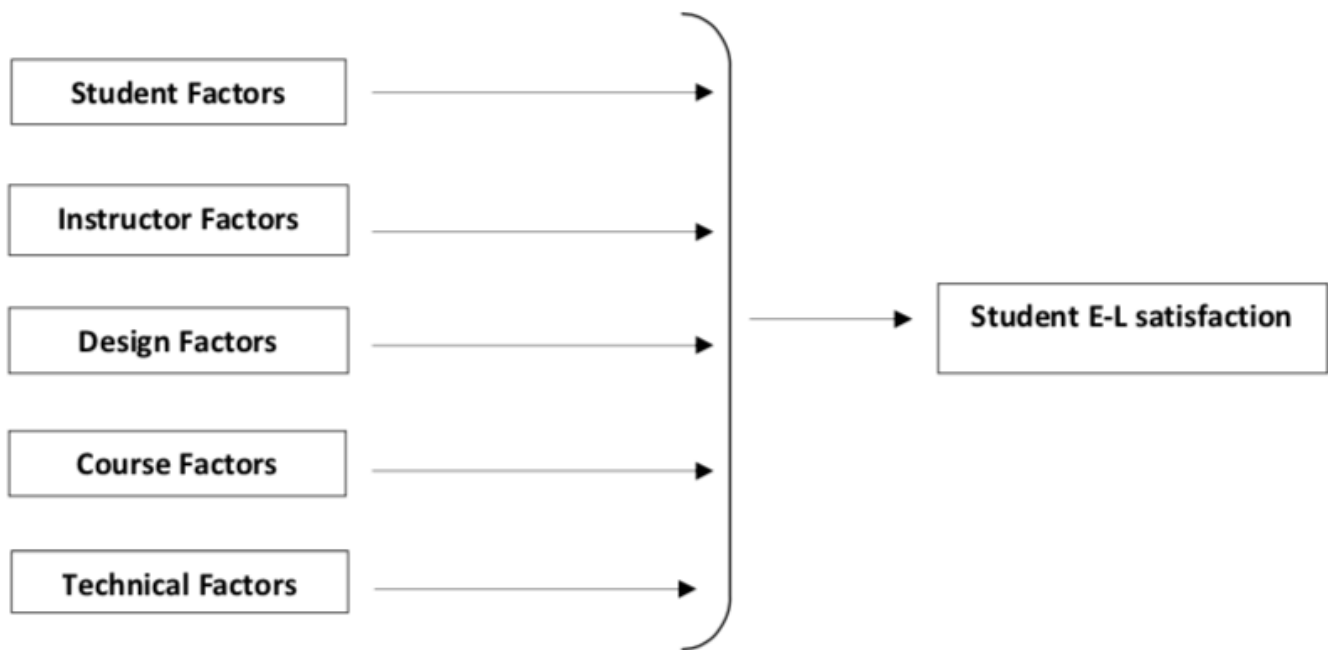
Figure 3. The Malik Framework Framework outlines major constructs that specifically influence satisfaction with online learning environments. Adapted from "Factor [*sic*] Effecting Learner's Satisfaction Towards e-Learning: A Conceptual Framework," by M. W. Malik, 2010, *OIDA International Journal of Sustainable Development, 2*(3), p. 78.

Chapter Summaries

Chapter 1 of this study provided an overview of the problem and the significance of this research to further the study of online learning satisfaction. The researcher outlined the paradigm used to frame the research approach and the guiding frameworks employed to guide the study. Chapter 2 will provide a detailed exploration of the literature and Chapter 3 will explore the methodology for data collection and analysis. The results of the study will be outlined in Chapter 4 followed by a detailed analysis of the findings in Chapter 5. Additionally, Chapter 5 discusses the results in detail and provides recommendations to improve synchronous online classroom design and facilitation, as well as opportunities for further study.

CHAPTER 2.   LITERATURE REVIEW

In order to get a deeper understanding of virtual learning satisfaction, a literature review was conducted to analyze online learning classroom environments and satisfaction in greater detail. Through a comprehensive search of various terms in academic databases and internet searches related to both academic institutions and corporate environments, information was uncovered that showed shifting vocabulary amongst researchers, a lack of diversity in research sample populations, numerous factors influencing satisfaction in online classrooms, subsets of differing online classroom modalities, and a lack of training for online educators. An overview of methodologies and conclusions reached by some of the studies and scholars is outlined to provide context on the foundation of this study.

Evolution of Online Classrooms

Relative to the history of education as a whole, virtual learning has only been around for a relatively short period of time. However, during that short period of time, online classrooms have rapidly evolved. In a study that was published in 2006 on student satisfaction and perceptions, Similar in sentiment, Sun et al. (2008) stated, "E-learning is emerging as the new paradigm of modern education… Previous research done under different task environments has suggested a variety of factors affecting user satisfaction with e-Learning" (p. 1183). Both Smart and Cappel (2006) and Sun et al. (2008) used different approaches to their studies but both indicated concerns with regard to the online learning environment in the 1990s and early 2000s.

To add further context on the newness of virtual learning satisfaction studies, one can simply refer to the bibliographic references of many existing studies. The growth in virtual learning likely correlated with the rise of the computer. Analyzing some of the

bibliographies of the earlier studies considered in this review reveal some interesting

similarities and trends. The earliest source that Smart and Cappel (2006) used that

specifically references true virtual learning is from 1996, which indicated, "although e-

learning (and various blended approaches that integrate online components into traditional

classes) continues to grow rapidly, it still remains at an early stage of development" (p. 202).

Furthermore, the reference lists of the studies showed very few sources indicated "student

satisfaction of e-learning" in their titles. Of the 67 sources utilized by Smart and Cappel

(2006), four used "satisfaction" in the title, three used "virtual," 16 used "online," and only

one referenced "e-learning." The study about student satisfaction with e-learning by Cole,

Shelley, and Swartz (2014) revealed a bibliography with 47 sources: 23 mentioned

"satisfaction" in the title, two with "virtual," 44 with "online," and three with "e-learning."

Choi (2016) stated, "It is thus not surprising that research on online learning is increasingly

growing as one of the biggest research strands in the field of education" (p. 3). This

acknowledgement seemed to indicate that research in e-learning has really been more of a

recent phenomenon.

Smart and Cappel (2006) summed it up best when they said, "Many writers refer to

'e-learning,' 'online learning,' and 'web-based learning' interchangeably…" (p. 202).

Buxton and De Muth (2012) used more than five different terms throughout their study all in

reference to distance learning, which is used as another all-encompassing term to define any

learning that is not delivered face-to-face. Use of broad terms to define online education

becomes problematic because where one study might use a term to refer to video

conferencing as online learning, another study might use the same term to refer to an

asynchronous web-based classroom. McQuiggan (2007) outlined this dilemma when she indicated,

> One of the challenges…was in the varied definitions of distance education. Distance education was typically defined as courses delivered or instruction that occurs when students are not present in the same room, which could occur synchronously or asynchronously. There is a difference in time, location, or both" (p. 2).

Chin and Williams (2005) helped build on the above idea when they noted the fact that online learning is still a relatively new science (compared to traditional education), and because of that, researchers are still trying to grapple with the changes and evolutions that are taking place, but shifting terminologies pose a potential problem for the world of research. Allen and Seaman (2013, 2017) acknowledged shifting terminology as an issue and set out to clearly define each type of virtual learning medium so there would be no mistaking what they are and how they get measured. They encompassed four categories of classroom settings that can be broken down into traditional (i.e., no online classroom used), web-facilitated (i.e., face-to-face but delivered with technology in real-time), blended/hybrid (i.e., blends online and face-to-face delivery), and online (i.e., typically no face-to-face meeting). Smart et al. (2006) noted that it is not uncommon to hear self-paced e-learning modules, web-casts, asynchronous classrooms, synchronous classrooms, and computer-based training, just to name a few, all lumped together in the same broad terms.

Creating consistency becomes a vital aspect to understanding and researching online classrooms. One potential solution to this problem is to begin classifying various terms

based on the time periods that they represent. Vernadakis et al. (2012) posed the use of "generations" to classify online learning. They described these generations as follows:

> Correspondence education was the first generation and utilized a one-way instructional delivery method, including mail, radio, and television. The second generation was distance education, based on single technology, such as computer-based or web-based learning. Finally, blended learning is the third generation, characterized as maximizing the best advantages of face-to-face learning and multiple technologies to deliver learning. (Vernadakis et al., 2012, p. 137)

These generations certainly add a lens for viewing/reading research, but there is potential that a fourth generation has emerged since Vernadakis et al. (2012); perhaps a generation that is exclusive to synchronous online delivery of learning is needed for future studies.

As online learning continues to evolve and expand, researchers need to become increasingly vigilant in their approach to defining the exact type of modality they are reviewing. While some studies are taking the time to adequately define the exact environment they are studying, ambiguity is still present and few studies have branched out to specifically explore the world of synchronous online delivery of learning.

Synchronous Online Classrooms

Defining synchronous online learning experiences and contrasting them from other types of online learning emerged only slightly within the literature review. While sources did provide clarification on the function and use of synchronous online, not many provided a clear view of the importance of understanding the differences. Martin and Parker (2014) defined synchronous online with the following definition:

Synchronous virtual classrooms….allow real time communications in which

multiple users can simultaneously interact with each other via the Internet to

conduct meetings and seminars, lead discussions, make presentations and

demonstrations, and perform other functions. Virtual classrooms allow

students and instructors to communicate synchronously using features such as

audio, video, text chat, interactive whiteboard, application sharing, instant

polling, emoticons, and breakout rooms. (p. 193).

This definition, while thorough, doesn't really provide a clear-cut opportunity to see contrasts

to other types of online experiences. Synchronous online classrooms create a different type

of interaction model and there is opportunity to explore if that interaction has an impact on

satisfaction. In order to better illustrate the differences in engagement between the different

types of online classrooms Dennis, El-Gayar, and Zhou (2002) noted that timing, place,

space, technology, and interaction differ across classroom-based traditional learning, hybrid,

and asynchronous environments. Although they do not exclusively call out synchronous

experiences alone, the addition of synchronous components are what cause the hybrid model

to exist.

No direct comparisons were found in the literature of synchronous online and

traditional face-to-face classrooms but several studies noted that adding synchronous

components to asynchronous classroom experiences improved learner satisfaction (Cole et

al., 2014). Moore (1993) conceptualized an adaptation to an early theory called

Transactional Distance Theory. Moore (1993), and researchers that came after him (Delgaty,

2018), theorized that online learning can have a direct impact on satisfaction because the

relationship is impacted by a time and/or space barriers. Vernadakis and Tsitskari (2012)

completed a study comparing satisfaction of face-to-face students with hybrid courses (partially online and partially synchronous live). In their study, they determined that there was a "significant difference in class satisfaction between the blended learning section and the traditional sections, with blended learners reporting a higher level of class satisfaction" (p. 142). But while a great deal of the literature showed that synchronous components of online learning improved satisfaction, Olson and McCracken (2015) found that there was no real difference in satisfaction between blended and fully face-to-face learners. Since there is a lack of clear agreement on the impact of synchronous online satisfaction, additional opportunities of research are ripe.

The only real way to explore Moore's theory fully is by doing a more complete study of satisfaction outcomes comparing all modalities to in-person/face-to-face experiences. While asynchronous online learning and hybrid learning have been compared to traditional face-to-face instruction, the current literature has significant gaps comparing synchronous experiences to face-to-face experiences. Buxton and De Muth (2012) might disagree with this conjecture following their study comparing satisfaction of adult learners taking in-person and video-conferenced professional development. Their study found that learners were more satisfied with in-person development when compared to those who attended synchronously online.

While Buxton and De Muth (2012) was one of the few studies that was unearthed regarding a direct comparison of the two classroom modalities, it's important to note that the use of synchronous platforms in their study was really just a broadcast of the event without a differentiated style or approach to teaching. In this regard, synchronous online participants were really just observing an in-person, face-to-face experience through technology. Green,

Hamarman, and McKee (2015) would likely dismiss the validity of this study because they argued that differentiation was needed for the delivery of online experiences. They argued:

> When moving from in-person to online learning environments, it is important to note that while many activities can be adapted for online learning, most will require modification from their in-person format, and some activities may defy direct translation. When selecting activities to translate, we recommend considering three questions: (1) What are the specific elements and components that make the activity successful in person? (2) Can these elements and components be replicated online with minimal modification? (3) If not, what are the core goals and objectives of the original activity, and how easy might they be accomplished online? (Green et al., 2015, p. 21)

A differentiated approach to synchronous experiences seems warranted and is aligned well with Martin and Parker (2014) who asserted that synchronous online technologies offer a plethora of tools which can be used to build different, yet robust experiences. Since online learning is not just a substitute delivery methodology, but a different approach all together, there is a need to explore synchronous online classrooms and how satisfaction is formed relative to other modalities.

Defining Learning Satisfaction

The idea of measuring satisfaction is hardly a new concept but remains a major focus area for online education studies. Smart and Cappel (2006) noted, "Although several studies suggest that online education and blended instruction (a 'blend' of online and traditional approaches) can be as effective as traditional classroom models, few studies have focused on learner satisfaction with online instruction..." (p. 201). Researchers know that student

satisfaction plays a major role in shaping the future. As Parahoo, Santally, Rajabalee, and Harvey (2015) noted, "Higher education institutions consider student satisfaction to be one of the major elements in determining the quality of their programs" (p. 1). Also interesting is the fact there is a shift from earlier studies focusing on the basics of measuring student satisfaction to newer studies attempting to explore satisfaction more deeply. Analyzing the timeline for studies on virtual learning has shown a definite shift and progression in studying satisfaction.

> Meanwhile, a variety of research on satisfaction in online environments has largely focused on environmental aspects and external conditions of learning, such as learners' attitudes toward online environments, learners' technology capability, course quality and flexibility, gender, maturity, and personal experiences in online learning…. (Choi, 2016, p. 4)

However, Parahoo et al. (2016) also noted that a consensus hasn't been reached in predicting online satisfaction and that all constructs may not be generalizable.

Although a definition of learning satisfaction is open to some interpretation, many studies focused in on similar themes. Some researchers looked at satisfaction as a construct formed by past experiences and perceived beliefs (Tichavsky, Hunt, Driscoll, & Jicha, 2015). Other researchers attempted to make satisfaction more of a tangible concept. Topala & Tomozii (2014) defined learning satisfaction as a, "…multifaceted attitude towards: learning environment and conditions, learning activities, learning outcomes and the peer relationships in learning" (p. 381). Cole, Shelley, & Swartz (2014) took a similar sentiment and measured satisfaction in various sub-categories. This micro-analysis differed from other researchers who let learners somewhat define their own definition. Kimiloglu, Ozturan, and Kutlu

(2017) stated, "Most studies in the literature test attitudes toward e-learning by using various technology adoption models and asking respondents to state their personal opinions and attitudes regarding various aspects of e-learning" (p. 340). This is not seemingly far off from the efforts of Choi (2016) who said:

> …A variety of research on satisfaction in online learning environments has largely focused on environmental aspects and external conditions of learning, such as learners' attitudes toward online environments, learners' technology capability, course quality and flexibility, gender, maturity, and personal experiences in online learning. (Choi, 2016, p. 4)

As Choi (2016) pointed out in the above quote, there are a great deal of factors to consider with regard to satisfaction. Each factor plays a role in the bigger picture, so it becomes vital that a variety of sources and studies break down these components in as many ways as possible. For example, Welch et al., 2014 instead looked at perspectives of leaders, teachers, and administrators to rate their satisfaction of e-learning.

Learning Satisfaction Triggers

Studying the concept of learning satisfaction is not new to the educational research frontier, however, it is far from fully explored. While a great deal of studies has provided outcomes that are similar in nature, the evolution of education has created many avenues to study how, when, where, and with whom satisfaction is formed. This is evident in the fact that researchers call out the difficulty in pinning down one model:

> Given the variety of empirical settings and courses involved in these studies, a number of antecedents emerged as affecting satisfaction…. However, it is fair to state that consensus has yet to emerge on a generic framework for

predicting student satisfaction in online learning. (Parahoo, Santally,

Rajabalee, and Harvey, 2012, p. 2)

Although a consensus has not been fully reached, a number of themes emerged from the

literature regarding influences and predictors of learning satisfaction. Some of the most

notable areas of focus were centered around interaction models, prior experiences of the

students, and teacher training/education.

Interaction and Engagement

Interaction was often cited as one of the greatest indicators of student satisfaction.

Progression from general antidotes of interaction to more specialized approaches began to

emerge as more recent studies were identified for this review. Sun et al. (2008) stated that

the more interaction a course has, the higher the satisfaction levels of the students.

Richardson et al. (2017) specifically called out the idea of social interaction being most

relevant to satisfaction, honing in on peer-to-peer and student-to-teacher interactions. Cole et

al. (2014) partially concurred: "student-instructor interaction and learner-content interaction

were among the predictors of satisfaction" (p. 123). Rodriguez and Armellini (2013) agreed

that interaction is important, but they also made a compelling point about the consideration

of the industry. They noted that corporate training usually doesn't have the ability to rely on

interaction to improve the experiences. They noted that the nature of how corporate virtual

training operates is very different from what is found in educational settings: "In business

settings, however, it is not always possible to generate such interaction for learning

purposes" (Rodriguez and Armellini, 2013, p. 480). While they seemed to affirm the

importance of interaction, they focused more heavily on how satisfaction is impacted by

learner-to-content interactions. Although covered in varying degrees,

interaction/engagement and/or communication models emerged as a common factor in online satisfaction studies.

Past Experiences of Learners

Attitudes and beliefs related to online learning are often influenced by previous exposure and experiences and play a significant role in the formation of online learning satisfaction. This concept was deeply explored by Luo, Hibbard, Franklin, and Moore (2017) who set out to change perceptions of learners by exposing them to virtual learning as a topic of study. Through this exposure, there was a drastic change in attitude toward virtual learning, suggesting that previous experience plays heavily into virtual learning satisfaction, and that teachers or administrators may need to offer formal online orientations for learners to improve interaction, acceptance, and the overall perception of virtual learning experiences (Parahoo et al., 2016). Buxton and De Muth (2012) claimed in their professional development sample study, "…evaluation questions were analyzed for differences based on setting, years of experience…management position, and participation in other webinars in the past years. Unless otherwise reported, there were no significant differences" (p. 14). Generally speaking, these findings did not correlate with a majority of the studies. In several other studies that measured the impact of perceptions and attitudes on virtual learning, previous experience contributed to more positive view than learners who did had little-to-no experiences (Luo et al., 2017; Smart et al., 2006; Sun et al., 2008).

Technology Efficacy

The technology and delivery platforms used in online learning situations plays a significant role in understanding learning satisfaction. In many ways, technology becomes an overarching topic that can impact many different parts of learning satisfaction. For

example, technology can cause frustration for learners who are not tech savvy, causing them to feel that the pacing of the course is too fast, thus reducing a learners comprehension. However, in a different example, a learner may be so frustrated by lagging connections that they simply disengage from the experience. Malik (2010) noted that technology can be a make-or-break factor for learning satisfaction and Olson and McCracken (2015) attributed frustrations with technology as a factor that can diminish the learning experience. These ideas seem to align with a notable theory called Transactional Distance Theory first pioneered by Michael Moore (1993). The theory stated,

> Distance education is not simply a geographic separation of learners and teachers, but, more importantly, is a pedagogical concept. It is a concept describing the universe of teacher-learner relationships that exist when learners and instructors are separated by space and/or by time. (Moore, 1993, p. 22)

This theory helps to explain lower satisfaction by framing it behind the idea that interaction is key to satisfaction and technology creates an additional layer inhibiting that interaction.

In some cases, an instructor's ability to navigate this technology can be a make-or-break situation for the success of the classroom. Kebritchi, Lipschuetz, and Santiague (2017) indicated, "online faculty need to be comfortable with the technology and how to use it to be successful. Thus, it becomes necessary to provide sufficient training for faculty on the most current technologies" (p. 17). Not training online instructors on the use of the technology that delivers their classes is the equivalent of not giving a traditional classroom instructor a tour of the school building; they must know what are the amenities and tools of the trade available for them to do their best work.

While Moore (1993) seemed to assert that technology was a barrier, Kebritchi, Lipschuetz, and Santiague (2017) indicated that understanding the technology was vital to the success of an online classroom. They stated that, "online faculty need to be comfortable with the technology and how to use it to be successful. Thus, it becomes necessary to provide sufficient training for faculty on the most current technologies" (p. 17). In fact, Olt and Teman (2018) conducted a qualitative study regarding the implications of technology failure in a synchronous online experience and determined that persistent technology failures can greatly negatively impact personal perceptions of future online experiences.

Content Design and Differentiation

By exploring the intricacies of how online learning practices differ from the traditional classroom, a case can be made for it being a unique and separate form of teaching. As an example of its specificity, content most be adapted for the environment. What works in a traditional classroom setting might not translate into the online setting without a mindful rethinking of design and delivery. Green, Hamarman, and McKee (2015) described the skill and process needed to translate activities into the online environment:

> When moving from in-person to online learning environments, it is important to note that while many activities can be adapted for online learning, most will require modification from their in-person format, and some activities may defy direct translation. When selecting activities to translate, we recommend considering three questions: (1) What are the specific elements and components that make the activity successful in person? (2) Can these elements and components be replicated online with minimal modification? (3)

If not, what are the core goals and objectives of the original activity, and how

easy might they be accomplished online? (Green et al., 2015, p. 21)

Clearly, the process of translating content is not an easy task and requires thoughtful

consideration. This process is further complicated by the fact that while traditional pedagogy

includes differentiated instruction, it is all related to the same classroom environment.

Kebritchi (2014) pointed out this process of translation as a real issue for most educators

since they have not been taught how to teach with online technologies. Mbati and Minnaar

(2015) maintained that effective online teaching must rely more heavily on engaging content

that offers opportunities for interaction by incorporating constructivist and observational

learning criteria.

Interaction and Engagement

Another drastic difference between the online and traditional classroom settings is the

amount and types of interaction that take place. Richardson, Maeda, and Caskurlu (2017)

argued that interaction can really be broken down into three key categories: student-to-

student, student-to-content, and student-to-teacher. Although all three forms are important to

consider, the study noted that student-to-teacher interaction carries heavy weight in terms of

how students rate their overall satisfaction with online learning. Johnson (2014) noted that

"within a traditional classroom the instructor is physically present and it is that presence that

maintains social interactions and builds relationships with the students" (p. 1). Since

educators in the online environment cannot meet with students face-to-face, they must rely

on other methods of engaging and building relationships. Portugal (2017) argued that

instructors must provide constant feedback and interaction through discussion boards in order

to drive engagement and involvement: "Unlike in traditional classrooms, teaching online

requires the instructor to post, review, and synthesize the online discussion as a means to encourage students' participation in the online classroom" (Portugal, 2017, p. 100). This concept seems affirmed by an extensive review of nearly 22 years' worth of literature on online best practices, in which Deshpande (2017) cited timely and quality instructor feedback as heavily contributing to student learning outcomes. Online instructors face a very real challenge of building connections and interaction in the online classroom, where they might more organically happen in a traditional classroom.

The Online Classroom Teacher

Another vital aspect that has been studied is the importance of the teacher in creating an environment that is conducive to learning. Several of these studies focused on the importance of a virtual learning facilitator needing to have positive views of a virtual environment to have maximum impact (Sun et al., 2008; Welch et al., 2014). Most of these studies went into depth about the interaction between students and teachers playing a massive role in the outcome of student satisfaction. Parahoo et al. (2016) even went so far as to say that teachers need to know how to differentiate in a classroom, including the ability to provide more empathy, communication, and specialized design of courses. Some researchers have provided recommendations, but only a few noted that virtual teacher training is not adequate overall. Welch et al. (2014) contended, "with an ever-increasing number of students enrolled in virtually mediated courses, institutions need to identify what is effective virtual teaching and the professional teaching dispositions one needs to be an effective educator in virtual environments" (p. 447). While Yeo et al. (2010) argued that corporate training is more of a mandate and teacher satisfaction is less important, Rodriguez and Armellini (2013) reasoned that corporate issues could be "due to the lack of focus on

successful pedagogical design models" (p. 480). What is clear from many of the studies is that while the focus has mainly been on the student, there may be an increasing need to focus on the pedagogy of the teachers for virtual learning.

When considering the idea of online pedagogy, many might simply ask why there is a need or purpose for defining online pedagogy. Some might believe that if pedagogical practices work in a regular classroom setting, they should be able to easily translate to online pedagogy. Sort of an "if it ain't broke, don't fix it!" mentality. Although this is an easy trap to fall into, most studies say that online teaching is an acquired skill and that "faculty need to be able to learn these new skills as quickly and effectively as possible so that student and teaching ability are not negatively impacted" (Portugal, 2017, p. 99). A great deal of research points to the fact that many students prefer face-to-face learning opportunities because they have perceptions of online learning that have stemmed from previous bad experiences (Tichavsky, Hunt, Driscoll, & Jicha, 2015).

There is a significant need to define and explore what makes online pedagogy distinct and unique from traditional classroom pedagogy. Because online learning is still a relatively new medium, very few specified frameworks have been created to target the skills necessary for online teaching. Teaching knowledge is of course vital to the success of any classroom, yet online educators need to blend a special set of skills in order to adequately navigate technology, adapt content, and create connections and interactions with students (Tsai, 2013). As online pedagogy has not been thoroughly defined and vetted, it is difficult to articulate and teach to educators entering the online classroom, and in order "To develop skills in online pedagogy, teacher education programs need to expand their current practices and focus on preparing preservice teachers to teach online" (Luo, Hibbard, Franklin, & Moore,

2017, p. 1). A framework must first be identified, articulated, and tested in order to build new ways of training educators.

Many studies have focused on pedagogical best practices and individual skills for success, but there are still very few models and frameworks that holistically and comprehensively guide the development of online instructors. In many cases, frameworks for online teaching are still based on models such as andragogy, behaviorism, cognitivism, and constructivism, which were developed based on different classroom approaches, and "do not take into account the use of technology, which allows us to learn through networked knowledge and by processing knowledge through online social interactions" (Boton et al., 2015, p. 65). Boton et al. (2015) reasoned that because online learning has been based off of so many traditional models, there is no single theory to follow. Alfuqaha (2013) suggested that online pedagogy would benefit from a study that encompassed andragogy blended with the newer frameworks of heutagogy (self-determined and non-linear) and paragogy (peer learning). Despite these suggestions, no studies have emerged to suggest a unified framework for online instruction. As such, there is a great need to develop a pedagogical framework that has been designed and tested specifically for online learning so that it can guide the development of training programs specific to online educators.

Exploring the concept of online pedagogy as a unique pedagogical approach is fundamental to the success and future of online learning. And despite its popularity, online learning faces a number of challenges related to student satisfaction, retention, and learning outcomes—many challenges which educators can help overcome if they have a solid understanding of methods to address unique needs of online learners (Fincham, 2017). It is important to recognize that online teaching is relatively new when compared to the history of

education as a whole, so few frameworks for online pedagogy exist. Although traditional

pedagogical practices are important for creating successful classrooms, they are not

guaranteed to be the best practices for online environments. The need for this is driven by

the fact that online learning is rapidly expanding, yet few educators receive adequate

comprehensive training that is grounded in results. By exploring what makes online

pedagogy unique, researchers can continue momentum towards building a framework that

will drive the edification of online educators and learners.

Sample Populations for Online Learning Studies

Perhaps one of the most interesting aspects of the literature review on e-learning

satisfaction was the sheer lack of diversity with sample populations. This should not be

confused with the diversity of the studies themselves. The sample populations of the studies

conducted for this review were mostly exclusive to higher education institutions. Allen and

Seaman (2013) surveyed over 2,800 colleges and universities over the course of 10 years for

data on aspects of virtual learning, while a non-higher education study by Kimiloglu,

Ozturan, and Kutlu (2017) were only able to survey 106 large corporations. While the

focuses of the studies differed, it stands to reason that since the education sector is one of the

largest areas to utilize virtual learning to transfer knowledge, the majority of research studies

will have been conducted in traditional educational institutions. Saltmarsh and Sutherland-

Smith (2010) identified, "Online learning and teaching has significantly altered the face of

tertiary education, and in recent years the field of education has been one of the most active

in the transition from face-to-face to online modes of delivery" (p. 15). Allen and Seaman

(2017) echoed this sentiment by saying, "Fall 2015 saw more than 6 million students taking

at least one distance course, having increased by 3.9% over the previous year" (p. 4). But,

Buxton and De Muth (2012) created an acknowledgment that diversity is needed in sample populations: "Allen and colleagues' study examined undergraduate courses and not professional development programming. Most of the literature and research has focused on class-type learning with sequenced sessions rather than a 'one-off' or conference type learning situation" (p. 13). The literature showed a concentration of higher education populations and settings and illuminated the need to expand the scope to other focus groups and samples.

While some of the research called for more diversity, some believed that diversification of samples was not needed. Smart and Cappel (2006) expressed, "There were no significant differences between subjects in the two courses based on gender, student rank, and prior experience completing a web-based course at a site other than the MVU" (p. 207). On the other hand, Parahoo et al. (2016) made a point of the fact that the majority of educational research on satisfaction in virtual learning has come out of Western culture, and it may be too soon to generalize for all cultures and educational settings. Furthermore, some of the studies dug more deeply into the results and looked more closely at age, previous technology experiences, and even the degree and frequency of past online class exposure. Cole et al. (2014) noted some of these variables and their impacts in greater detail:

> There were not statistically significant differences between males and females, between members of "Generation X" and "Generation Y," or between graduate and undergraduate students with regard to satisfaction with partially online courses. Unlike satisfaction with fully online courses taken, males were somewhat more satisfied than females, and graduate students were more

satisfied than upper-level undergraduates with partially online courses taken.

(Cole et al., 2014, p. 120)

Although generally in agreement with the previous studies, Cole et al. (2014) brought up the important issue of types of virtual learning as it relates to satisfaction. More details will be covered on this topic later in the literature review. One observation to note from the demographic aspect of the literature is that as time has progressed closer to present day, more and more of the studies have begun to find alternative demographics to analyze for differences in satisfaction.

Corporate Learning

While studies related to corporate learning environments exist, few studies provided information that tested and/or contrasted how the environment is different from other types of educational settings. Buxton and De Muth (2012) specifically noted this idea when they called for additional corporate studies unique to the style of the industry: "Most of the literature and research has focused on class-type learning with sequenced sessions rather than a 'one-off' or conference type learning situation" (p. 13). Since corporate environments rely more on short trainings rather than lengthy courses, there is a need to further delve into this space. While corporate learning and development operates on some similar principles to traditional educational settings, the environments and conditions of learning are not the same, and thus, the concepts of student satisfaction may be different too. Kimiloglu et al. (2017) noted that:

> Distance learning programs are flourishing immensely in various areas such as
> high school and university education, adult education and lifelong learning
> programs. In this environment, companies are expected to give serious

thought and consideration regarding a technological reformation in the way

they design and deliver training programs for their employees. (p. 339)

An earlier study by Yeo, Amway, The Alfred P. Sloan Foundation, and The Sloan

Consortium (2010) tended to agree with this notion saying, "training may be called upon to

improve job performance or enhance technical skills or specific training requirements may be

imposed through government mandates; under these conditions, a company's training

organization commonly manages the learning enterprise" (p. 45). Since corporate training

has a different intent and purpose compared to classes that take place in traditional

educational settings, there is a strong need to more deeply explore corporate populations.

Beyond the concept of satisfaction in the corporate environment, there was not much

of a focus placed on the different types of online learning. Studies like Kimiloglu et al.

(2017) explored satisfaction regarding online learning in a corporate environment but they

primarily centered their study around asynchronous e-learning. While many have relied on

previous educational research as a base for their studies, maybe that focus needs to shift in

order to better explore how corporate virtual classroom teaching and student satisfaction

differ between specific modalities and industries.

Research Methodologies

Since learning satisfaction is formed in a personal nature, many researchers focused

on quantifying, relying on questionnaires, surveys, and Likert Scales (Buxton and De Muth,

2012; Choi, 2016; Sun et al., 2008; Cole, Shelley, & Swartz, 2014; Kimiloglu, Ozturan, &

Kutlu, 2017; Parahoo et al., 2016; Richardson, Maeda, Lv, & Caskurlu, 2017; Smart and

Cappel, 2006; Welch, Napoleon, Hill, & Roumell, 2014). Other researchers have attempted

to explore and define satisfaction through more qualitative means. Rodriguez and Armellini

(2013) used structured interviews because they wanted to "clarify and fill the gaps identified through the survey findings" (p. 483). Welch, Napoleon, Hill, and Roumell (2014) took a different approach to achieve a similar means when they required participants to write response papers before, during, and after their study so that participants could provide detailed accounts of feelings as they occurred. Parahoo et al. (2016) also helped to fill some of the qualitative void by "…using two focus groups, each containing eight undergraduate students. This enabled detailed information to be obtained about individual and group feelings, perceptions, and opinions as well as seeking clarifications about the ideas expressed by the students" (Parahoo et al., 2016, p. 7). Olt and Teman (2018) focused on satisfaction from a different angle, but still with a qualitative lens by capturing learner frustrations with technology in the online environment. While the qualitative data was important for really getting a full picture of satisfaction, it lacked the breadth of the qualitative studies.

The results of various methodological approaches have helped to explore different aspects of satisfaction. When considering various methodologies to utilize for this study, the researcher explored several methodological options before picking a convergent mixed-methods approach. A mixed-methods convergent approach to the research was selected because it provided both the depth and breadth needed to address the issue of understanding learning satisfaction at the institution studied.

The researcher initially explored a fully qualitative design for this study. There was a need to understand the experience of learners and as Creswell and Poth (2018) point out, phenomenological research helps "understand the essence of the experience…describe the essence of a lived phenomenon" (p. 67). Early reviews of the literature revealed that most studies related to online learning primarily centered around quantitative or mixed-methods

approaches, with few focusing in exclusively on qualitative perspectives of learners. This seemingly offered an opportunity to conduct interviews with online facilitators at the research site who could help in understanding specific aspects of their teaching that helped to increase student satisfaction. However, while phenomenology offered a good basis for understanding how learning satisfaction is formed in the synchronous online classroom, the researcher believed that it did not offer enough data to provide transferability to the corporate population being studied.

Grounded theory was also considered at one point to be a potential option for exploring synchronous online learning satisfaction. However, since a great number of theories already exist related to learning satisfaction and online learning, it did not seem viable to generate a new theory. As Creswell and Path (2018) stated "grounded theory is a qualitative research design in which the inquirer generates a general explanation (a theory) of a process, an action, or an interaction shaped by the views of a large number of participants" (p. 82). Since many of the existing online learning theories have not been tested with synchronous online environments, it would seem more natural to test a theory first before generating a new one. As such, grounded theory as an option was ruled out.

Because there was still a need to both explore and explain learning satisfaction in synchronous online classrooms, and compare that satisfaction with face-to-face classroom experiences, a mixed-methods approach was still believed to be the most viable option for exploring the topic of satisfaction. Because this study relied on historical data which had been collected prior to the study and did not directly measure satisfaction with modality, a casual-comparative approach was the best option to quantify the data. Salkind (2010) stated:

A casual-comparative design is a researcher design that seeks to find

relationships between independent and dependent variables after an action or

event has already occurred. The researcher's goal is to determine whether the

independent variable affected the outcome, or dependent variable, by

comparing two or more groups…." (p. 124)

Since this data had never formally been analyzed by the institution for the purpose of

satisfaction, and filtering options were available to separate the data by modality, a casual-

comparative approach offered the potential to measure satisfaction and compare it with face-

to-face experiences.

Once the quantitative portion of the process was established, there was a need to

capture some kind of phenomenological data that could be used to pair up with the

quantitative historical satisfaction data. Since satisfaction is something personal to each

individual, and not something that is observable, a classroom observation was ruled out early

on as an option. Interviews were also ruled out for this research due to the researcher's

previous personal experiences in synchronous online learning settings. As Creswell and Poth

(2018) shared "The interview is a dialogue that is conducted one-way, provides information

for the researcher, is based on the researcher's agenda, leads to the researcher's

interpretations, and contains 'counter control' elements by the interviewee who withholds

information" (p. 173). Additionally, the narrative aspect of an interview is best used to,

"…understand individual decision processes or individual responses…" (Azzara, 2010).

Since satisfaction is so personal and individualized, the focus group felt like the most viable

method to collect feelings about satisfaction while also teasing out issues that might not come

to the surface without interaction with others (Azzara, 2010). Additionally, the focus of this

research was not only to understand how satisfaction is formed in synchronous online classrooms, but also to see if there is a preferred modality. While the LMS quantitative data will provide magnitude and comparison of modality, using focus groups will help with a group consensus related to understanding the factors. The exploratory nature of a focus group is just what is needed to better understand common trends related to satisfaction by modality.

Since the quantitative portion of this study was based on historical data, and the researcher was unable to influence the creation of the instrument, it did not feel appropriate to utilize an explanatory sequential design. If the researcher had followed this methodology, the qualitative data might have been based on the wrong constructs. As such, a convergent methodology was selected. As Creswell (2013) stated, "A convergent parallel mixed methods design…is a type of design in which qualitative and quantitative data are collected in parallel, analyzed separately, and then merged" (p. 48). This convergence allowed the researcher to address how, if at all, and to what degree the results of the two data points came together. According to the Agency for Healthcare Research and Quality (2013) a convergent style is appropriate for this study because:

> It involves collecting both types of data at roughly the same time; assessing information using parallel constructs for both types of data; separately analyzing both types of data; and comparing results through procedures such as side-by-side comparison in a discussion, transforming the qualitative data set into quantitative scores, or jointly displaying both forms of data. (p. 2)

By taking this approach, the researcher was able to keep a quality of control in that each source of data (quantitative and qualitative) would not indirectly influence each other.

Without a doubt, a convergent mixed-methods approach was the best choice of methodology for exploring learning satisfaction in the online environment and comparing it to traditional face-to-face classrooms. This central question to the research required a pragmatic approach to analyze existing historical data and to further contextualize it with qualitative components. The outcomes of both data collection methods, regardless of agreement or not, will provide important discussion that can be synthesized with the literature to help bring light to a topic that has largely remained in the dark.

Literature Gaps

Despite its relatively short existence, virtual learning is certainly an area of rapid growth and high interest. The literature for this review included patterns and trends of information in addition to a great number of nuanced details that demonstrate how even slight differences in understanding of terms and applications of data collection yield different results. Each of these studies seemed to show an evolution. Early studies relied upon vagueness and little direct secondary sources for support. As time progressed, and technologies changed, so too did the studies. Studies began to build off of one another and the application tended to go deeper.

Based on an extensive review of online learning satisfaction literature, there is a clear need to expand sample populations to include more testing of theories and postulations in other areas. From a corporate virtual learning standpoint, literature was definitely harder to come by. The corporate research on satisfaction tended to look at satisfaction of learning as a whole based on the convenience to the company rather than best practices that could change the face of learning.

Another area of interest within the literature was the lack of recommendations for adequately preparing teachers for virtual classrooms. Many articles touched on the important role instructors play in the satisfaction of learners but few researchers provided any real context or direction on how instructors should go about learning or adopting better techniques and/or practices. Welch et al. (2014) provided a matrix to identify gaps within professional development for individual instructors but gave no direction on where instructors can go to fill those gaps. Luo et al. (2017) pointed out that once exposed to the how-to of online teaching, pre-service teachers were much more inclined to enter the field of virtual teaching. Online educators need more resources to adequately prepare for the experience of differentiating their instruction in order to be effective. Additional review is needed on virtual teaching pedagogy that goes beyond identifying the differences and providing real resources that refine and shape teaching.

Perhaps one other area of serious consideration is the satisfaction of different samples of learners and instructors. While most samples of learning were taken from traditional educational institutions, there is additional need to explore results of satisfaction in other areas. Learning satisfaction in corporate settings seems to be lacking in readily available sources compared with literature on traditional educational settings. Since most aspects of the literature pertaining to educational settings provided ways to improve virtual learning, corporate learning environments would benefit from similar studies focused on tailored samples. Corporate training is often driven by business strategy. It stands to reason that more research and resources are needed to help improve those virtual learning settings to help deliver an experience that focuses on the learner rather than the business outcome. Perhaps providing recommendations for corporate facilitators and learning professionals on

adult learner satisfaction can transcend the corporate worldview to adopt one that is learner-centric. Virtual learning has many dimensions, and coloring everything with a single brush stroke based on a singular setting may be an error.

Virtual learning adoption shows no signs of slowing down anytime soon. Students, colleges, teachers, and corporations all continue to utilize and advance what virtual learning looks like and ways that it can continue to evolve. Notably, the satisfaction of learners is an area of great concern to keep the forward momentum and growth of virtual learning. Despite the growth, there is a need to further define and quantify what it means to be satisfied in an online environment, especially synchronous environments, and there is an even greater need to look at satisfaction as it relates to other populations of learners. Traditional educational settings such as schools and colleges may comprise a majority population of in-depth learning (longer courses), but corporate learning cannot rely solely on traditional education to shape and guide their best practices. Virtual classrooms may not be the same as traditional classrooms, but that in no way definitively means that they are inferior. Through continued research and exploration, virtual learning can and will continue to evolve.

While many pedagogical models and teaching practices for traditional classrooms have evolved over hundreds of years, online pedagogical practices only became tangible in the last quarter century with the advent of the internet and computers. Due to the newness of online teaching, researchers have spent a great deal of time defining and differentiating online instruction and identifying how to better prepare students and teachers for that environment. Online educators are still underprepared to adeptly and intuitively implement a solid online pedagogy because there is still not a consensus on what it should look like, and teacher training has a direct impact on a number of factors influencing student satisfaction.

What is missing in the literature is a more contextualized view of the voices and stories of learners and educators that can be used to move beyond broad categories of satisfaction predictors and move to identify specific classroom practices that directly build student satisfaction.

Although a great deal of the literature and studies available advocated for the importance of online pedagogy as a unique practice, and many studies tout the benefits of specific methods, there is little-to-no research available that measured the impacts of online teaching programs and the effect they have on teachers, students, and learning outcomes.

CHAPTER 3.   METHODOLOGY

The purpose of this convergent mixed-methods study was to utilize two differing data points (quantitative Level-1 scores + qualitative focus group feedback) to understand satisfaction levels and the process by which learning satisfaction is influenced by the synchronous online classroom in a corporate training environment. This chapter describes the study's research approach and includes discussions around research design, rationale for research approach, description of the research sample, methods of data collection and analysis, and limitations of the study.

Research Site Profile

This mixed-methods study focused on understanding learning satisfaction in synchronous online classrooms within the corporate learning environment. For this study, a nationally recognized Fortune 125 (as of 2017) financial institution was selected as a research site. This institution has just over 45,000 employees across the globe and is headquartered in the United States. Given the broad geographic sprawl of the organization, technology is a growing area of emphasis in the delivery of training to reduce travel costs and increase access to diverse development opportunities. While asynchronous e-learning opportunities are utilized in various capacities, most job-specific and professional development training is still delivered via in-person classroom or synchronous online classroom facilitation. According to data pulled from the institutions Learning Management System (LMS) in 2018, approximately 1 in 4 employees (just over 10,000 total employees) had completed at least one synchronous online training/class through the Adobe Connect platform. While most of these trainings were facilitated with the Adobe Connect platform, Zoom and Skype for Business have also been utilized as alternative delivery technologies.

In addition to the simple fact that online platforms are used for synchronous delivery of training at this particular company, it is worth noting that all of the facilitators who utilize the Adobe Connect platform are required to complete a combination of asynchronous and synchronous trainings in order to receive an internal certification to teach in the environment. The trainings consist of self-paced modules and videos regarding Adobe Connect functionality as well as two 2-day classes which assess facilitators on use of the platform, ability to adapt and build robust online content, and differentiated instruction for the online environment. These details are particularly relevant to this study since a great deal of literature outlined a lack of opportunities for educators to learn online teaching practices. As the problem statement for this study outlined, online learning often suffers from lower satisfaction rates when compared to traditional face-to-face classroom environments and a lack of teacher training potentially contributed to the decreased satisfaction rates (Cole, Shelley, & Swartz, 2014; Kebritchi, 2014; Tsai, 2013). While this study did not aim to measure the impact of facilitator training on satisfaction outcomes, recommendations from this study may be used to help further expand training efforts and/or make changes to the existing curriculum.

Rationale for Convergent Mixed-Methods Research Design

Creswell and Plano Clark (2011) explained that a mixed-methods approach is one where "Researchers situate numbers in the contexts and words of participants, and they frame the words of participants with numbers, trends, and statistical results" (p.21). A variety of mixed-methods approaches exist, but the researcher selected a convergent methodology given the types of data explored. A convergent mixed-methods approach is best used

…To compare findings from qualitative and quantitative data sources. It

involves collecting both types of data at roughly the same time; assessing

information using parallel constructs for both types of data; separately

analyzing both types of data; and comparing results through procedures such

as a side-by-side comparison in a discussion, transforming the qualitative data

set into quantitative scores, or jointly displaying both forms of data. (Agency

for Healthcare Research and Quality, 2013, p. 2)

Using this approach created a more complete picture of satisfaction by merging together

company satisfaction surveys and focus group responses. Since neither Level-1 survey

results nor focus groups alone provided a detailed enough picture of the situation, the

problem "calls for answers beyond simple numbers in a quantitative sense or words in a

qualitative sense. A combination of both forms of data provides the most complete analysis

of problems" (Creswell & Plano Clark, 2011, p. 21).

Utilizing a combined approach to acquire quantitative and qualitative data was the

best approach to address the topic of learning satisfaction in the corporate environment.

Using Level-1 scores alone would not have provided enough context of how satisfaction is

formed. Similarly, using focus groups alone would not have provided enough data to

generalize the vast experiences and attitudes of 45,000 employees. Neither data point carried

enough individual impact to be regarded as a sole method of data collection. Each method

offered an equally important part of the broader story that needed to be told. Since the data

for each method was collected without dependencies on the other, a convergent/triangulation

approach was used so that each data source could be collected independently and synthesized

together to create a better understanding of synchronous online learning satisfaction.

Data Collection Process

The research methodology for this study attempted to better contextualize how learners felt about different modalities of learning. It also helped to determine if learners were predisposed to a certain type of learning modality (synchronous online or traditional face-to-face classrooms). During the quantitative phase of this study, historical Level-1 survey data captured in the company's LMS was used to perform a casual-comparison of satisfaction between in-person and synchronous online classes. The enterprise learning department at the company oversaw the use of the LMS and also applied Level-1 surveys at the completion of each course delivered. The Level-1 survey was standardized throughout the company and was automatically distributed to learners via email at the conclusion of each training/class by the LMS. The standardized form collected anonymous information from learners related to their overall satisfaction with a learning event or training course.

Data were requested from the LMS administrators who were able to provide Level-1 survey results for a 12-month period of time (January-December 2018). The Level-1 survey results that were pulled contained all learning classes that took place virtually (through Adobe Connect) and in-person in a physical classroom setting. The Level-1 did not ask learners to specify the modality, so data was manually filtered by the LMS administrator to segment out course offerings by physical and virtual classroom. For the purpose of the data analysis process, which will be covered in greater detail in Chapter 4, only courses that were offered in both modalities were selected for analysis. For example, if a course on Leadership Development were offered in-person, but not in a synchronous online modality, it was not considered for analysis. A data analysis of this type has not been previously completed at

this company and appeared to be a unique approach not found elsewhere in current studies on learning satisfaction.

Once the results from the LMS were separated into even categories by modality, the independent variables were reviewed using SPSS. The Level-1 survey at this company utilized a five-point Likert scale (1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree) to allow learners to respond to learning events in the following topic areas:

1. The program held my interest.

2. Participants were well engaged during the session.

3. My learning was enhanced by the knowledge and experiences of the facilitator.

4. I was comfortable with the pace at which the facilitator presented the content.

5. I am clear about what is expected of me as a result of going through this training.

6. I intend to use what I have learned in my current role.

7. I am satisfied with my learning experience.

8. I am satisfied with the content received during the training session.

9. I would recommend this course to others.

A copy of the Level-1 survey questions collected from the company LMS is included in Appendix G. In addition to the above questions, the Level-1 survey offered learners several optional open-ended questions. The following open-ended questions with free-form response followed the Likert-scale questions:

1. What did you learn that you plan to apply back on the job?

2. What did you find to be the most valuable part of the session?

3. Are there ways the facilitator could have made the session more engaging for you?

4. What barriers do you anticipate that will make it difficult for you to apply what you have learned?

5. What additional help do you need to be successful in your efforts?

6. Please describe any technical or environmental challenges you had with your learning experience.

It should be noted that responses to the Level-1 surveys were completely optional for leaners and all answers submitted were done so voluntarily. Additionally, learners had the option to submit partially complete surveys, and this was apparent in the fact that the majority of Level-1 surveys analyzed did not contain data in the free-form fields.

The historical LMS data from the company provided a great level of depth and scale to learning satisfaction. However, since many learners did not provide free-from responses, very little qualitative data was available to understand the "why" behind the ratings. Thus, the second phase of the study attempted to fill the apparent void by exploring how learners felt about modalities and learning satisfaction through a focus group approach. To obtain the qualitative context for the research, two focus groups were formed that were comprised of company employees. Participants were vetted to ensure they had experienced both modalities of learning and then guided through a series of questions. Utilizing a social setting to form answers allowed for stronger themes to come through and give light to the Level-1 results.

The researcher was able to individually validate eligibility of each department member prior to sending out requests. Prior to sending out initial participant recruitment emails, the researcher cross-referenced names of participants with LMS data to target only those employees who had completed both modalities of learning within the previous 12-month timeframe. Eligible participants were then emailed a letter outlining the study. A copy of the email can be located in Appendix A. Participants were asked to respond to the email indicating their willingness to participate in the study. Once participants were reviewed for eligibility and their overall representation of the broader company population, participants were sent either an invitation to sign up for a focus group time or declined and thanked for their time. Copies of both emails are included in Appendices B and C. Participants who were selected for the final focus groups were sent a copy of available times and asked to rank their preference. The researcher attempted to balance the focus groups with a blend of representation before sending out final calendar invites.

Each focus group consisted of 6-10 participants and lasted approximately 90 minutes per session. Participants were invited to share their thoughts openly and freely. The focus group sessions were held virtually in Adobe Connect so as to create a wider demographic not restricted by geography. Use of Adobe Connect also allowed for the focus group session to be recorded for easier coding during the final analysis. Prior to, during, and after the focus groups were completed, participants were informed of their rights and reminded that the focus groups were recorded but their information kept private. The researcher utilized an interview protocol with structured questions to guide a discussion on learning satisfaction and modalities. See the Appendix E for a detailed overview of the interview protocol used during the focus group sessions. Participants were asked to sign a consent form prior to the

start of the focus group session and provided with a debrief form following completion. Copies of the consent form and the debrief form can be found in Appendices D and F, respectively.

The deductive coding model was selected by the researcher to help provide guidance during the data analysis phase. Using available research and frameworks, the researcher was able to create a rough codebook of potential factors/themes expected to be present during the focus groups. However, the codebook utilized by the researcher simply served as a starting point in the data analysis process and evolved and changed after all focus groups had concluded. A starting codebook was based on the TIPEC conceptual framework created by Ali, Saman, and Uppal (2018). An exhaustive review, spanning nearly 30 years of research, uncovered 68 barriers of why e-learning often fails compared to traditional learning. They named their framework based upon the four thematic groups that emerged: "Technology (T), Individual (I), Pedagogy (P), and Enabling Conditions (EC)" (Ali, Saman, & Uppal, 2018, p.156). A copy of the TIPEC framework can be found in Appendix H and the final codebook is included in Appendix I.

To help increase the validity of the data collected, a member check feedback process was utilized. The member check process was carried out by first selecting a random sub-set sample of participants from the larger focus group population. Those participants were given copies of the focus group coded data and asked to verify it for accuracy. This member check validation helped to ensure that the researcher accurately collected the results and increased the likelihood that the data truthfully represented the respondents and the accuracy of the outcomes of the study. Additionally, all participants of the study were given the option to review the data at-will prior to publication (details outlined in Appendix F).

Sampling

Although the original intent of the researcher was to solicit participation from any learner in the enterprise who took at least one synchronous online class and face-to-face class in the previous 12 months, the company mandated a restriction on who the researcher could contact for participation in the study. Although this organization has over 45,000 employees, the researcher was only allowed to solicit participation from one department within the organization. The researcher utilized a blend of criterion, purposive, and convenience sampling methods for the formation and collection of focus group data, and selected a department of 72 total employees. The researcher purposely selected this department due to restrictions set by the organization being studied, which limited the researcher to one department. According to Kumar (2019), "Convenience sampling is primarily guided by the convenience to the researcher, whatever this might be – easy accessibility, geographical proximity, known contacts, ready approval for undertaking the study, or being part of the group" (p. 307). Kumar (2019) continued, "…judgmental sampling, or purposive sampling is your judgement as to who can provide the best information to achieve the objectives of your study" (p. 307). Additionally, Bloomberg and Volpe (2012) state, "Criterion sampling works well when all the individuals studied represent people who have experienced the same phenomenon." (p. 104). For the researcher, convenience and criteria were vital in selecting a sample to represent the broader population within the context of needing experience with both modalities of training.

The researcher solicited all 72 members of the department via email for a two-week window. Additionally, the researcher posted a message in the department's Slack channel. In total, 19 individuals responded and volunteered for the focus groups. The researcher

selected 12 individuals at random and verified that they had attended both modalities of training in the company's LMS. Once vetted and selected, the researcher sent informed consent forms and calendar invites to the participants to participate in one of two focus groups. In total, 11 participants participated as one individual was unable to attend at the last minute (one group of five and one group of six).

Data Analysis Process

For the quantitative portion of this mixed-methods study, the Level-1 survey scores were analyzed and compared with the scores of the face-to-face classes that ran during the same 12-month timeframe. Each question from the Level-1 survey was used as a dependent variable, while the synchronous online and face-to-face modalities were used as independent variables. Since this data was collected prior to the study, a descriptive statistics approach was used and can be defined as, "…the analysis of data that helps describe, show or summarize data in a meaningful way such that, for example, patterns might emerge from the data" (Lund Research LTD, 2018).

The scores from learners recorded in the LMS during the 12-month timeframe were entered into the Statistical Package for the Social Sciences computer program (SPSS). To better understand the possible relationship between satisfaction and modality, an independent sample t-test analysis was used as the primary method for analysis. According to the UCLA Institute for Digital Research & Education (2019), "An independent samples t-test is used when you want to compare the means of a normally distributed interval dependent variable for two independent groups" (Two independent samples t-test, para. 1). Means and standard deviations were presented side-by-side for a detailed analysis and comparison. A composite score was created from an average of all scores for each of the modalities. Overall composite

scores were also compared. An alpha reliability analysis was not completed since the Level-1 survey instrument this company used is the standard-bearer for measuring satisfaction.

After the focus group interviews were completed, information gathered from the recordings were synthesized and analyzed. The researcher opted to use a blend of both deductive and inductive coding methods to analyze the results of the focus group. Since few studies have produced guidelines for satisfaction in synchronous online environments, the researcher utilized the Tipec Framework (see Appendix H) as a guide for potential themes. The Tipec Framework is geared more towards asynchronous online classrooms so the researcher also utilized an open coding to search for themes outside of the Tipec Framework and axial process to categorize and connect all of the emergent themes to develop an overall understanding of satisfaction. Open coding was used to, "generate concepts" whereas axial coding, "was used to make connections among the categories and their sub-categories, as identified in the open-coding stage" (Briggs, Coleman, & Morrison, 2012, p. 198). Following the convergent mixed-methods approach, quantitative data and themes/trends from the Level-1 surveys were compared in tandem with the outcomes of the focus groups and research. Themes and trends from the focus groups were synthesized with the sub-categories of the Level-1 to check for alignment. For example, a theme from the focus group citing lower satisfaction with synchronous online because of social interaction might be connected to a question in the Level-1 survey regarding engagement. Additionally, data from the literature review was synthesized to help explain the results. The final results of the converged data provided an outlet to understand differences in satisfaction between synchronous online and face-to-face classrooms as well as the specific factors influencing satisfaction the most.

Ethical Considerations

With regard to the ethics of this study, no harm was imposed upon the participants (physical or psychological). All data collected was coded for anonymity and participants were given the opportunity to abstain and/or withdraw from the study at any time. All participants were working within the corporate environment, which guaranteed that all had been vetted and cleared to legally work in the United States and that no participants were under the age of 18. Although the researcher had served in an administrative capacity for the virtual training platform at the company, no power dynamics existed between the researcher and the participants before or during the course of the study.

The quantitative LMS data was obtained in an Excel document and coded for anonymity of the participants. During the qualitative phase, all participant information and answers were coded for anonymity and individuals were given the option to withdraw from the study before, during, and after data collection. Participants were interviewed in a virtual setting due to geographic dispersion and questions were limited to experiences on learning satisfaction and did not intentionally explore specific courses or facilitator/instructors. Participants were not asked to share any details that caused them trauma, nor were they asked to perform physical activity/functions for this research. Respect and openness to all answers were paramount to the success of the study.

CHAPTER 4.   FINDINGS AND ANALYSIS

Introduction

The purpose of this mixed-methods study was to explore the impact of synchronous virtual classrooms on learning satisfaction for adult learners in a corporate environment. Specifically, the study analyzed four years of quantitative post-class Level-1 survey data based on classroom modality. Additionally, the study pulled qualitative data from two focus groups to contextualize how satisfaction is formed and explore the analysis at a deeper level.

Chapter 4 presents the key findings of the research and is organized to address each of the four research questions independently. The quantitative and qualitative data were used separately and in combination to answer the questions. The data were synthesized using a convergent model to blend both datasets for a deeper understanding of satisfaction in synchronous virtual classrooms and the factors that influence that satisfaction. The findings have been divided into three main categories that include an overview of participant demographics for the LMS data pull as well as participants in both focus groups. The second section directly addresses each of the research questions and includes a blend of statistical analysis and focus group feedback. Finally, the third section will provide an overall summary of the results.

Following the completion of both the independent t-test and the Mann-Whitney U test, as well as analysis of focus group transcripts, the researcher concluded that satisfaction scores in the in-person classroom modality were statistically significantly higher than in the synchronous online classroom. A detailed synthesis and recommendations for improving learning satisfaction are presented later in Chapter 5.

Survey Participant Demographics

Following the conclusion of each training class that was registered within the company's LMS, an automated survey was sent to participants. Although the Level-1 surveys did not collect any reportable demographic information, the researcher assumed that the results analyzed represented a diverse sampling of geographic, job role, employment type (exempt and non-exempt), gender, age, and training content areas (just to name a few). The company has over 45,000 employees, all of whom go through at least one training at some point during their employment. There was also an assumption that the respondents were strongly representative of the overall employee population. However, since the Level-1 survey sent at the conclusion of a class was strictly voluntary, the researcher was unable to validate the rationale and/or thoughtfulness of responses.

Results

The data analyzed for this study spanned a total of four years (May 2014-May 2018) and included several hundred different training events. However, the researcher elected to refine the list of Level-1 survey responses to a total of 39 training courses. The 39 courses that were selected for analysis proved viable for the study as they had been delivered in both classroom modalities (in-person and synchronous online) and had at least one Level-1 survey respondent for each modality. The following is a review of the research questions utilized to guide the study. Research Questions 1 and 2 were primarily sourced from the quantitative data analysis of historical learning satisfaction analysis, while Research Questions 3 and 4 were primarily sourced from the qualitative focus groups. Each section provides an overview of the results from statistical analysis and qualitative coding. A more robust synthesis of the results is presented in Chapter 5 along with recommendations.

Statistical Analysis

Research Question 1 Findings

RQ1: "Does the synchronous online classroom modality have a higher, lower, or

equal level of Level-1 survey composite scores compared to traditional in-

person classrooms?"

In order to answer the first research question, the researcher had to collect Level-1

survey results from the company's learning management system. Four years of survey

results were utilized for this study (2014-2018). The researcher selected 39 courses for

analysis from the four-year study window as these courses represented training offerings that

were delivered both in-person and in a synchronous online classroom. From those 39

courses, 16,606 respondents completed the post-class survey with 14,726 responses

correlated to in-classroom trainings and 1,880 correlated to synchronous online trainings.

From this initial data, the researcher removed all surveys where a respondent did not fully

complete the questionnaire, thus reducing the total number of surveys analyzed to 15,577

(13,807 correlated to in-classroom trainings and 1,770 correlated to synchronous online).

Since the analysis of the results were not run in a controlled manner and the results

were recorded independently from one another, an Independent T-Test was utilized. This

methodology was appropriate since "The independent samples t-test is used to determine if a

difference exists between the means of two independent groups on a continuous dependent

variable. More specifically, it will let you determine whether the difference between these

two groups is statistically significant" (Laerd Statistics, 2015). The null hypothesis for the

first research question was H_0: $\mu_{\text{in-person}} = \mu_{\text{online-synchronous}}$ or, in other words, H_0: the

population means of the two groups are equal. The independent variable analyzed from the

historical LMS data was classroom modality (synchronous online or in-person) and the dependent variable was the composite scores from the nine question Level-1 survey. Adding all nine of the survey question responses together for each respondent provided an overall total score ranging between nine and 45. To create a meaningful zero-point, and for ease of analysis, all individual scores were adjusted by -1 to create a range of zero to four for responses with an overall composite score between zero and 36.

The researcher utilized SPSS 26 to identify outliers but opted to keep the outliers as a part of the statistical analysis as no measurement or data entry errors were found to be present (see Appendix I for outliers). Additionally, the data points were not normally distributed with composite scores for the in-person classrooms showing a skewness of -1.694 ($SE = .021$) and a kurtosis of 4.064 ($SE = .042$) and for synchronous online classrooms with a skewness of -1.375 ($SE = .058$) and a kurtosis of 2.942 ($SE = .116$). Assuming a significance level of .01, these results violated the allowable ±2.58 z-score. A Normal Q-Q Plot was used to visually assess the distribution of data which revealed a negative skew (more favorable responses than unfavorable). According to Laerd Statistics (2015), "Indeed, if sample sizes are not small, even fairly skewed distributions – as long as the groups are similarly skewed – are not always problematic…non-normality does not affect Type I error rate substantially and the independent-samples t-test can be considered robust" (p. 12). To that end, the researcher proceeded with the analysis with the intent of verifying results through a Mann-Whitney nonparametric test. See Figure 4 and Figure 5 for a visual overview of the distributions of composite scores as assessed by the researcher.

Figure 4. Normal Q-Q Plot for In-Person Classroom Composite Scores from SPSS 26.
Figure represents a visual of distributions of composite scores for in-person classrooms.
Composite scores ranged from 0 up to 36. The solid line represents a normal distribution and
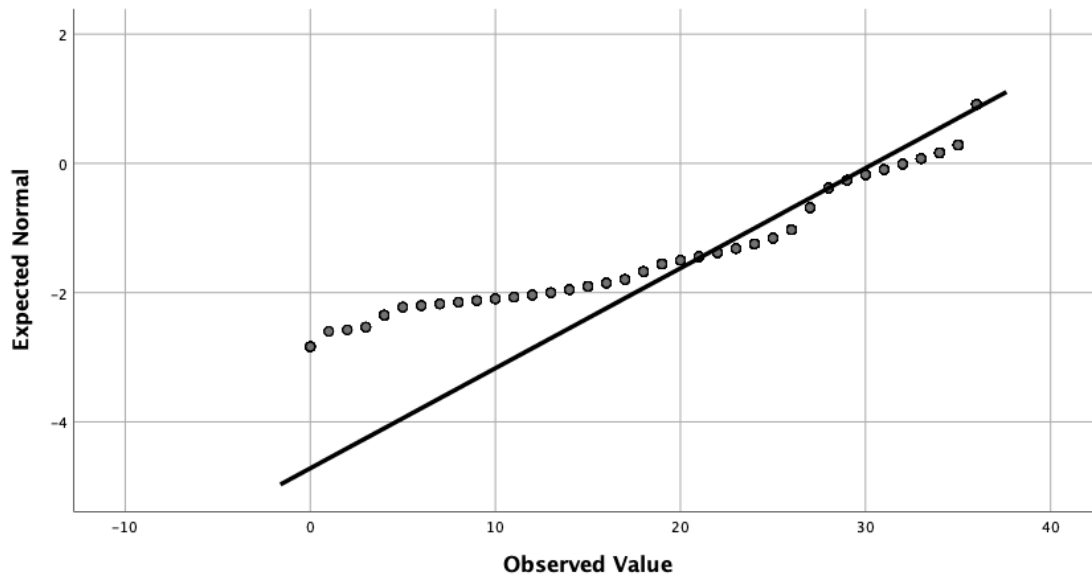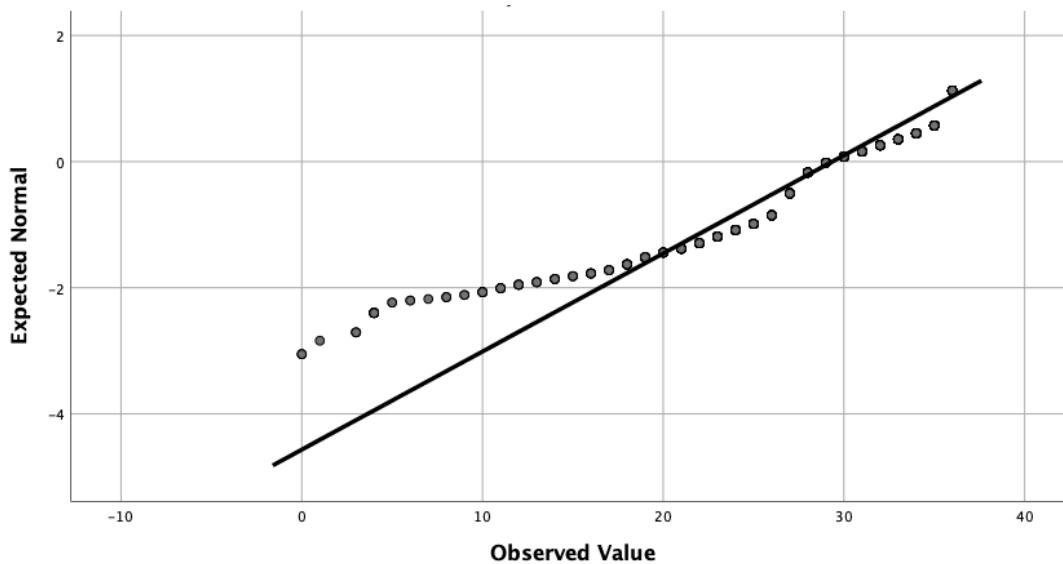the dots represent the scores.

Figure 5. Normal Q-Q Plot for Synchronous Online Classroom Composite Scores from
SPSS 26. Figure represents a visual of distributions of composite scores for synchronous
online classrooms. Composite scores ranged from 0 up to 36. The solid line represents a
normal distribution and the dots represent the scores.

The independent-samples t-test was run utilizing a 95% confidence interval. The SPSS descriptive statistics indicated the overall satisfaction was higher for the in-person classroom ($M = 30.48$, $SD = 6.460$) than for the synchronous online classroom ($M = 29.36$, $SD = 6.428$). After running the Levene's test for equality of variances, the researcher determined that there was homogeneity of variances for overall composite scores between in-person and synchronous online classrooms ($p = .278$), which was higher than the required .05 threshold. Given that the sample sizes of the two populations were substantially different, the researcher opted to utilize the Welch t-test (equal variances not assumed) instead of the Student t-test (equal variances assumed) to account for the unequal group sizes, as recommended by Howell (2010). Figure 6 provides a comparison of the Welch t-test (bottom row) and the Student t-test (top row).

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t–test for Equality of Means | | | | | 95% Confidence Interval of the Difference | |
		F	Sig.	t	df	Sig. (2–tailed)	Mean Difference	Std. Error Difference	Lower	Upper
SUM SCORE	Equal variances assumed	1.178	.278	6.879	15575	.000	1.121	.163	.802	1.441
	Equal variances not assumed			6.906	2251.871	.000	1.121	.162	.803	1.440

Figure 6. SPSS Independent-Samples T-Test Significance Indicator.

The Welch t-test was used to measure if there was significance between the differences in scores between the two modalities. The results indicated that the in-person classroom mean overall composite score was $M = 1.121$, 95% CI [.803 to 1.440] higher than the synchronous online classroom composite scores. The difference in means was statistically significant between the two modalities, $t(2251.871) = 6.906$, $p = .000000000006484$. Since there was a statistically significant difference between means ($p <$

.05), the researcher was able to reject the null hypothesis and accept the alternative hypothesis that in-person courses were rated higher overall than synchronous online classrooms. Although a statistically significant difference was found between the synchronous online and in-person classroom overall Level-1 scores, the researcher determined that this was of little practical importance. The results indicated that the scoring differences were not due to chance. However, the degree of difference between the composite scores did not indicate a drastic difference when one considers the scores were comprised of nine different realms of measurement.

In order to verify the results of the independent-samples t-test, the researcher made the choice to analyze the data using a nonparametric test (Mann-Whitney U test). The researcher took these actions to account for the violation of normality discovered during the initial analysis. According to Laerd Statistics (2015), The Mann-Whitney U test is appropriate to use when comparing two independent groups which are based on the same ordinal dependent variable. The Whitney-Mann U test was used to analyze distributions and differences between group medians through a method involving the graphing of the two distributions and comparing them for a similar shape. The null hypothesis for this test was: H_0: the distribution of the composite satisfaction scores is the same across the two categories of modality (in-person and synchronous online). Using SPSS 26, the distributions of the composite scores were graphed for frequency by modality. Figure 7 below provides a copy of the graph used by the researcher to gauge a visual likeness of shape between the composite satisfaction score distributions of in-person and synchronous online classrooms. Due to the subjective nature involved in the analysis by the researcher, Figure 7 shows the shapes of

composite score distributions. Despite the sizing difference of the two distributions, the general shape was deemed to be similar by the researcher.

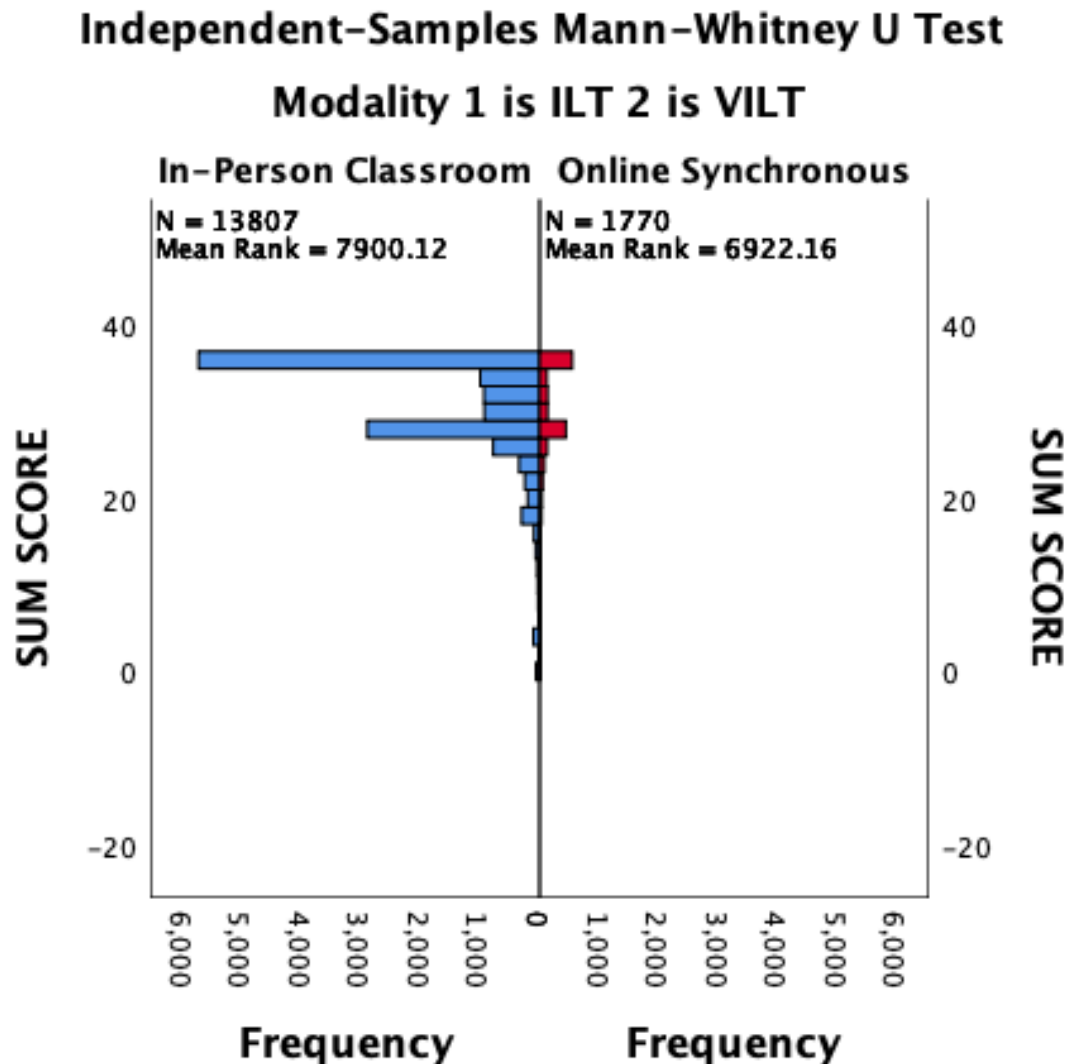*Figure 7*. SPSS Distributions of Composite Scores for Mann-Whitney U Test.

A Mann-Whitney U test was run to determine if there were differences in engagement scores between the in-person and synchronous online classroom modalities. Distributions of composite satisfaction scores for the two groups were deemed similar based on a visual assessment by the researcher. The results of the Mann-Whitney U test revealed that the

median composite satisfaction scores were significantly higher for the in-person classroom

(*Mdn* = 32) as compared to synchronous online classroom (*Mdn* = 29), U = 10,684,893, z = -

8.824, p < .001. These results gave the researcher the ability to reject the null hypothesis and

accept the alternate hypothesis that the group composite scores were indeed different. By

identifying that the composite Level-1 scores differed between the two modalities, it became

clear that the in-person modality tended to rate higher albeit not significantly. To better

understand the breakdown of the scores, the researcher utilized Research Question 2 for a

more detailed breakdown and to determine if the difference carried through to each

individual question.

Research Question 2 Findings

> **RQ2:** "How do the scores of the categorical Level-1 questions differ between the
>
> synchronous online and in-person classroom modalities?"

In order to address the second research question and measure the differences of each

categorical question on the Level-1 survey, an independent-samples t-test was utilized to

explore if the independent variable (modality) had an effect on the dependent variables

(interest, engagement, expectations, experience, facilitator knowledge, learning content,

applicability, pace, and net promotor score). According to Bishop and Herron (2015), there

has been some controversy within the scientific community regarding the use of independent-

samples t-tests to analyze ordinal-scale variables since one of the core assumptions for

analysis of a parametric statistic is a continuous variable. The controversy comes into play as

some researchers argue that independent-sample t-tests can be used to analyze ordinal

variables. "It should be noted here that parametric tests are often carried out on variables that

do not conform to the…conditions" (Briggs, Coleman, & Morrison, 2012, p. 356). Since the

t-test is traditionally utilized to explore continuous dependent variables, the researcher utilized Mann-Whitney U test as a secondary test to verify the difference between scores of the modalities. Breaking down each question of the Level-1 survey provided a more granular view of how total satisfaction was formed and helped to outline potential areas of additional exploration and/or improvement.

The same scores that were combined to form composite scores to answer Research Question 1 were utilized individually (not combined into a composite) for question 2. All raw scores were again adjusted by -1 to create a continuous variable starting from zero. The original Likert scores from one to five (1 - *strongly disagree*, 2 - *disagree*, 3 - *neutral*, 4 - *agree*, 5 - *strongly agree*) were thus shifted to begin with zero up through four. The raw data scores were run through SPSS 26 to explore boxplots of the data points for both modalities. Since the distributions were skewed more heavily towards higher satisfaction for both modalities, SPSS identified lower ranking zeros and ones (strongly disagree and disagree) as outliers for all questions of the survey. A Mann-Whitney U test was utilized as a secondary form of analysis. The researcher opted to keep the outliers as a part of the statistical analysis as no measurement or data entry errors were present. See Appendix I for outliers.

For each of the nine Level-1 questions, the researcher completed a visual inspection of Normal Q-Q Plots and determined that the scores were not normally distributed and had negative skewness for all questions in both modalities. Using a 99% CI, the researcher analyzed the skewness and kurtosis to check for ±2.58 as recommended by Laerd Statistics (2015). All Level-1 scores in both modalities were not normally distributed as they showed skewness and kurtosis well outside of the ±2.58 range for normal distribution. Table 4 provides a breakdown of the skewness and kurtosis for each of the two classroom modalities.

Table 1.

Skewness and Kurtosis Distribution by Modality

| Group | Skewness, Kurtosis, and Standard Error | | | |
	Skewness (std. error)	*z*	Kurtosis (std. error)	*z*
Q1 Online Sync	-1.472 (.058)	-25.379	3.128 (.116)	26.965
Q1 In-Person	-1.813 (.021)	-86.333	4.295 (.042)	102.261
Q2 Online Sync	-1.525 (.058)	-26.293	3.382 (.116)	29.155
Q2 In-Person	-1.729 (.021)	-82.333	3.948 (.042)	94
Q3 Online Sync	-1.370 (.058)	-23.620	2.747 (.116)	23.681
Q3 In-Person	-1.756 (.021)	-83.619	4.020 (.042)	95.714
Q4 Online Sync	-1.460 (.058)	-25.172	2.796 (.116)	24.103
Q4 In-Person	-1.707 (.021)	-81.285	3.549 (.042)	84.5
Q5 Online Sync	-1.434 (.058)	-24.724	3.039 (.116)	26.198
Q5 In-Person	-1.631 (.021)	-77.666	3.714 (.042)	88.428
Q6 Online Sync	-1.583 (.058)	-27.293	3.879 (.116)	33.439
Q6 In-Person	-1.803 (.021)	-85.857	4.552 (.042)	108.380
Q7 Online Sync	-1.415 (.058)	-24.396	2.576 (.116)	22.206
Q7 In-Person	-1.699 (.021)	-80.904	3.621 (.042)	86.214
Q8 Online Sync	-1.459 (.058)	-25.155	2.841 (.116)	24.491
Q8 In-Person	-1.685 (.021)	-80.238	3.495 (.042)	83.214
Q9 Online Sync	-1.488 (.058)	-25.655	2.774 (.116)	23.913
Q9 In-Person	-1.826 (.021)	-86.952	3.838 (.042)	91.380
Composite Online Sync	-1.375 (.058)	-23.706	2.942 (.058)	50.724
Composite In-Person	-1.694 (.021)	-80.666	4.064 (.042)	96.761

Note. z = Skewness/Std. Error, z = Kurtosis/Std. Error, p = .001

In total, there were 13,807 completed surveys from in-person classes and 1,770 completed surveys from synchronous online classes. For all of questions on the Level-1, in-person classrooms rated higher than the scores reported for synchronous online classes. Table 5 provides an overview of the means and standard deviations and shows the differences between each of the two classrooms.

Table 2

Comparison of Means by Modality for Level-1 Individual Questions

| | Classroom Modality Level-1 Mean Scores | | | | |
| | In-Person | | | Synchronous Online | |
	M	*SD*		*M*	*SD*
Question 1	**3.40**	.811		3.23	.829
Question 2	**3.39**	.808		3.31	.795
Question 3	**3.40**	.807		3.25	.817
Question 4	**3.37**	.835		3.26	.840
Question 5	**3.36**	.797		3.24	.820
Question 6	**3.44**	.770		3.35	.775
Question 7	**3.36**	.836		3.20	.869
Question 8	**3.35**	.841		3.22	.862
Question 9	**3.41**	.851		3.29	.851
Composite	**30.48**	6.460		29.36	6.428

Note. All scores were adjusted by -1 to create a true 0 (ex. Participant reported 5, becomes 4).

There was homogeneity of variances for the above Level-1 scores for synchronous online and in-person classrooms, as assessed by Levene's test for equality of variances. However, Howell (2010) recommended using the Welch t-test when there is unequal group sizes within the samples. The results of the Welch t-test indicated that there was indeed a statistical difference in the mean score between in-person and synchronous online classes, with in-person classes scoring higher that synchronous online for all questions:

Question 1: $M = 0.167$, 95% CI [0.126, 0.207], $t(2226.201) = 7.979$, $p <.001$

Question 2: $M = 0.077$, 95% CI [0.037, 0.116], $t(2262.993) = 3.811$, $p <.001$

Question 3: $M = .146$, 95% CI [0.106, 0.187], $t(2234.483) = 7.099$, $p <.001$

Question 4: $M = 0.114$, 95% CI [0.072, 0.156], $t(2240.821) = 5.379$, $p <.001$

Question 5: $M = 0.119$, 95% CI [0.078, 0.159], $t(2218.996) = 5.759$, $p <.001$

Question 6: $M = 0.085$, 95% CI [0.047, 0.123], $t(2240.856) = 4.347$, $p <.001$

Question 7: $M = 0.157$, 95% CI [0.114, 0.200], $t(2209.068) = 7.186$, $p <.001$

Question 8: $M = 0.122$, 95% CI [0.092, 0.178], $t(2223.387) = 6.218$, $p <.001$

Question 9: $M = 0.26$, 95% CI [0.080, 0.164], $t(2246.731) 5.675$, $p <.001$

Since there was a statistically significant difference between means ($p<.05$) the researcher rejected the null hypothesis and accepted the alternative hypothesis that the scores between modalities differed significantly.

In order to verify the results of the parametric independent t-test, a Mann-Whitney nonparametric test was utilized to determine if there were differences in scores between in-person and synchronous online classrooms. Distributions of the scores for both modalities were similar across all questions of the Level-1 survey, as assessed by visual inspection. The median scores were statistically significantly higher for in-person classes than in the

synchronous online classes for all questions. See Table 6 for a comparison of medians using

a *p*-value of .05 for significance. According to Laerd Statistics (2015), since SPSS returned a

value of .000, the *p*-value is not actually zero and is recorded as .001.

Table 3

Comparison of Medians by Modality for Level-1 Individual Questions

	In-Person Med.	Online Sync. Med.	U	z	p
Question 1:	4	3	10613607.50	-10.084	p < .001
Question 2:	4	3	11391141.00	-5.193	p < .001
Question 3:	4	3	10798082.50	-8.923	p < .001
Question 4:	4	3	11108053.00	-6.946	p < .001
Question 5:	4	3	11116975.50	-6.868	p < .001
Question 6:	4	3	11340173.00	-5.570	p < .001
Question 7:	4	3	10820237.50	-8.714	p < .001
Question 8:	4	3	10971048.00	-7.773	p < .001
Question 9:	4	3	11011045.50	-7.656	p < .001
Composite	32	29	10684893.00	-8.824	p < .001

Note. * = p <.05, ** = p < .001, U = Mann-Whitney U score, z = Standardized Test Statistic, p = Asymptotic Sig. (2-tailed test) . In-Person and Synchronous Online Adjusted Scores (0 = Strongly Disagree, 1 = Disagree, 2 = Neutral, 3 = Agree, 4 = Strongly Agree)

The results of both tests provided an opportunity to analyze where the scores between in-person and synchronous online classrooms differed. Of particular note, in consecutive order, questions one, three, and seven represented the top three largest gaps between scores. These three questions represented "program held my interest," "learning was enhanced by knowledge and experiences of the facilitator," and "I am satisfied with my learning experience." Similar to the findings of the overall composite scores of the Level-1 survey results, there was a statistical difference between the individual scores for every question of the survey with the in-person classroom scoring higher than the synchronous online classroom.

Quantitative Summary

After reviewing the data, the researcher concluded that the statistical analysis of the Level-1 surveys provided insights that both aligned and deviated from the literature. The most notable finding that emerged revealed that a statistical difference existed between the satisfaction levels of the modalities, with synchronous online classrooms scoring slightly below that of in-person classrooms. This finding coincides with much of the literature related to online classroom formats. Perhaps the biggest deviation from the literature was that although the results revealed a statistical difference, they did not yield a practical difference. The gap between the composite mean scores equates to only a few points of difference, which when spread out over all nine of the Level-1 questions, indicates very little difference. Additionally, despite the difference in scores, the researcher noted that the results yielded a generally high degree of satisfaction for both modalities.

Focus Group Results

The researcher conducted two, one-hour focus group discussions on the topic of learning satisfaction and the impact of modality. The use of focus groups was a key factor in getting a better understanding of the statistical analysis from the previous research questions. Since the researcher did not have the ability to control the questions of measure from the Level-1 survey, context was needed to better understand the factors influencing each response as well as an overall 1:1 discussion of modalities and how learners felt about these two types of classroom experiences.

In total, there were five participants that showed up for the first focus group and six participants in the second focus group (the 12th participant declined the session shortly before the start). Focus groups were conducted on November 12th, 2019 and November 22nd, 2019. All participants were vetted to meet the criteria outlined in Chapter 3 and were assigned at random into two groups. Invitations were sent via email with calendar invites containing the interview protocol. The researcher sent the questions ahead of the session so that participants could reflect on examples and formulate ideas for the discussion.

The researcher utilized a virtual Zoom meeting for the focus group setting and informed participants of their rights as subjects in a research study and obtained verbal consent to record the focus group dialogue (in addition to the pre-signed informed consent). The researcher began with a brief overview of the purpose of the focus group and set expectations of the format for discussion. A video recording of the session was created in Zoom and a back-up audio recording was completed through a dial-in phone number. The researcher took notes during the session related to body language (through camera) and vocal cues and inflections. Additionally, the researcher provided some clarification of terms to

participants before beginning. Classroom Modality was defined as, "the broad, categorical term used to refer to types of classrooms. Adobe Connect and in-person trainings are both classroom modalities even though they are different." Furthermore, the researcher clarified the term "synchronous online" to mean any type of class that takes place in real-time but not in person. These classes would likely be those that are held in Adobe Connect or Zoom. Participants were told that the use of "Adobe Connect" and "in-person classroom" were suitable differentiators for the discussion.

Immediately following each session, the researcher utilized Trint.com to transcribe the recordings into text, which were paired with the researcher's notes. A process of open and axial coding was used to allow themes to emerge from the participants' words and to connect with the Tipec Framework (see Appendix H) which was utilized by the researcher to help with the construction of themes and categories for online learning satisfaction. An interview protocol was utilized to guide the discussions (see Appendix E). One week after each focus group, a member was selected at random to hear an overview from the researcher of the themes that were captured and to verify the accuracy of the data captured.

Participant Demographics

In total, the researcher reached out to a total of 72 participants using the invitation letter in Appendix A. A total of 19 participants responded to the request for volunteers. The researcher selected a random sample of 12 from the respondents and completed a verification of their learning history in the company's LMS to ensure they had completed both a synchronous online and in-person classroom training. Additionally, the researcher verified that the sample represented a balanced geographical demographic. All 12 of the randomly

selected participants met the basic criteria and the researcher sent the participants the selection letter and opt-out information included in Appendix B.

The participants utilized for the focus groups represented a population of the company that was representative of a wide range of job families, job levels, and employee tenures. Additionally, the sample of this population represented four major company locations located in different states and geographic regions within the United States as well as tenures ranging from four months to 12 years. More information about each of the 11 interviewees is included in Appendix K.

Emergent Themes

The following major themes emerged from the focus groups regarding the learning experience between the synchronous online and in-person classroom modalities:

1. While **preference between classroom modalities** could be situational, there was a higher regard for the in-person classroom.

2. When discussing **satisfaction between modalities**, participants associated dissatisfaction with synchronous online classrooms more frequently than they did with in-person experiences.

3. The **physical environment of the synchronous online learner** was viewed as a detriment to a satisfactory experience. Examples of these include frustration for lack of rooms, distractions at desk, ability to multi-task, lack of personal connections, inability to 'see', and inability to move and touch.

4. **Differentiating facilitation and content** in the synchronous online modality could help improve engagement and satisfaction.

5. Participants provided **recommendations for improving engagement** to positively

impact synchronous online satisfaction.

The following discussion is a detailed account of each of the themes and illuminates

the thoughts and sentiments of the focus group participants. Based on the convergent style of

design utilized by the researcher, focus group data was collected independently from the

analysis of the Level-1 survey scores. While Research Question 2 took a statistical approach

and indirectly compared differences for individual questions between two independent

groups, Research Question 3 was based on qualitative data to explore differences in

satisfaction between the two modalities. Information from the focus group findings are

further synthesized with the statistical analysis in Chapter 5.

Research Question 3 Findings

RQ3: "What attitudes and perceptions do corporate learners have about satisfaction

in the synchronous online classroom compared to the in-person classroom

modality?

The third research question was answered exclusively through the focus group data

collected by the researcher. The qualitative data obtained from this research question was

vital to creating a well-rounded understanding of factors influencing classroom modality

preference and satisfaction.

Theme 1: Preference between classroom modalities.

Throughout the course of both focus groups, there were mixed responses regarding

satisfaction between the modalities. When asked directly about which modality they

preferred, some of the participants took a stance of neutrality which was dependent on

specific variables while other participants stated that the in-person modality was their

preferred classroom modality. However, it was notable that no participants cited

synchronous online as their preferred classroom experience. When diving deeper into the situations that warranted neutrality, the participants revealed a number of factors that they took into consideration. For example, Participant N gave a description of the thought process that she went through when weighing the variables that would ultimately help her choose which type of classroom to attend:

> For myself, there's usually a lot of factors or a couple of factors that weigh in on if I prefer the virtual classroom or in person. Who's the audience? Who will be attending? What's the content? What's my schedule look like, for example, I'll get real clear. If this is content… I'm already pretty familiar with, I will go to the virtual versus spending time and energy into travel-time. If it is something that is new information or I think I can meet and network with different folks then I prefer to be in the classroom.

Participant M agreed that his preference was situational and that it, "…depends on the intention and what you're trying to get out of it." He took the topic of the training class into consideration. He noted that many of the trainings were based on the need for role-playing and discussions and based on the topic, he felt that some topics required a broad range of opinions to help him get the most of the experience. He stated,

> I think both serve their purpose. I think being in a classroom setting is really important depending on the material. And then I think Adobe Connect is important too. I, for one, really appreciate the virtual breakout groups and I appreciate being able to connect with people from other sites and I don't think we can accomplish that in a classroom setting unless we all go to the same place. The classroom really allows you to do some deep-dives on things by

connecting with people but Adobe Connect offers you that broad perspective

that allows you to connect with more resources and other viewpoints.

Participant L felt a similar sentiment when she reflected on what Participant M had said. She

added, "I would have to retweet. I really do value the other sites quite a bit…sometimes it's

different things, sometimes the same. It kind of validates what's going on here or opens your

eyes to what else is happening outside of here" (the phrase 'retweet' is corporate slang for

agreement).

Participant Y continued the theme of situational preference when he said, "I think it

depends on the subject for me." His stance was less about how he learned and more about

how long the course would take. He also felt his preference was situational and based on the

length of the content. "You know, a big, long course is much better in the classroom where

as like a one-hour class can be better in a virtual training." This same sentiment was shared

by Participant K and Participant L. The researcher pressed the participants on what length of

time was acceptable for a synchronous online class, which caused the participants to pause.

Participant K finally noted that a "few hours" was acceptable but that "even for an all-day

training…it's very hard not to get distracted with everyday things…." Participant L agreed

with Participant K through non-verbal head nodding.

While situational preference was noted by some of the participants, others felt that in-

person classes were preferred regardless of situation. Participant T felt a preference towards

in-person classes because she felt it challenged her on a more personal level. She stated,

"…as an introvert, I appreciate the classroom environment because it forces me to interact

more than I may in Adobe Connect environment…it pushes me outside my introvert comfort

zone." When pressed to explain this further, she stated, "When you're in a classroom

environment, you almost build a different kind of an atmosphere where people feel more comfortable to ask questions and speak up."

Participant D also preferred the classroom. His response to preference was, "it's just better in the classroom setting than the online." The researcher pressed for clarification and learned he found it difficult to completely focus on in the virtual classroom. He stated, "I would probably choose a classroom versus Adobe Connect and I think for me it's when I'm sitting at my desk taking the virtual trainings, I don't feel as though I'm able to completely disengage from what's around me.... I just feel much more engaged in the physical classroom." Participant K preferred the in-person classroom for a similar reason because he felt it "was more interactive" than a virtual option.

While some felt their preferences were situational, others had stronger feelings about their preferred classroom modality. Participant K felt so strongly about his preference, he cited an example from a previous training opportunity where he had the choice of which modality to attend. "I could go to [company location] for an eight-hour day in the classroom or a four-hour Adobe Connect session and I went for the in-person." The researcher noted that of all the participants in either group, Participant K seemed to have the strongest feelings regarding his preference for the in-person classroom.

Theme 2: Satisfaction between modalities.

Another important theme that emerged from the participants within both focus groups focused on factors that were dissatisfying or detracted from their satisfaction. As opposed to focusing on factors that improved satisfaction, participants tended to highlight experiences or aspects of synchronous online training that they viewed negatively. What emerged was an interesting pattern where positive responses were associated with in-classroom experiences, while negative experiences were more often linked to the synchronous online space.

To commence both focus group sessions, the researcher asked participants to recall a training from their past, from either modality, that was memorable for being satisfactory or unsatisfactory and to share the details of that event. When asked for examples, Participant T cited a monthly leadership development training hosted in Adobe Connect. She explained,

> My experience was actually [long hesitation searching for word] bad and it was due to the fact that I was having connectivity issues. I was getting repeatedly kicked out of my small group so I almost feel I didn't take anything away because I was in and out so often. I couldn't even hear what others were talking about.

When the researcher asked Participant T how that made her feel, she stated, "it kind of became a joke but at the same time I didn't get any of the content…so that was a little bit of a bummer." The researcher noted that Participant Y and Participant I (who were in the same room as Participant T) both nodded their heads as if to agree. Participant Y also added, "What decreases satisfaction I think sometimes with like the Adobe, just the tech issues with it, the latency."

Participant L also had a memorable unsatisfactory experience, but noted that hers had taken place in a physical classroom. For her, the training spent too much time focusing on "retraining" a topic she already felt like she knew. "I felt like kind of the first half of it, it was just kind of a retrain, which is tricky. Whenever I'm kind of really going over the information a second or third time, my engaged level is pretty low." Participant Y provided an insight that related to Participant L's sentiments. He believed that the synchronous online environment was more satisfactory as a modality when the content/topic was less than satisfactory. He said, "I think if they're not bought into the topic…they'd prefer the virtual

classroom because then they can multitask, not pay attention, not be engaged, not participate."

Contrary to the sentiments of Participant L, Participant S cited the same training but he believed that it was "fantastic." For him, the content just seemed to fit better in the in-person classroom setting.

> The structure was incredibly good. The examples that they used were fantastic. The collaboration was good. When they broke you out into groups it wasn't always the same thing. It was a day long training in-person…when you do that in person, there's a lot more interaction. There's a lot more feeling of involvement from both the student perspective, but also for a lecturer teacher.

The researcher followed up with a question asking if Participant S felt his satisfaction would have been different in the synchronous online modality. He replied, "I've always felt a little bit of unease when attending online trainings because I just haven't found them as beneficial or controlled as in-person." Adding to the conversation, Participant J affirmed, "I agree it was great because it was in person, it was structured, it was all laid out…it was nice to have a conversation." Participant L also agreed and added, "I liked it. We seldom get into a classroom as often as we used to."

Participant M also mentioned a memorable training that centered around content and modality. "Something that was the most memorable to me in kind of a negative way was the virtual meditation training." He felt like the synchronous online classroom wasn't suited to that type of topic and that although he was "a huge fan" of the topic, "it was because of the atmosphere I was in or the headspace I was in at the time the training came across, I didn't

appreciate it." The researcher clarified what Participant M meant by "atmosphere" to which he clarified that it was Adobe Connect. Participant Y chimed in and said, "I agree with that one, too. It just wasn't really the right space to be able to meditate or get mindful."

Theme 3: The physical environment of the synchronous online learner.

The most prominent and reoccurring theme that emerged from the focus group participants was related to how the synchronous online learners managed use of physical space to attend trainings online. Two trends became apparent from focus group participant feedback: frustration over lack of available secluded space within the office buildings, and co-location of participants in rooms to attend synchronous online classes as a group.

Participants in both focus groups repeatedly, and sometimes without being prompted, shared countless stories that linked frustrations with rooms to impressions of the synchronous online environment. In fact, commentary about lack of rooms or rooms impacting engagement in synchronous online classes accounted for 17 comments between the two focus groups. In terms of factors that impacted satisfaction in the online environment, this was more than double the second highest theme related to engagement.

Ironically, although the focus group participants were sent individual invitations with login links, some of the participants congregated in physical rooms together in order to attend. Although it wasn't considered a training, they demonstrated how employees tended to congregate into groups in physical locations. When asked about the last classroom training he attended, Participant M noted, "So I was trying to think of an example. I'm in a room with [Participant T] and [Participant I] right now and I kind of looked over and was like, when was the last classroom setting training that I did?" The idea of virtual participants congregating in locations together offered a bit of a juxtaposition. Several of the participants made reference to having difficulty finding rooms for large groups of people to attend virtual

meetings. Furthermore, many of the participants made specific reference to attending

synchronous online classes in groups. For example, Participant D explained:

> I can't vouch for other sites, but here, like our rooms and things are you know,
> it's such a premium being that we share the building with so many other lines
> of business that you don't get a chance to find a quiet location or somewhere
> you and a couple other people can, you know, kind of jump in and attend the
> training together. When there isn't space, I guess it's being taken right at your
> desk and that's like for me one of the most difficult things ever.

Participant D not only explained frustrations with not finding physical spaces to attend the

training, but he also articulated the negative experience of attending from his desk. He said:

> There's so much going around you and your team respects your privacy,
> obviously, you know, like if you tell them, but it's hard for me not to hear an
> associate over there struggling out of one good ear. I'm like, alright, let me go
> over and try to figure out what's going on over there or an associate will say,
> "I don't mean to interrupt, but…" and the next thing you know you step away
> for five minutes…and I come back to the virtual room and I'm like, huh?
> What's happening right now? And, you know, you're kind of lost.

This particular frustration described by Participant D was not a factor for in-person

classrooms. Participant T who provided some understanding of why the physical

environment for the synchronous online learner could impact engagement, and possibly,

satisfaction.

> The one that I like the most about the classroom is the accountability piece.
> You're in a training…and that's keeping you in the room. You're there. If

you're not really participating, that's going to get pretty easily noticed.
Sometimes with virtual that gets a bit harder to manage.

Participant I stated that, "It's ok here for rooms and people generally have booked rooms in advance. Like right now, there's three of us in a room with headsets on. So that's kind of nice." She went on to say that her satisfaction between synchronous online and in-person can be the same: "…as long as I have the room booked."

Although several participants expressed agreement with wanting to find rooms to attend classes, the issue of co-location also seemed to contribute to concerns. Participant K had a less than satisfactory experience when he attended a synchronous online class while he was co-located with other learners. He recounted the story from when the company first decided to adopt Adobe Connect as a virtual training platform. He acknowledged that the company was still "working through kinks," but that factor coupled with a week-long course created problems within the room. "I didn't like sitting in a room with everyone that was in the class because everyone would have side conversations and speak over you. When you're on mute the instructor doesn't know everyone's talking." He noted that the situation became so frustrating that he eventually left the room and attended the remainder of the virtual class from his desk. "It's a long time to just be sitting at your desk." He went on to describe, similar to Participant D, that this setting tended to lead to constant interruptions. His biggest fear from having to attend his synchronous online class from this location was that, "I worried that I would get called on for something by the facilitator, and I'm like, I have no idea where we are. It's hard to remain focused… I have 30 screens. I can easily multitask… (trailed off)."

Beyond the specific comments about environment, the researcher noted that only one participant made a casual reference to working from home. With the exception of that example, no participant in either focus group gave a detailed account or story of attending a synchronous online class individually.

Theme 4: Differentiating facilitation and content.

Participant T was the first participant to provide an example of a satisfactory experience that had recently taken place in the synchronous online environment. His satisfaction was closely linked with the variety of activities and content that were presented during the session:

> …It was one that was just different media. We watched a video and then we had some conversation and then [facilitator name] did some presenting and then we broke up into small group discussion, then came back to a large group discussion.

Participant L verbally agreed with this statement and said she appreciated that, "I agree on the memorable piece in regards to the virtual training where there's kind of those different facets of the room used like breakouts, the lecture, the video. That all made it very engaging." The participants were paying particular attention to how the room was being utilized and how the various activities that took place in a physical classroom to hold engagement had been redesigned in the Adobe Connect platform for synchronous online learning.

Monotony was at the top of Participant J's mind when he noted how his satisfaction was impacted in the synchronous online classroom. In his mind, synchronous online classes felt stagnant and offered limited options for differentiated instruction. Based on his past

experiences, Participant J cited a lack of differentiated instruction and engagement in the synchronous online space that he felt were more prevalent in-person:

> Thinking of virtual classes, you basically have two options: You either follow the lecture content as a larger group or break into breakout groups and either role play or discuss. At least when you're in a physical setting or in person, those breakout activities can just be so much more than having a conversation, whether it's getting up and moving around the room, writing on posters on the side of the walls or whatever it might be, there's just so much more to keep people engaged where the virtual learning seems to kind of follow the same structure every time…chat, breakout, chat, breakout….

Participant G had a similar state of mind with reference to the synchronous online classroom learning. For him, there were a lot of "big key things" that kept him engaged in a physical classroom that weren't always present online.

> [The physical classroom] got you up and moving around. When you're doing activities that involve working in groups and moving, it keeps you engaged. Not just sitting and listening to a screen the entire time…. When it's relatable like that, it's something that's going to be retrained.

Participant S seemed to share in this understanding and felt that content wasn't always designed appropriately for the synchronous classroom experience. He was hesitant at first to share, saying, "I don't want to throw anybody under the bus," and then continued to say, "sometimes I get the impression that some of the events, especially when you go into breakout groups, they're not exactly the most well thought out activities." The researcher asked him to articulate, and he continued,

There's not been a training which I would define as terrible, but there have

certainly been trainings I've been a part of which have had terrible elements

within…quite often I've been in these breakout groups and there is a comment

by myself or other people, "Does anybody know what we're supposed to be

doing?" Quite frankly, I feel like I have to make something up to be a part of

the conversation.

When the researcher inquired as to how modality might have impacted this situation,

Participant S stated, "I feel as an instructor, you grasp more of a command of the classroom

environment."

Participant M recounted an interesting observation regarding the effectiveness of

facilitators between the synchronous online and in-person modalities. He reflected upon an

observation related to the skills of facilitators. He described one of his favorite facilitators as

being incredibly effective at telling stories, managing the classroom, monitoring and

adjusting to learners' needs, and creating an atmosphere that was welcoming and fun. He

stated, "I think she does a fantastic job, but I appreciate [facilitator name] more in person

versus virtual. In the classroom she commands the room and keeps everyone accountable.

Eye contact, voice…she kind of surveys, walks back and forth and it's engaging." When

asked why he thought he had this preference, Participant M clarified, "That's not to say she

doesn't involve people virtually. I think she does a good job in both places." Participant T

jumped into the conversation where Participant M left off and said,

I think that there are some facilitators that have more ability to make virtual

interactive even if folks or individuals aren't being interactive. [Facilitator

name] adapts things more in virtual than some others. She reads the room,

even though it's not in-person. I think that does build a different kind of environment and I've had facilitators who have done that very well in the virtual space. When they haven't done that in the past, I have been kind of at a loss.

The researcher made a clarifying statement to say, "it sounds as though I am hearing you say that facilitators need to have a different set of skills online?" Participant T added, "yes, almost like a sixth sense."

Participant H was aligned in her view on facilitators needing to use different skillsets to design content and engage audiences with online tools. "I like a facilitator that's able to balance all the complexities of virtual communication coming in and out while still trying to hit home on the messages they are trying to get across…." Instead, Participant H liked to see facilitators adapt strategies they would use in the physical classroom for the virtual space. For example, she suggested "demoing live for us versus staring at slides for a 5-20 minutes." When it came to recommendations for improving satisfaction in the synchronous online classroom, one of the more resounding sentiments was that facilitators needed to use more online tools to create engagement. Participant H said,

Encourage video. Get on using the different tools! Sometimes we get into a virtual system and then it's just like, what's being presented and maybe chat. Use the virtual icons… I need to have movement on my screen to keep my attention here. I want to see people on my screen if I'm going to sit there that long.

Participant L also played into the theme of facilitators and their ability to differentiate classroom management. He noted that, "when it's virtual and if people aren't participating

from the beginning, that just continues to roll downhill." He referred to it as "social flow" and that facilitators needed to adopt techniques that kept that flow moving to minimize distractions and focus attention. Participant L noted, "I know it can be a little tough in the moment, but I actually really appreciate when you get a facilitator who will just call up people randomly within the room, pushing engagement, even when it's not necessarily voluntary." Because of the researcher's role in helping to build the synchronous online facilitator training, he was familiar with this method of differentiated instruction. The researcher noted this recommendation by Participant L as especially noteworthy as it directly connected to a classroom management strategy taught to the company's Adobe Connect facilitators during certification training.

Research Question 4 Findings

      RQ4: "What recommendations do participants have for improving satisfaction in the synchronous online classroom modality?"

In an effort to better understand sentiments towards satisfaction in the synchronous online classroom, the researcher asked participants to consider the Level-1 survey and provide recommendations that would align with any of the seven primary categories (program interest, engagement, pace, content, facilitator, expectations, or relevance).

While participants offered a variety of recommendations, the primary themes focused on increasing engagement. Participants felt that any efforts to increase the learners' level of engagement would lead to returns in how people reported and felt about satisfaction in the synchronous online modality. Participant K noted, "for me, the things that increase my satisfaction, I have to be engaged in the topic for me to really feel like I got a lot out of it." In many ways, the learners equated most of their current frustrations with synchronous online

involved variables that decreased their ability to engage in the class. Suggestions ranged from tactical (securing dedicated spaces for synchronous online learners), to the pedagogical (building a safe learning experience) to technological (taking advantage of more virtual tools to break the monotony of the experience). Ultimately, their recommendations mostly aligned with the theme of improving engagement.

Theme 5: Recommendations for improving engagement.

Setting up dedicated spaces for synchronous online learners to attend class free from distractions, was the top recommendation from the group for improving engagement. Participants felt that rooms within their buildings were really at a premium in some places. Participant H said, "private facilities definitely are a make or break for the training to be a wow." Participant I noted this was especially true for associates who did not have their own computers, as it meant that if they didn't have a room, they were forced to stay at their desks. Additionally, Participant I noted that, "As long as I have a room booked to attend in the virtual setting, I feel like satisfaction between the modalities is pretty similar."

Giving synchronous online classrooms an equal footing, offers a better opportunity to truly measure its impact. This resonated with Participant D who felt his engagement would improve if he, "was in a secluded area where I could actually focus in." Whether it was setting aside a classroom or offering learners the opportunity to work from home, the participants felt that dedicating space would be a win for improving satisfaction.

Second only to engagement, participants felt that the facilitator played an important role in the satisfaction of their experience. Participant M stated, "I agree with engagement being the most important and I'm going to add, something that can apply in both modalities to improve satisfaction is when my learning was enhanced by the 'knowledge and experiences of the facilitator'" [quoted material was the participant reading the Level-1

question]. When asked about opportunities for facilitators to improve in the synchronous online space, participants noted that sometimes the synchronous online classroom can be uncomfortable due to various levels of seniority and the inability to make robust personal connections. Participant K described this experience in detail when he said:

> I fear every time in virtual classes when we say we're going to go into breakout rooms. Like it's just like because I don't know who I'm going to be with. I can't see anyone if I see that I'm in there with a leader, I'm not saying I'm proud of this, but I will step back and be like, OK, They're above me, so are they gonna take reins on this? And I know like when they're not very interactive, I get discouraged. And I think associates feel the same way.

Participants felt that engagement could be improved if everyone in the classroom felt comfortable in that space. Participants felt that this happened more organically in a classroom setting because connections were easier to make informally. To help address this, Participant L indicated that the facilitator may need to structure interactions more thoroughly and more frequently.

> We need more ice breakers, even when we get into a virtual room of three or four people. You know, I know [Participant K] called that out earlier, sort of waiting to see who is going to take lead depending on the leveling, of who he's in the room with. The facilitator can help build that trust.

Engagement can be improved by building trust amongst the participants to break down power dynamics. The facilitator is the leader of the classroom environment and has a responsibility to own the interactions and feel of the room. Building comfort for all

participants so that they can be without social fears will reduce the likelihood that they will withdraw and disengage from the experience, thus improving satisfaction.

Qualitative Summary

The findings derived from the focus groups provided interesting insights into learners' sentiments towards synchronous online learning and how they form learning satisfaction. Additionally, the participants helped contextualize the Level-1 survey data collected from the company's LMS. While many of the insights proved to align with findings from the literature, some departures were present especially with regard to factors specific to the corporate environment that are less prevalent in traditional educational settings. A detailed convergent analysis of both the quantitative and qualitative data are presented in Chapter 5.

CHAPTER 5.   DISCUSSION AND RECOMMENDATIONS

Overview

There is no doubt that the synchronous online learning modality has changed the very nature by which classrooms are defined. Technology has vastly changed these classrooms in a relatively short period of time and the status quo for a synchronous online classroom experience is still in flux. While other forms and modalities of online learning have been given a significant amount of attention and study, synchronous online classrooms remain somewhat out of sync. Learners and teachers from K12 to corporate have the ability to transcend the barriers of space and time to learn in an alternative setting, but there is some debate about how satisfactory that experience is compared to traditional classrooms. While numerous researchers have studied the impact of modality on learning satisfaction, few researchers have given attention to fully synchronous online experiences. Additionally, corporate training classrooms across the globe rely on tactics and strategies derived from best practices in education, yet the bodies of research providing strong recommendations to develop better programs are lacking. Corporate environments have also been some of the biggest consumers of synchronous online classrooms to deliver personalized training, in real-time, to employees from broad geographic dispersions.

This study was driven by the researcher's professional need and personal curiosity to understand how learners in the corporate setting felt their learning satisfaction was impacted by the synchronous online classroom experience. As a former educator and corporate training administrator, the researcher has been involved in many efforts to prepare synchronous online facilitators and to maximize the satisfaction of the training experience for employees across the globe. However, the researcher recognized a problem in that his

framework for design and delivery was based on a different population of learners in a different modality. To that end, the researcher embarked on quest to fill the void in the literature with regard to factors impacting learning satisfaction in the synchronous online corporate training classroom.

The overarching question for this researcher was, "how does learning satisfaction in the synchronous online classroom compare with similar experiences facilitated in a physical classroom in the corporate training environment?" To help answer this question, four-sub questions were utilized to explore learning satisfaction:

RQ1: "Does the synchronous online classroom modality have a higher, lower, or equal level of Level-1 survey composite scores compared to traditional in-person classrooms?"

RQ2: "How do the scores of the categorical Level-1 questions differ between the synchronous online and in-person classroom modalities?"

RQ3: "What attitudes and perceptions do corporate learners have about satisfaction in the synchronous online classroom compared to the in-person classroom modality?"

RQ4: "What recommendations do participants have for improving satisfaction in the synchronous online classroom modality?"

A mixed-methods convergent approach to the research was selected as the best option to acquire the data needed to explore satisfaction fully. The researcher worked at a Fortune 125 company and had direct access to data within the learning management system. To explore how satisfaction compared between the modalities, four years of historical learner-satisfaction data was pulled from post-class Level-1 surveys for courses that had been

delivered in both the in-person and synchronous online classroom modalities. In total, 15,577 learner responses were collected, separated by modality, and analyzed in SPSS 26. The researcher utilized an independent-sample t-test to check for mean differences between scores. While this method provided a generalized comparison of how learners rated experiences, the Level-1 survey did not directly measure satisfaction between modalities. The researcher wanted to understand how learners felt about the synchronous online experience and their perceptions of how factors impacted their experience either positively or negatively. Two focus groups of company employees were run using a small, random sample of participants from a department that represented a broad range of employee demographics.

The statistical analysis of learning satisfaction survey data yielded a significant difference in the scores reported by learners, with in-person classes receiving a higher overall score than synchronous online classes. The focus group results yielded a similar discovery, with participants indicating a preference for in-person classroom experiences and providing recommendations for improvement in the synchronous online classroom. The participants of the two focus groups had a generally similar sentiment about the two classroom modalities that somewhat mimicked the statistical results of the first research question. Although there was a preference by a majority of the participants to attend trainings in-person, the majority also noted that they tended to feel a similar level of satisfaction for both modalities. Additionally, the participants highlighted some of the critical factors that were unique to the synchronous online classroom, which provided a basis for a robust discussion on how the experience can be improved.

Interpretation of Findings

Many of the results of this study aligned with other studies that focused on satisfaction in online environments. The synchronous online classroom did rate lower in satisfaction when compared to the in-person classroom modality, and the focus group participants cited factors influencing their satisfaction that aligned with the literature (technology issues, lack of personal connections, differentiated instruction, negative past experiences, self-efficacy, etc.). However, there were a number of interesting revelations that emerged from this study that offered glimpses into synchronous online satisfaction that appeared to be unique. The following details provide a convergent synthesis of both the quantitative and qualitative data blended together (and sometimes independently) to form a more robust view of satisfaction in the synchronous online classroom.

The statistical analysis of the learner satisfaction data revealed a statistical difference in the Level-1 composite scores between modalities. However, it is important to note that these results do not seem to be of much practical importance. When looking at just the means of individual questions, the differences were infinitesimal. Additionally, the mean composite scores differed by a few points, which when divided out, could equate to one or two categories scoring a few points lower. From a practical standpoint, instead of saying that the scores are "statistically significant" it seems almost more apt to say that the scores are "nearly equal."

When blending the idea of the statistics with the focus group results comparing in-person and synchronous online classrooms, there emerged a similar sentiment of "statistically different, but nearly equal." While no participants definitely said that synchronous online was their preferred modality, many indicated that it can be equally as satisfying as in-person

classrooms when conditions are right. Furthermore, participants also indicated that it can be situational in their decision. There were participants in both focus groups that said they preferred the in-person classroom modality, and this leads the researcher to believe that in-person classes seem to serve as the default modality by which everything else is compared. Participants mentioned that preference for synchronous online can be situational. One could infer that if the ability to choose a modality is not an option, satisfaction might be impacted. Learners may not mind having to attend an in-person classroom as that is what they are used to. However, if learners are forced into a synchronous online experience, the satisfaction may be impacted. Overall, the information comparing the satisfaction between modalities seems to show that there is a difference, but the gap may be circumstantial in some cases.

The focus group participants were quoted as saying that they felt the modalities have the ability to be equal when the conditions are right. What also became apparent is that, in most cases, the conditions for synchronous online classes is not right. Our societal understanding of education has formed over numerous generations and it may seem as though what has been done will always work. What emerged from this study is that synchronous online classrooms *can* be satisfying, but requires proper environmental conditions for learners, facilitators who know how to adapt their teaching, content, and approach to building trust. While other factors such as technology are sometimes difficult to account for, there is room for improvement to bring the synchronous online experience into a more comparable frame of reference.

Another important convergent theme that emerged related to the synchronous online satisfaction being lower than in-person classes, is that there is no indication that synchronous online classes are "not satisfactory." In fact, when looking at the distributions of the scores

for both modalities, trainings at this organization generally tend to skew towards the upper end of satisfaction. While there is still a difference between the scores of the modalities, it is important to recognize that synchronous online classrooms were regarded as satisfactory, and in many cases, they provided a preferred experience for learners, as cited by members of the focus groups.

Recommendations for Action

The outcomes from this study suggest that there are still opportunities to further explore the impact of the synchronous online classroom in a tested manner. There are numerous educational resources available that offer methodologies for enhancing the synchronous online experience, but there are very few scientifically tested methods. Since synchronous online classrooms are on the rise in both the corporate and educational sectors, this study provides an opportunity for educators and administrators to begin laying the groundwork for change. While synchronous online does rate lower than in-person classroom experiences in terms of satisfaction, the results of this study reveal that it is not unsatisfactory and provides a fairly robust alternative to classrooms. As was mentioned earlier in Chapter 1, one of the limitations of this study was the inability of the researcher to verify the reliability of the Level-1 survey utilized by the company.

Within the organization where this study took place, there is a clear need to establish a process to accommodate for the physical learning environment when attending synchronous online trainings. Checking out rooms and classrooms for larger groups of learners to congregate to attend the synchronous online classroom is counter-intuitive to the method for which it was designed to deliver learning. While congregating in a room is not wrong per se, participants clearly demonstrated that it doesn't offer an ideal condition.

Instead, the company should consider investing in quiet spaces that do not require participants to reserve and are clearly designated for synchronous online experiences. Alternatively, for longer trainings and for employees that have the ability to do so, logging in from home provides less distractions from the office.

Corporate facilitators also have an opportunity to learn from this study. While it may be assumed that participants are exclusively engaged with the learning environment, the results of the focus group indicate that it is far easier to multi-task when computers offer a gateway to so many other distractions, including other forms of social interaction. Facilitators have an opportunity to set stronger expectations for learners and to utilize strong classroom management tactics to reinforce positive behaviors and transcend the transactional distance.

There is also a need to build better training to prepare facilitators for the online experience. For any organization that utilizes synchronous online platforms, whether in part or in full, has an opportunity to align factors that increase satisfaction with specific strategies that are expected of facilitators. Deans, learning technologies, curriculum directors, corporate learning managers, and even higher education faculty have an opportunity to learn from this study to build a program or resource to support facilitator development. The company that was at the focus for this study does provide an in-depth certification process for facilitators who teach in the synchronous online modality. That particular certification teaches tactics for differentiating instruction and content and modifying classroom management to create an inclusive and engaging classroom experience. However, what becomes apparent is that there are still gaps. Participants talked about the monotony of synchronous online experiences lowering their satisfaction, and that is the very thing

facilitators in this organization are trained to avoid. There is a common belief within this organization that synchronous online trainings should offer a completely different experience from synchronous online meetings, and with some small changes, this philosophy can continue.

There is a great deal of literature that exists regarding the recommendation for differentiated instruction, but it's clear that differentiating style and reaffirming that style are important to create an experience that is on-par with the in-person classroom. If these recommendations can be implemented, there is an opportunity to begin shifting the way society views the classroom experience. In many cases, the recommendations from this study are not so far-fetched that they require a great amount of resources and design.

Implications for Social Change

The synchronous online environment should be treated as a classroom, not a meeting. Participant H even commented, "Zoom we use every day for many meetings and Adobe Connect pops in when there's a learning moment. Adobe Connect there's more various ways that L&D [Learning and Development] can do things to facilitate learning, which I like." Playing off of the theme of environments, the researcher was particularly struck by the resounding comments made by learners regarding their physical space causing them to disengage, and therefore become less satisfied with their experience.

As a former administrator for the company's Adobe Connect training platform and as a core member of the team responsible for building out synchronous online classroom trainings, guidelines and best practices, the researcher was awestruck by comments that participants are struggling to find spaces and that it was not uncommon for participants to all attend a synchronous online training in the same room. In fact, facilitators are encouraged to

not being a class until participants find quiet locations that are not co-located and pre-class communications clearly state that "participants should not share computers or rooms when attending an Adobe Connect class." Participants cited that they tend to tune-out or disengage from a synchronous online class because their environment is distracting. This is an enlightening glimpse into what could be a more systemic problem. Additionally, while there are some references in the literature regarding environment, little has been suggested or tested. Better recommendations need to be established for learners.

Just like in the classroom, virtual facilitators need to be "the guide on the side, not the sage on the (virtual) stage." For example, instructors should adapt the way they engage participants and reaffirm the APPLE method that is prescribed during the company's Facilitator Certification Training. APPLE, which stands for "Ask, pause, pick, listen, evaluate," is a method by which a facilitator informs the class that a participant will be called on to answer a question. The question is framed, all participants are given time to think, the facilitator chooses a participant to answer, the answer is evaluated, and then the facilitator evaluates and provides meaningful feedback. This method is directly designed to avoid the dreaded question that is lobbed out for any participant to answer. As the participants pointed out in the focus groups, if comfort is not present, and facilitators do not have physical proximity to monitor body language, there might be a tendency to disengage, thus leaving the question hanging in the air, slowing down the pace, and further driving participants to disengage.

While facilitator training content is important, the way in which it is delivered and assessed is equally as important. The participants in the focus group called out the fact that good classroom facilitators do not always make good synchronous online facilitators. This

tends to be from the simple fact that classroom facilitators are trained on the same principles and instructional practices as K12 and higher education educators. The skills that they have learned have formed over lengthy periods of time. To create the same experience for the synchronous online space, facilitators need explicit training and assessment. The company's Facilitator Certification Training is 3-days in length and includes role-playing, virtual hands-on experience, and an assessed teach-back to demonstrate synchronous online facilitation competencies. Those same competencies are listed in Appendix L. It is clear to the researcher that while training is making a difference, as called out by focus group participants, there is still room to further train facilitators and to reinforce the skills that make the synchronous online experience more satisfactory.

Recommendations Future Studies

There are a great number of future studies that the researcher envisions as next steps to this study. First and foremost, while the volume of survey responses for this study offered a robust opportunity to analyze satisfaction, the results were not collected under a controlled environment. One of the focus group participants noted that they tend to only fill out the surveys when they have something positive or negative to say about their experience. As such, the researcher would like to see a controlled study with participants randomly divided into groups to attend training in different modalities. A future study could include the development and deployment of a more detailed questionnaire specific to the study and specific to the constructs of synchronous online satisfaction.

Additionally, the researcher believes there could be great value in expanding the qualitative analysis for understanding satisfaction by reviewing the free-form fields submitted on the Level-1 surveys. The researcher had 147,315 individual comments that

were pulled along with the four years' worth of survey results. These comments offer a robust opportunity to further explore satisfaction by modality.

Finally, the corporate and education worlds do differ in the types of learners and content that is delivered. However, at the core, there are a lot of opportunities that are synergistic. Many of the learners from traditional educational institutions move on to join workforces that incorporate various elements of learning and development within training. To better gauge how the formulation of factors influencing satisfaction, a future study comparing synchronous online satisfaction between different populations of learners could indicate if the synergy should be closer or more contrasted between educational practices.

Researcher Reflection

The purpose of this research was to address significant gaps that exist within the literature related to online learning satisfaction. While studies exist to help understand satisfaction, most treat online learning as a generalized term and fail to account for drastic differences in types of modality. Additionally, satisfaction studies related to online learning primarily center on traditional institutions of learning (K12 and higher education) and fail to account for other classroom experiences. Beyond academic institutions, many online classrooms exist in corporate and professional development settings. Without understanding these settings, it's difficult to generalize and apply practices and theories without testing. Finally, there is a notable absence of available training for online educators. Understanding factors that influence satisfaction are vital as a number of research studies have linked student satisfaction with retention (Sun et al., 2008; Johnson, 2014, Richardson et al., 2017). The purpose of the study was to fill a gap by better understanding a subset of online learning

in a population that is often overlooked in order to provide recommendations for better teaching practices.

Satisfaction in online learning often lags behind traditional face-to-face experiences in studies related to learner satisfaction. From those studies, some which date back as far as the early 1990s, theories and frameworks have offered indicators as to why learning satisfaction is lagging in online. Moore (1993) introduced an early theory related to transactional distance. In that theory, he stated that technology and time create barriers between teachers and students. This point strongly relates to many of the current studies of online learning satisfaction that have identified a number of variables that come into play that cause learners to form satisfaction. For example, Johnson (2014) noted that interaction is vital to satisfaction, but that it looked different in the online environment than in the physical classroom. While this concept remains true, the degree of interaction and how it is facilitated can vary greatly by the medium. A synchronous experience looks very different than an asynchronous experience. Separating these terms out is important to see if the practices on interaction for each modality are the same or different.

After completing this study, the researcher felt that there were a few surprises with the data collected. Having previously worked and educated in online classrooms and after doing an exhaustive literature review for this study, the researcher anticipated a few other themes to surface that remained somewhat muted. For instance, one of the biggest themes in the literature related to participants being dissatisfied with online learning due to issues and frustrations with technology. While the focus group participants did make a few references to technology problems, they did not surface overall as a major factor in influencing satisfaction.

Another surprise for the researcher was the apparent lack of synchronous online facilitator best practices. Although the company's synchronous online facilitator training is limited to just three days, there are a plethora of resources available to facilitators to ensure that synchronous online trainings are held to the highest standard. The researcher would be interested to know if there is a true correlation between the training that is offered to upskill facilitators and the satisfaction outcomes that learners report. Additionally, there is an opportunity to better understand the impact of facilitator training on learner outcomes. The researcher will recommend to the company that they further investigate a future study related to better understanding the phenomenological experience of corporate synchronous online facilitators within the institution.

Synchronous online classrooms offer an amazing opportunity to create a robust and social classroom environment beyond the confines of brick and mortar buildings. From K12 classrooms to corporate training rooms, the synchronous online modality is helping to diversify classroom perspectives, increase access to learning, and redefine the online learning experience. However, there is still work to be done. Corporate learning and development departments need to find opportunities to differentiate the synchronous online experience from the classroom experience. Although the corporate world tends to adopt pedagogical best practices from K12 and higher education, the synchronous online classroom is still mostly uncharted in terms of guiding and grounded principles. Regardless of industry, with continued development focused on improving learning satisfaction in the synchronous online classroom environment, learners will continue to benefit from the evolution of the classroom. Sync or swim, synchronous online classrooms have truly changed the world of education by redefining and reimagining the traditional classroom experience.

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APPENDIX A. RECRUITMENT EMAIL

Dear (Potential Participant Name),

My name is Andrew Burklund and I am currently working on research related to virtual learning in the corporate environment as a part of my fulfillment for a Doctorate in Educational Leadership through Minnesota State University - Moorhead. I am writing to you today with the hope that you will be able to assist me in my research to better understand perceptions around satisfaction within different learning modalities at (Company name).

Specifically, the goal of my study is to focus on learning satisfaction between traditional classrooms and classrooms that are facilitated synchronously online through platforms such as Adobe Connect and Zoom. As virtually mediated classrooms become more popular, it is important to not only focus on levels of satisfaction, but the specific factors that contribute to learning satisfaction. By using a combination of Level-1 survey data from the Learning Management System (LMS) and focus group interviews, it is my hope to better understand learning satisfaction at (company name) and analyze if recommendations can be made to better classroom experiences.

In order to best serve the needs of this study, I am seeking participants from (department name) who have attended both an in-person and synchronous online classroom experience in the last 6 months. If you are willing and able, I would like to invite your participation in a 90-minute focus group to discuss learning satisfaction. Your participation in this study is completely voluntary and all of your information collected about you will be kept confidential. Additionally, after the completion of the study, you will be provided with additional study information including an option to review the data collected. There are no perceived risks to participating in this study and your information will not coincide and/or interfere with any functions of your employment.

If you opt to take part in this study, your formal learning history will be cross-referenced in the Learning Management System to ensure you meet the criteria for the study. You will be invited to attend one of several scheduled 90-minute virtual focus group sessions. The dates of the focus groups will be shared upon your acceptance into the study. You will also be able to withdraw your participation at any time.

Thank you for the time to consider being a part of this valuable study. Your participation will help improve the quality of learning experiences at (company name). I look forward to hearing from you soon!

Please respond to this email with one of the following:
YES! I would like to be considered for participation in your study.
No. Unfortunately, I am not eligible and/or not able to participate in your study at this time.

Sincerely,

Andrew Burklund
Doctoral Student Researcher
Minnesota State University - Moorhead
(320) 224-7174
andrew.burklund@go.mnstate.edu

APPENDIX B. PARTICIPANT SELECTION LETTER

Dear (Name),

You are receiving this email because you recently volunteered to participate in a study that I am conducting regarding learning satisfaction at (company name). Based on a review of your information, I would like to invite you to be a contributor on a 90-minute virtually held learning satisfaction focus group! Your participation in this study will help build a better training environment at (company name). Because this is a voluntary study, this letter provides basic information to help you make an informed decision about whether or not you wish to participate. Please be aware that this study is not required and does not impact your employment, performance management, or relationship with members of the training team.

The purpose of this study will be to better understand factors that influence learning satisfaction between virtual and in-person synchronous training classrooms. Insights from participants may help to shape the development of future trainings for new training facilitators and instructional designers. There are no known risks associated with participation in this study.

I would very much like to thank you for your time and allowing me to learn a little more about your learning experiences. I want to reiterate to you that your responses and information for this focus group, and any subsequent interviews, will be kept strictly confidential. Please review the dates and times for the focus groups below and indicate your first and second preference, sign, and return to me. I will send a calendar invite as a placeholder once I hear back from you.

    DATES & TIMES

If you any questions after today, or if you wish to voluntarily withdraw from the study, please feel free to reach out to me via email at Andrew.Burklund@go.minnstate.edu or via phone at (320) 224-7174.

Sincerely,

Andrew Burklund
Doctoral Student Researcher
Minnesota State University - Moorhead
(320) 224-7174
andrew.burklund@go.mnstate.edu

Date:_____

Participant Signature:_____

Researcher Signature:_____

APPENDIX C. PARTICIPATION DECLINE EMAIL

Dear (Name),

You are receiving this email because you recently volunteered to participate in a study that I am conducting regarding learning satisfaction at (company name). At this time, you do not meet the criteria for participation in the study. However, I would like to sincerely thank you for your time and consideration.

I would very much like to thank you for your time and allowing me to share my work with you. If you have any questions, or if you would like to discuss this study in more detail, please do not hesitate to reach out.

Sincerely,

Andrew Burklund
Doctoral Student Researcher
Minnesota State University - Moorhead
(320) 224-7174
andrew.burklund@go.mnstate.edu

RESEARCH CONSENT FORM

Title: Synchronous Online Classrooms: Understanding Factors Influencing Corporate Learner Satisfaction.

Purpose: The purpose of the study is to contextualize and explore the factors influencing learner satisfaction in the corporate education synchronous online classroom. The goal of our research is to identify the major detractors that negatively impact learning satisfaction in synchronous online sessions compared to traditional face-to-face learning environments.

Study information: This study will consist of focus groups of 6-10 participants who will meet in a virtual setting (Adobe Connect) to discuss factors influencing satisfaction with varying modalities of synchronous learning (online and face-to-face).

Time: Participants can expect to the focus group to take no longer than 90 minutes. The focus group session will be conducted in one solid block of time. Dates will be communicated via Gmail calendar invite.

Risks: Participation in this study caries little to no risks for participants. Answers will be kept confidential, and while the goal is to improve synchronous online learning, this does not guarantee such an outcome.

Benefits: Participation may help improve the associate experience and satisfaction with synchronous virtual

Confidentiality: Participant's identity will not be shared with anyone beyond the researcher, Andrew Burklund. All individual information will be coded and tracked under an identification number and not the participant's name. All results will be published without identifying information. Furthermore, all responses are independent of (company name) performance and job management processes and will have no impact on employment status.

Participation and withdrawal: Participation in this study is optional. Associates can choose not to participate or may choose to withdraw at any time without any negative effects on performance management or employment status.

Recording: During the collection of focus group data, a recording of the session will be created for note-taking purposes. By signing this form, participants understand that information collected is for capturing data pertinent to the research and will be kept confidential.

Contact: If you have any questions about the study, you may contact any of these people:

Andrew Burklund Lead Researcher Sr. Learning Associate (company name) Human Resources ph. 320.224.7174 email: Andrew.burklund@go.minnstate.edu	Dr. Boyd Bradbury Professor, School of Teaching and Learning, Lommen 241N College of Education and Human Services Minnesota State University Moorhead ph. 218.477.2471 email: bradbury@mnstate.edu

Any questions about your rights may be directed to Lisa Karch, Ph. D., Chair of the MSUM Institutional Review Board, at 218-477-2699 or by lisa.karch@mnstate.edu.

You will be given a copy of this form to keep.

"I have been informed of the study details and understand what participating in the study means. I understand that my identity will be protected and that I can choose to stop participating in the study at any time. By signing this form, I am agreeing that I am willing to participate in the study and understand that my answers will be audio/video recorded. I am at least 18 years of age or older."

_____   _____
Name of Participant (Print)   Date

_____   _____
Signature of Investigator   Date

_____   _____
Signature of Investigator   Date

APPENDIX E. INTERVIEW PROTOCOL

FOCUS GROUP INTERVIEW QUESTIONS

The following interview protocol is derived from "Designing and Conducting Focus Group Interviews," by Richard Krueger (2002).

Welcome

Hello and welcome to our Adobe Connect session to discuss learning satisfaction at (company name). Thank you for taking the time to join me. My name is Andrew Burklund, and I am currently an HR project manager and formally a product owner for (department name). As most of you know, I am currently working on my doctorate in education at Minnesota State University in Moorhead, MN. I have invited you all to participate in a study I am conducting regarding synchronous online learning satisfaction. For those that are unfamiliar with the terminology, synchronous online learning refers to the live delivery of instruction mediated by a technology which does not happen in-person/face-to-face. At (company name), we typically refer to these types of trainings as VILT or Virtual Instructor Led Trainings. As an example, in the (company name) environment, this would include classes that are facilitated through Adobe Connect, Zoom, or Skype. I want to know more about what you like, what you don't like about all your classroom experiences at (company name).

You have been invited to be a part of today's session because you have taken both in-person classroom classes as well as some form of synchronous online learning.

There are no wrong answers for our conversation today. Please feel free to share your point of view even if it differs from what others have said. Keep in mind that I am just as interested in negative comments as I am positive comments.

I want to inform all of you that I will be recording today's session so that I do not miss any of your comments. People often say very insightful things during these discussions and I want to have an opportunity to explore those more fully following our session. I will be referring to each of you by your first name, but I will not be recording names in the final publication of my report. You may be assured of complete confidentiality and that your answers will not be shared or published with your name. Your answers will help identify factors influencing satisfaction in the synchronous online learning classroom and help develop future training for synchronous online facilitators and instructional designers.

Does anyone have any questions I can answer before we begin?

Please start by sharing your first name, what you do, and how long you have been working for (company name).

QUESTIONNAIRE:

- When was the last time you took a virtual instructor led class at (company name) and how was the experience?
- Tell me about positive experiences you've had with virtual instructor led training?
- Tell me about disappointments you've had with virtual instructor led training?
- I'd like you all to think of three things that are important to you as a learner when you attend any class or training at (company name), whether that is in-person or in a virtual classroom. What are those three things and what impact do they have on your learning satisfaction?
- If you had to pick only one factor that was most important to you from the list above, what would it be? You can pick something that you mentioned or something that was said by others.
  - Possible follow-up: Does that factor change based on modality?
- If given the opportunity between taking a class virtually or in-person face-to-face, how would you decide which modality to take?
- How do you stay engaged when you attend a class/training? What creates that engagement for you?
- From a professional context, what types of learning content delivered in classroom settings interest you most?
- How would you say that pacing differs between virtual and face-to-face classes?
- How would you define your learning style? What does your perfect classroom experience look like?
- When you think about the modality you like best, what comes to mind first, virtual instructor led trainings or in-person face-to-face? What factors influence your choice?
- What kinds of content are better suited for delivery in a virtual instructor led training?

Last question:
- Regarding satisfaction between synchronous online and face-to-face classroom experiences, is there anything important that you think we did not cover today that should be mentioned?

APPENDIX F. RESEARCH PARTICIPANT DEBRIEF FORM

Debriefing Form for Participation in Synchronous Online Corporate-Classroom Satisfaction Research Study

Thank you for your participation in this study! Your participation is greatly appreciated and will help steer best practices for future synchronous online classroom facilitation and instructional design.

Purpose of the Study:
    We previously informed you that the purpose of the study is to contextualize and explore the factors influencing learner satisfaction in the corporate education synchronous online classroom. The goal of our research is to identify the major detractors that negatively impact learning satisfaction in synchronous online sessions compared to traditional face-to-face learning environments.

Confidentiality:
    You may decide that you do not want your data used in this research. If you would like your data removed from the study and permanently deleted, please contact:

Andrew Burklund
Lead Researcher
phone: 320.224.7174
email: Andrew.burklund@go.minnstate.edu

Useful Contact Information:
    If you have any questions or concerns regarding this study, its purpose or procedures, or if you have a research-related problem, please feel free to contact the researcher or the Chair of the research dissertation committee:

Dr. Boyd Bradbury
Dissertation Chair
Minnesota State University – Moorhead
bradbury@mnstate.edu

Your Rights in this Research:
    If you have any questions concerning your rights as a research subject, you may contact:

Dr. Lisa I. Karch,
Chair of MSUM Institutional Research Board
email: lisa.karch@mnstate.edu
phone: 218-477-2699

<u>Findings & Final Report:</u>

If you would like to review a copy of the study outcomes and/or receive a copy of the final report of this study (or a summary of the findings) when it is completed, please feel free to contact Andrew Burklund.

<u>Further Reading(s):</u>

If you would like to learn more about Online Learning Satisfaction please see the following references:

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Kimiloglu, H., Ozturan, M., & Kutlu, B. (2017). Perceptions about and attitude toward the usage of e-learning in corporate training. *Computers in Human Behavior*, *72*, 339-349. http://dx.doi.org/10.1016/j.chb.2017.02.062

Parahoo, S. K., Santally, M. I., Rajabalee, Y., & Harvey, H. L. (2016). Designing a predictive model of student satisfaction in online learning. *Journal of Marketing for Higher Education*, *26*(1), 1-19. http://dx.doi.org/10.1080/08841241.2015.1083511

Please keep a copy of this form for your future reference. Once again, thank you for your participation in this study!

APPENDIX G. COPY OF COMPANY LEVEL-1 SURVEY

COUiLearn

Survey Request

Your feedback is important to us!

You completed a class at ⬤ and we want to hear about your experience! To make it easy for you to provide feedback, we've added a survey to your Learning Plan.

CliftonStrengths Team Session
Complete by: 1/11/2020

This survey will only be available for a few days (30 - to be exact), so get started right away and give us the details while they're still fresh in your mind – what you liked or didn't like, and any other feedback that is relevant to the course. Help us make the learning experience better for all our associates. We're all ears!

View My Learning Plan   Help

Learning ∨

My Learning   Instructor

← Back

Survey

Title: ▮▮▮▮▮ Course Evaluation (Valid: Aug 2006 - May 2018)
Scheduled Offering: This is a class for registered users of Adobe Connect
Instructor: No Description
Location: No Description

This Survey is anonymous

[Save] [Close] [Previous Page] [Next Page]

Page 1 of 2

Please indicate your level of agreement					
1. The program held my interest.					
N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○	○
2. Participants were well engaged during the session.					
N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○	○
3. My learning was enhanced by the knowledge and experiences of the facilitator.					
N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○	○
4. I was comfortable with the pace at which the facilitator presented the content.					
N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○	○
5. I am clear about what is expected of me as a result of going through this training.					
N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○	○
6. I intend to use what I have learned in my current role.					
N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○	○
7. I am satisfied with my learning experience.					
N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○	○
8. I am satisfied with the content received during the training session.					
N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○	○

9. I would recommend this course to others.

○ Strongly Agree
○ Agree
○ Neutral
○ Disagree
○ Strongly Disagree

[Save] [Close] [Previous Page] [Next Page]

← Back

Survey

Title: [blue box] Course Evaluation (Valid: Aug 2006 - May 2018)
Scheduled Offering: This is a class for registered users of Adobe Connect
Instructor: No Description
Location: No Description

This Survey is anonymous

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Please provide comments

1. What did you learn that you plan to apply back on the job?

3890 character(s) remaining

2. What did you find to be the most valuable part of the session?

3990 character(s) remaining

3. Are there ways the facilitator could have made the session more engaging for you?

3890 character(s) remaining

4. What barriers do you anticipate that will make it difficult for you to apply what you have learned?

3890 character(s) remaining

5. Please describe any technical or environmental challenges you had with your learning experience.

3990 character(s) remaining

6. What additional help do you need to be successful in your efforts?

3890 character(s) remaining

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APPENDIX H. ALI, SAMAN, & UPPAL (2018) TIPEC FRAMEWORK USED FOR INITIAL CODING

Technology
1. Software and interface design
2. Virus attacks
3. Compatible technology
4. Bandwidth issue and connectivity
5. Technical support
6. Poor quality of computers
7. Technology infrastructure

Individual
1. Poor knowledge
2. Cost of using technology
3. Student motivation
4. Technophobia
5. Technology experience
6. Technological difficulty
7. Computer literacy
8. Awareness and attitude towards ICT
9. Student support
10. Perceived usefulness and ease of use perceptions
11. Sense of isolation due to less face to face interaction
12. Computer anxiety
13. Social support
14. Conflicting priorities
15. Student's economy
16. Social loafing
17. Self-efficacy
18. Academic confidence
19. Lack of ICT skills
20. Family commitments
21. Work commitment
22. Student readiness
23. Response to change
24. Inequality in access to internet connectivity
25. Inequality in access to technology
26. Individual culture

Pedagogy
1. Faculty effort
2. Faculty development
3. Lack of ownership
4. Lack of feedback
5. Quality course content
6. Engaging students online
7. Pedagogical model
8. Localization of content
9. Flexibility in delivery mode
10. Course content
11. Faculty training
12. Lack of credibility
13. Additional time needed to communicate
14. Insufficient computers
15. IT skills of faculty members
16. Hard to access digital libraries
17. Cost of multimedia learning materials
18. Mode of delivery
19. Weak learning management system
20. Reliability of online measuring instruments
21. Lack of top-level commitment
22. Material accessibility
23. Pre-course orientation
24. Tutor support counselling sessions
25. Absence of real-time feedback
26. Less focus on technical requirements of content
27. Faculty's acceptance of e-learning technologies
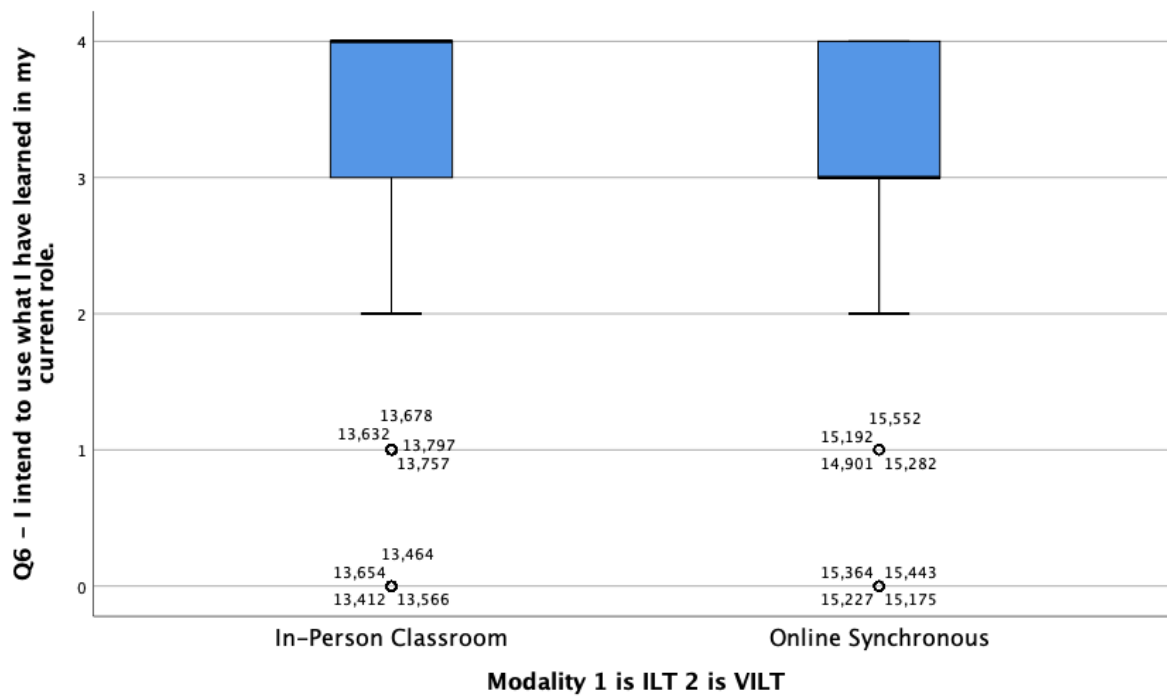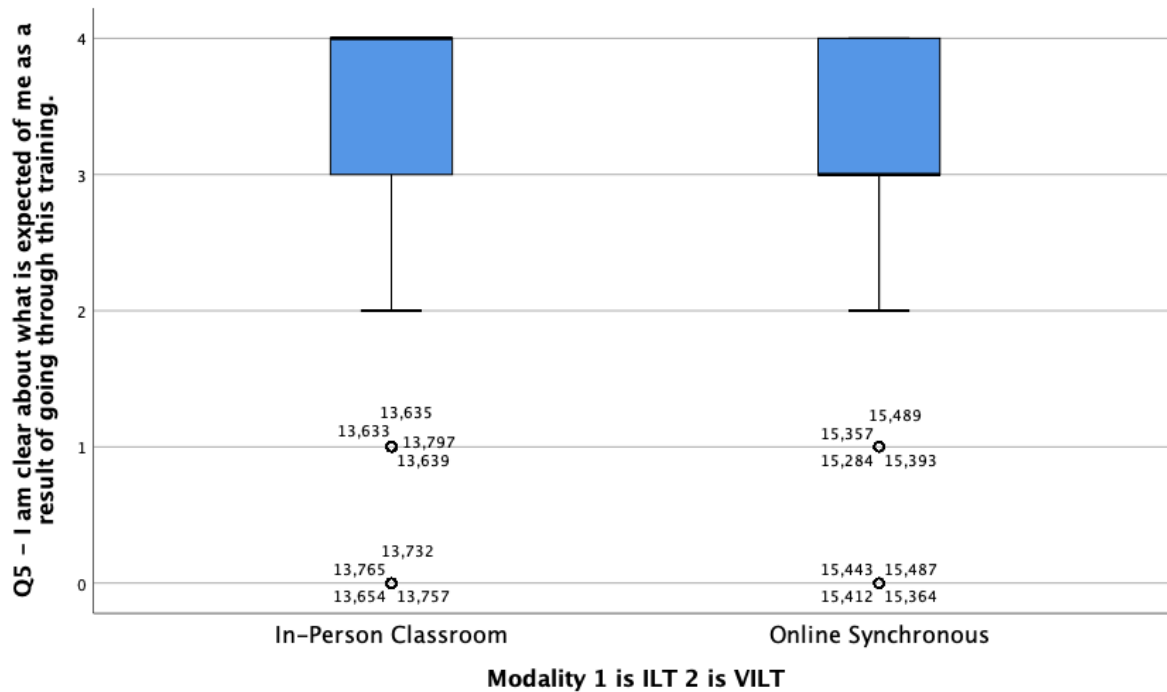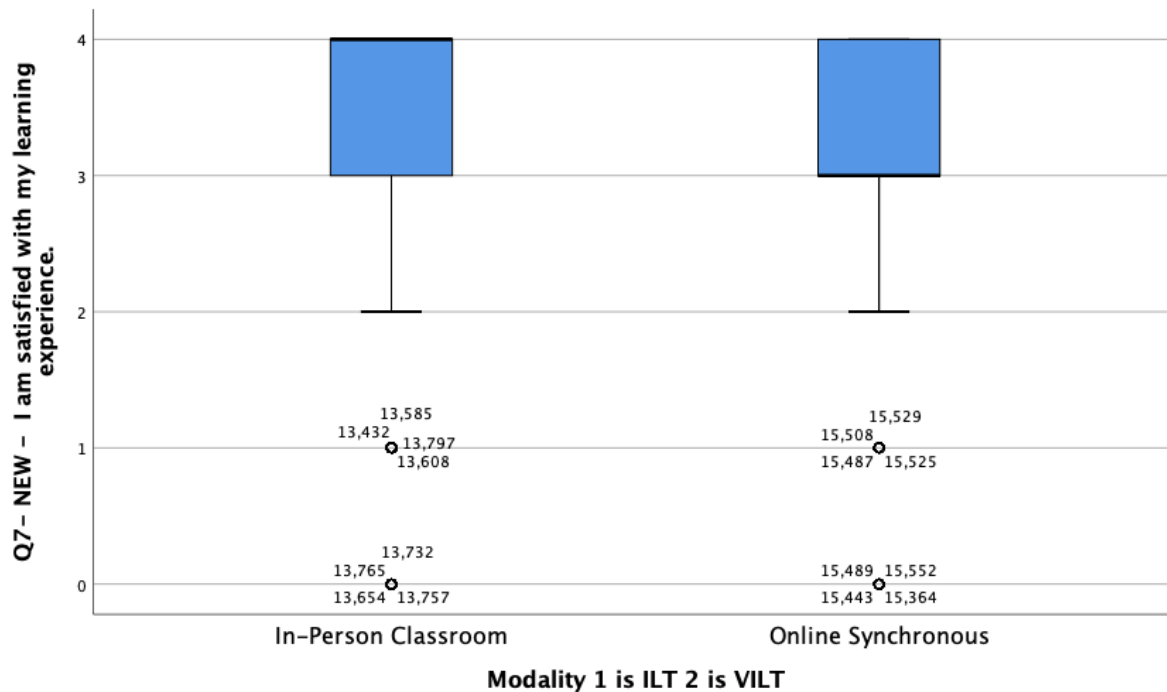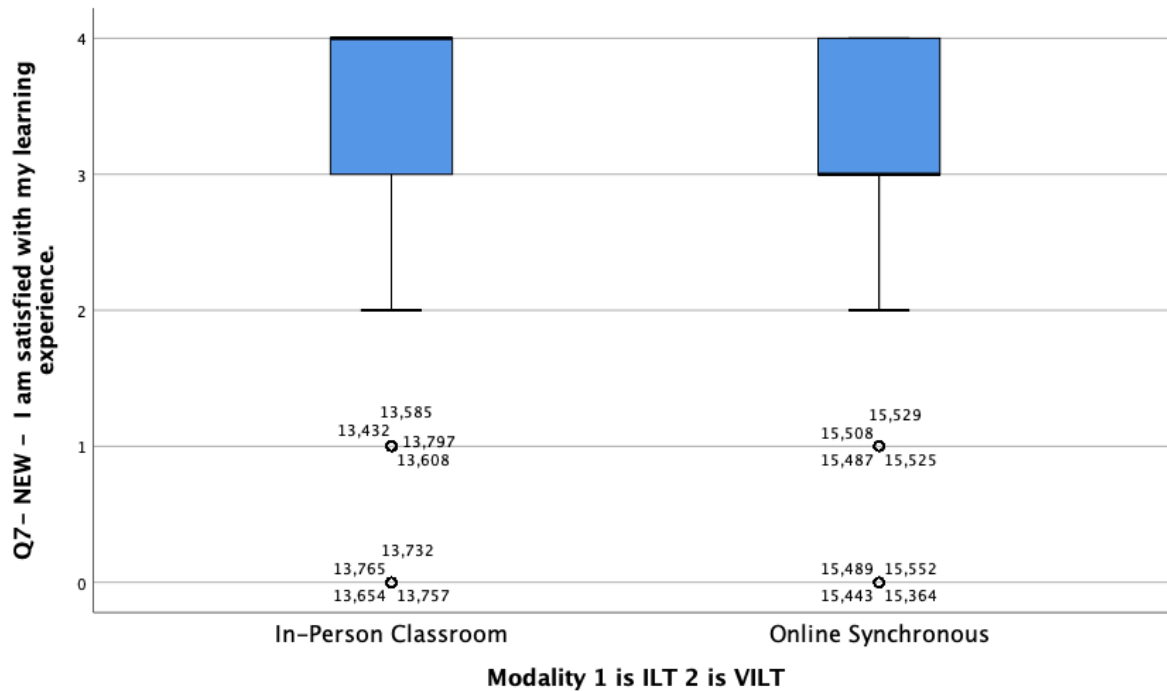28. Level of knowledge of teacher

Enabling Conditions
1. Administrative support
2. Language barrier
3. Setup cost/limited funds
4. Load shedding of electricity
5. Security
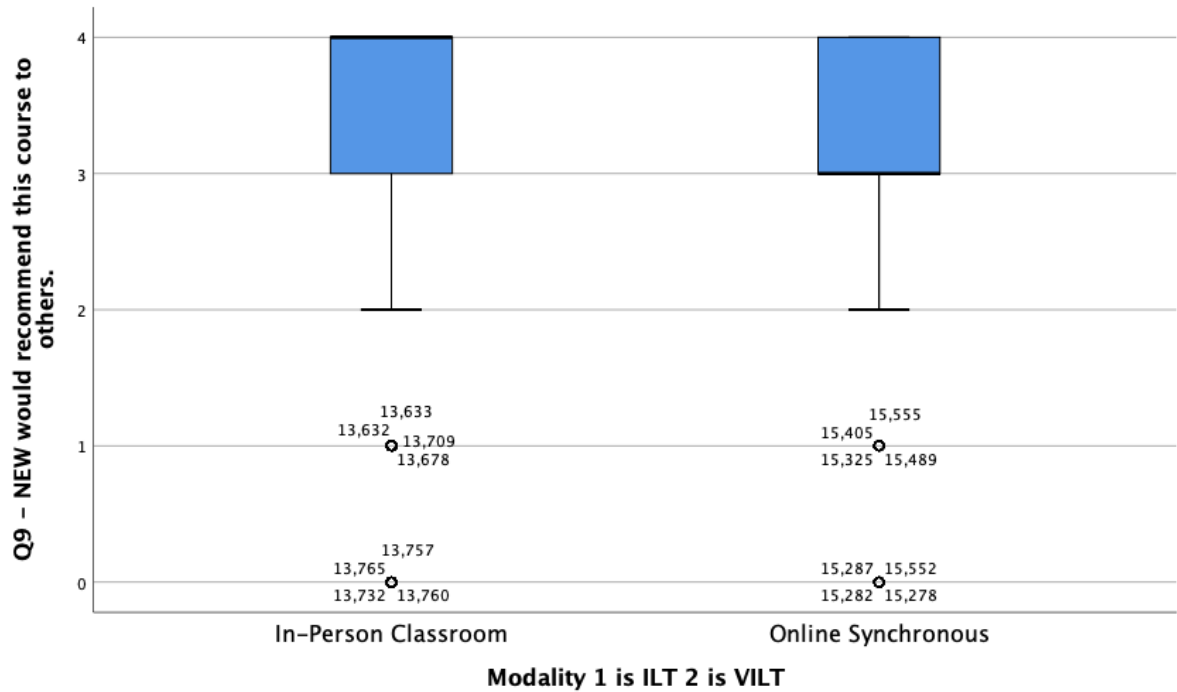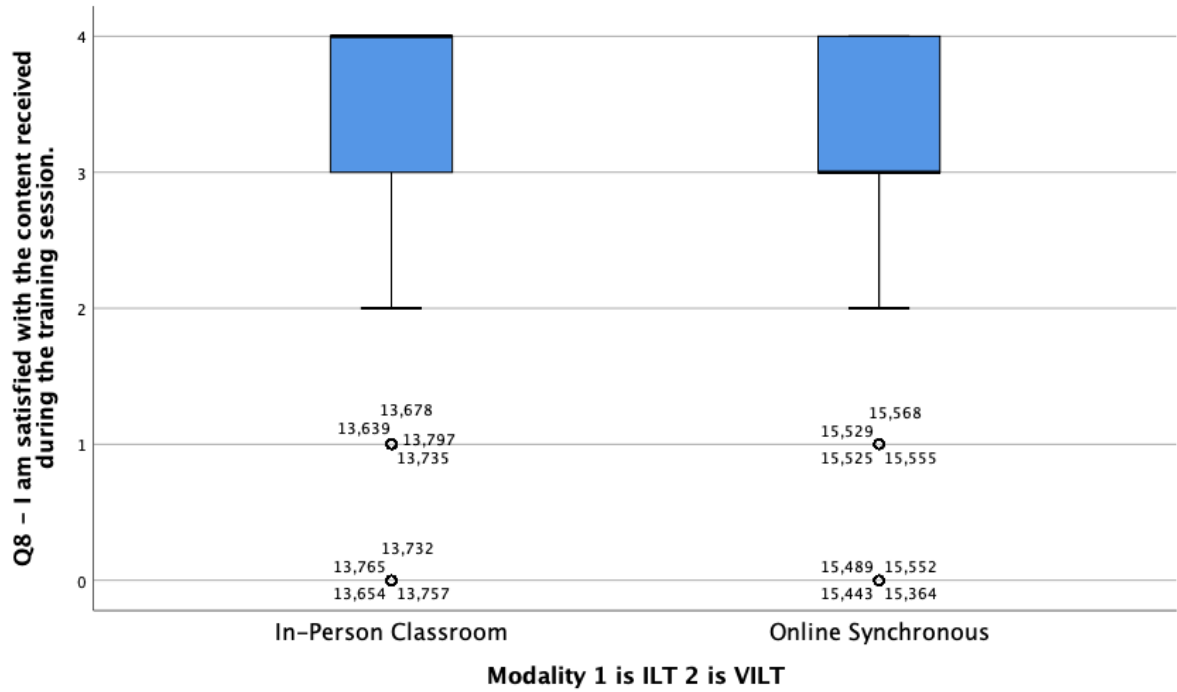6. Ethical issues
7. Rules and regulations

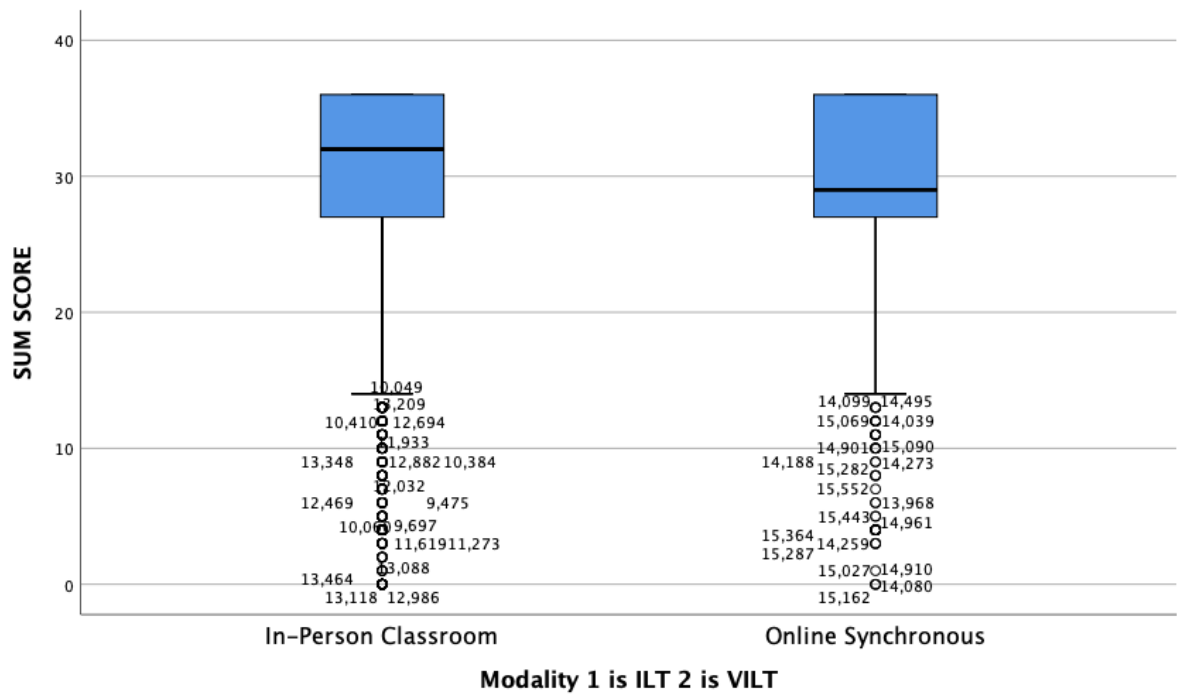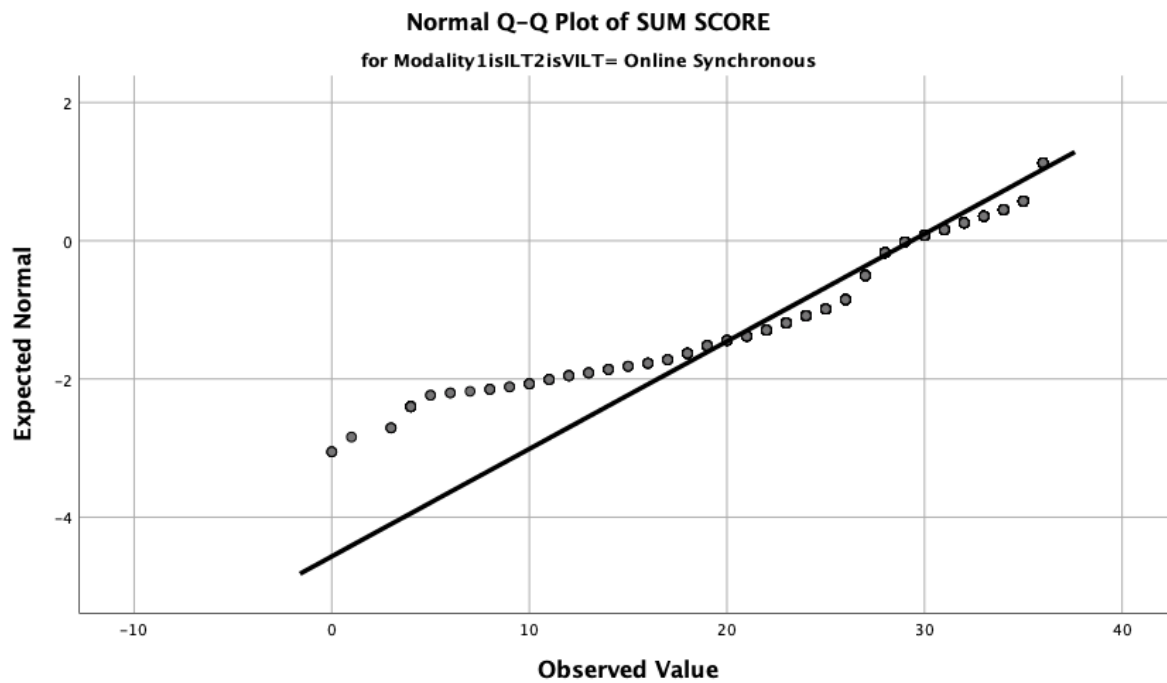**APPENDIX I. SPSS ANALYSIS OF LEVEL-1 SURVEY OUTLIER SCORES**
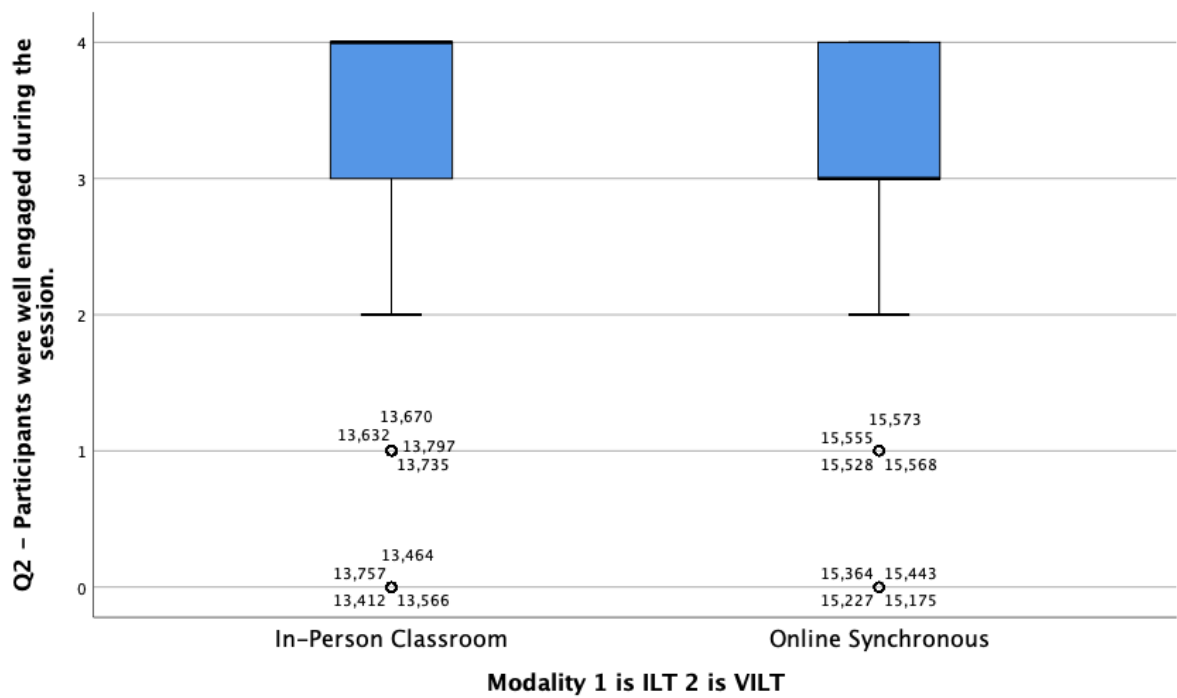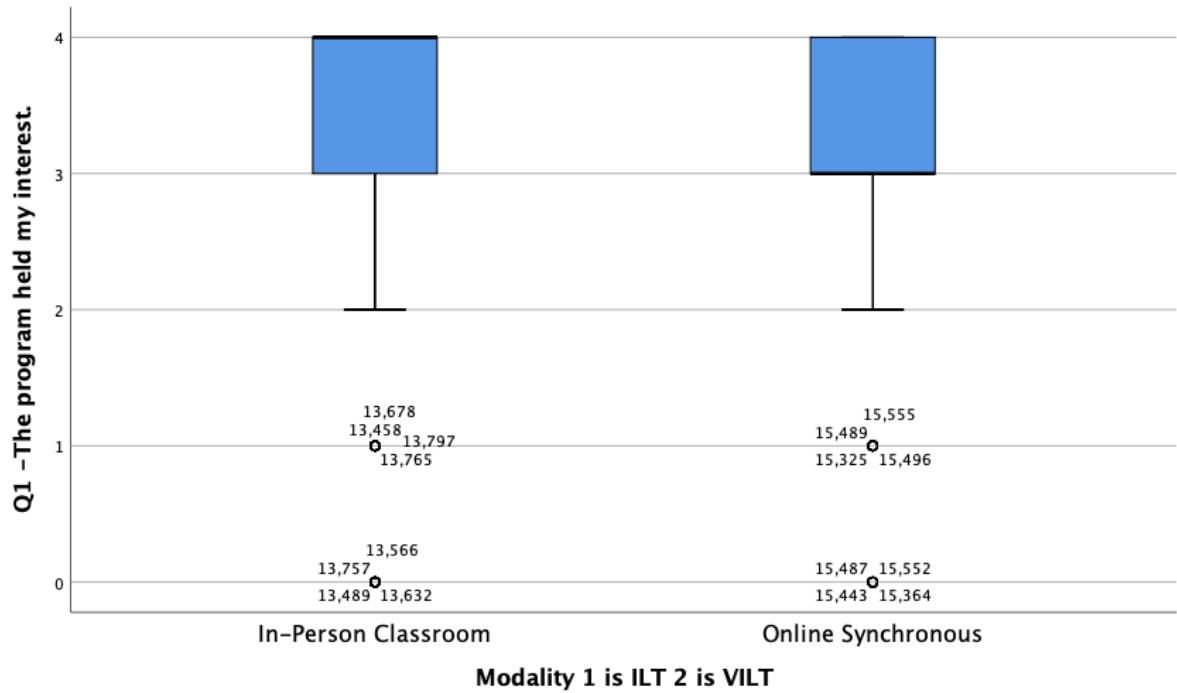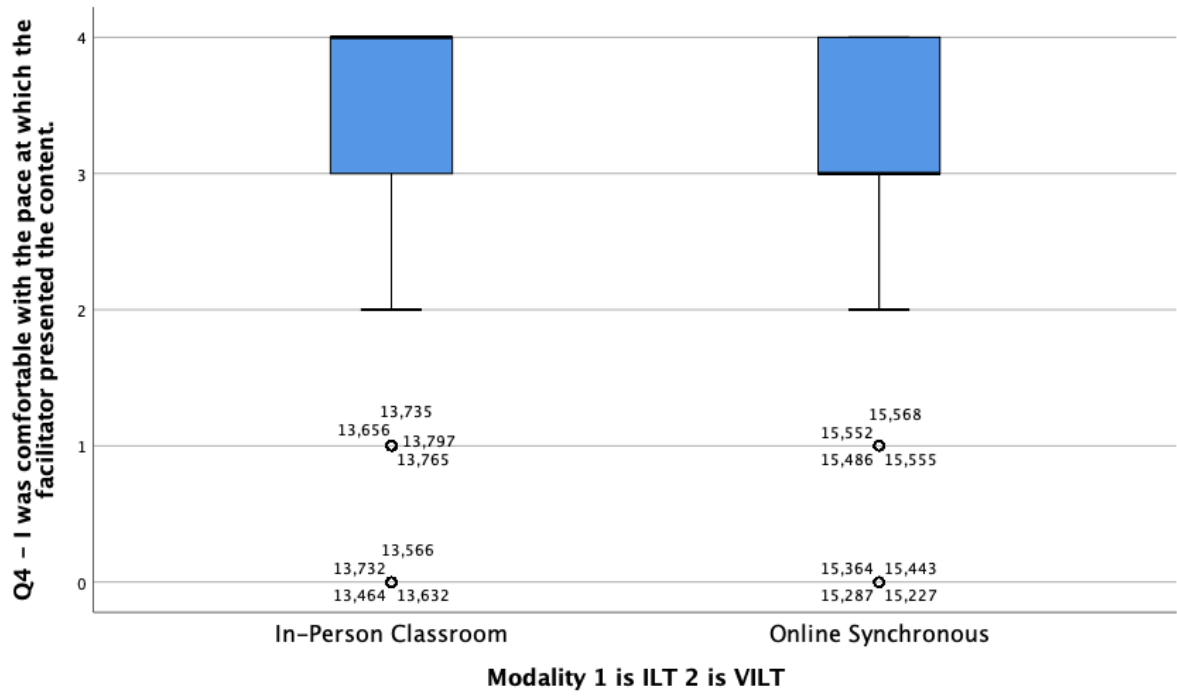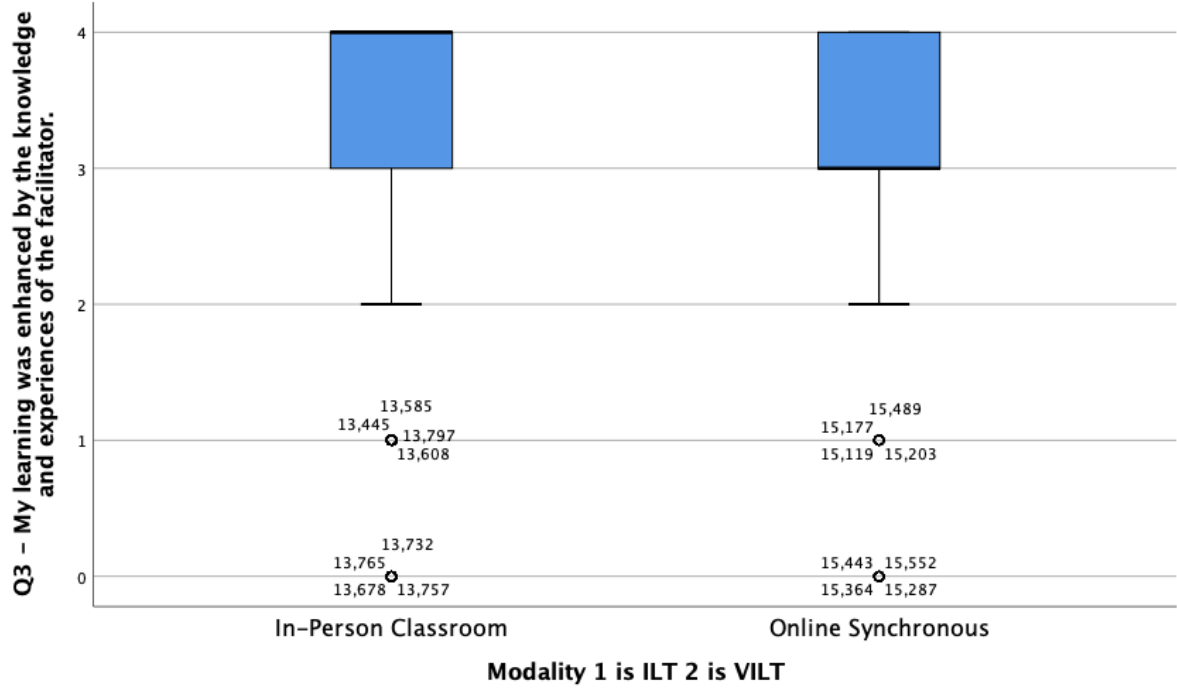
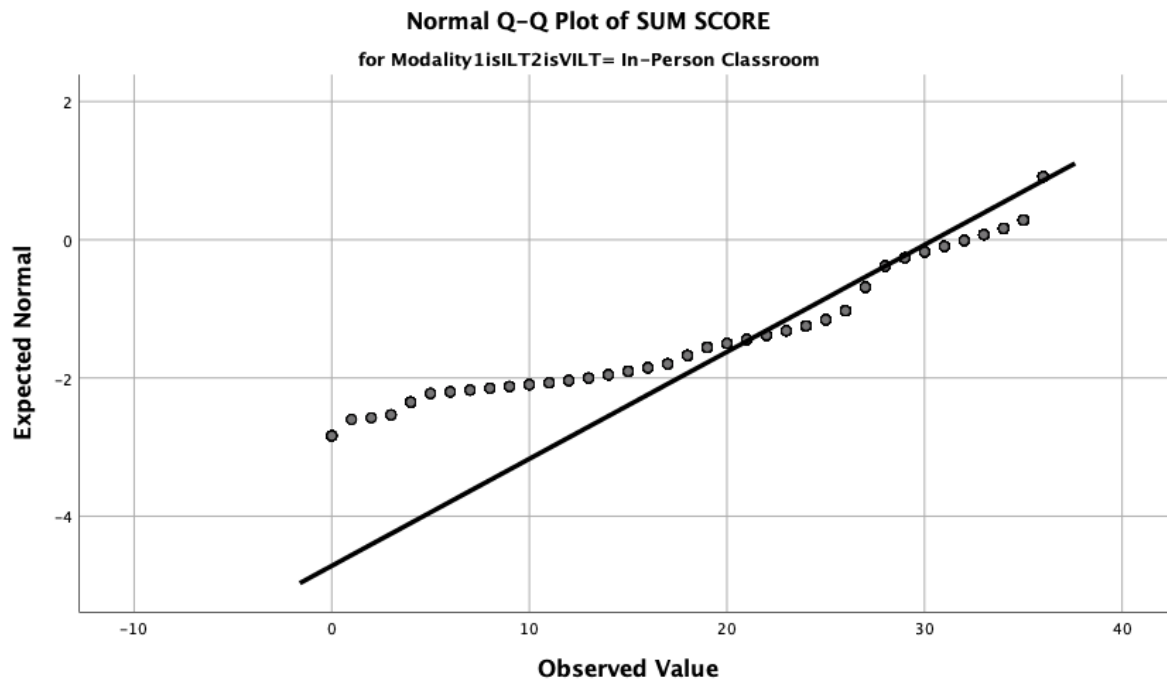# APPENDIX J. SPSS NORMAL Q-Q PLOT OF LEVEL-1 COMPOSITE SCORE DISTRIBUTIONS

Normal Q-Q Plot of SUM SCORE

for Modality1isILT2isVILT= In-Person Classroom

Normal Q-Q Plot of SUM SCORE

for Modality1isILT2isVILT= Online Synchronous

APPENDIX K. PARTICIPANT LIST

Table 4.

Focus Group Participant Demographics

| | Demographic Information | | |
Participant	Gender	*Tenure*	Location
Participant D	Male	Virginia	7.5 Years
Participant G	Male	Minnesota	5 Years
Participant I	Female	Minnesota	7.5 Years
Participant J	Male	Minnesota	12 Years
Participant K	Male	Virginia	3 Years
Participant L	Male	Delaware	7.5 Years
Participant M	Male	Minnesota	5.5 Years
Participant N	Female	Delaware	9 Years
Participant S	Male	Maryland	4 Months
Participant T	Female	Minnesota	7 Years
Participant Y	Male	Minnesota	7 Years

APPENDIX L. COMPANY'S SYNCHRONOUS ONLINE FACILITATION AND INSTRUCTIONAL DESIGN COMPETENCIES

VILT Facilitation Competencies & Best Practices

VILT Facilitation Competencies

Competency	Description
Customer Focus	• Set clear and concise objectives, expectations, instructions and timeframes • Listen to a virtual audience with eyes and ears • Use voice as an instrument to engage through pitch, timing, tone, pace and volume • Use all virtual tools to engage, personalize and check for understanding • Collaborate effectively with all VILT roles (e.g. Designer, Facilitator, Producer, Guest Presenter and IT)
Communication	• Spark imagination, provoke curiosity and create dramatic tension through sound and visuals • Adopt a confident persona comfortable with improvisation • Awaken heightened and honed senses in listening and speaking • Connect authentically with the audience • Simultaneously act as performance coach and a co-learner • Capture and maintain virtual audience engagement • Ignite sharing of insights, experiences and ideas
Job Specific Skills	• Master the virtual tool and content knowledge • Demonstrate proficiency in the roles of Facilitator and Producer • Balance content delivery and managing engagement • Read chats, troubleshoot and facilitate simultaneously • Fast, accurate typing skills

Facilitator Best Practices

Successfully delivering a VILT class requires the application of the following best practices…

Process Step	VILT Facilitators should…

Becoming a VILT Facilitator (Certification)
 	
Exception Guest Presenter - does not have to get certified, but does need to be part of dry run; include a job aid.
	• Become expert in using the VILT Tool including troubleshooting
	  o Obtain VILT Tool certification (process to be determined). Process will include:
	    ▪ Tests
	    ▪ Observations
	• Become expert in delivering VILT
	  o Obtain VILT Competencies certification (process to be determined). Process/Content will include:
	    ▪ Teach Backs / Dry-runs
	    ▪ Finding your "brand" and entertainment voice
	• Demonstrate VILT Facilitator competencies
	• Continuously practice finding your "brand" and entertainment voice
	• Be active member of the VILT Community of Practice
	• Pass VILT facilitator "audits". Facilitator will be "visited" virtually to ensure quality (Process to be determined)
	• Stay up to date with trends by reading VILT articles, attending webinars etc.

VILT Curriculum Train-The-Trainer	• Prepare for delivering a specific class following same process as ILT • Practice dry run with a Producer when one is required

VILT Facilitation Competencies & Best Practices

1 Week before scheduled VILT Session	- Familiarize yourself with latest materials: agenda, facilitator guide, participant guides, handouts, job aids, polls, custom pods, etc. - Identify and setup role ownership (Facilitator, Producer, Guest Presenter) - Solidify delivery details for all roles: - Who is doing what? - How will handoffs occur? - Who will drive the tools? - How to communicate with each other during the class - Prepare Guest Presenter (e.g. go over design including timing) - Prepare Facilitator / Producer / Guest Presenter introductions - Include photo of Facilitator / Producer / Guest Presenter (to Personalize) in the deck - Work with producer to have a contingency plan for technical limitations (including log-in problems). Recommended: work from landline and have second phone and computer dialed in as backup - Test technical equipment (such as connection and headset used) from delivery location - Schedule a quiet location for delivering the VILT session - Prepare to use dual monitors - one for Adobe Connect, one for facilitation materials
1 Hour before a scheduled VILT Session	- Have a copy of agenda / facilitator guide / roster and share w/ Producer - Familiarize yourself to participant list (name, role, department) - Login at least 30 minutes prior to start and test technical equipment, including internet connection / bandwidth / headset - Identify logistical challenges and engage Producer to solve - Setup Meeting room according to standards or designer suggestions (including pods, chats, presentation, uploaded files, webcam, videos, polls, agenda, music, etc.) - Clear any/all previous chat pods or unnecessary content - Create a "Welcome" layout to act as a Lobby Area for when participants first join - Open the classroom 15 minutes prior to start - Start room audio 5 minutes prior to start - Close unnecessary applications to avoid distractions
During VILT Session	**Introduction** - Personalize: Open with Facilitator / Producer / Guest Presenter introductions - Review tool in interactive way - Difference between audio via phone and internet - How to use chat - How to raise and lower hand as well as other pulse check icons - How to mute/unmute (when, why and importance) - How to download documents / job aids (if necessary for session) - Set ground rules with participants - If and how you will call on participants directly - How to ask questions - Share agenda - Deliver an icebreaker to build trust - Solicit support from the producer for technical issues **Engage** - Create a comfortable, open, friendly collaborative environment at the start

VILT Facilitation Competencies & Best Practices

	• Call participants by name instead of waiting for volunteers to answer questions
	• Plan for a response and take pulse every 2 - 3 minutes by using
	   ○ Quick poll, polls and chats
	   ○ Open-ended and probing questions
	• Use breakout rooms for brainstorming, problem-solving and work projects
	   ○ Learners need to clearly understand what they are supposed to do in the breakouts – e.g. time, task and roles.
	   ○ Ensure to always demo activity before sending participants to breakout
	• Avoid jargon and acronyms
	• Don't squelch conversation among students
	• Ask don't tell
	• Ask participants to reflect upon prior and new knowledge and encourage sharing
	• Use the parking lot accordingly to limit particular participants from delaying the entire class
	• Promote participants to present to share screen during navigation walk throughs (do not share as host as you won't be able to see the chat)
	• Give participants ability to draw on whiteboard. (e.g., draw a grid and assign a location or ask participants to stamp their typing location)
	• Allow for sufficient physical breaks (at least every 90 minutes)
	• Set clear instructions and timeframes for activities
	• Make things look smooth; never rearrange or resize pods during a live session. Use the setup wizard where possible to avoid distracting the participants.
	
	Technical
	• Test computers speakers (if used) at beginning of session (e.g. play music)
	• Mute all users at start of video; unmute when video finished
	• Tell participants to turn their speakers on when video or audio file is playing. This audio comes through computer speakers, not the phone.
	• Have video script available for download in file share as backup
	• Only upload documents in File Share pod if these should be given to participants
	• Utilize the producer to assist with technical issues in efforts to reduce delaying the class

At End/After VILT Session	• Encourage participants to connect with each other after class • Learner survey immediately and 3-6 months after class • Follow up on any outstanding questions from learners • Capture any lessons learned or feedback on content, materials, technology, or facilitation standards and share with the appropriate audience • Clean the virtual room for the next session • Share successes and best practices on VILT forum

Developer Competencies

Successfully developing materials for a VILT class requires mastery of instructional design as well as a strong working knowledge of virtual platform used for delivery.

Topic	Best Practices / Tips
Instructional Design Practices	• Apply adult learning principles • Follow the standard instructional design process (ADDIE); the process steps still apply to VILT • Ensure you have clearly written and measurable objectives
VILT Design	Interactivity • Ensure there is an opportunity for the learner to engage every 3 to 5 minutes with the instructor or other participants • Create a visual change every 30-60 seconds • Use VILT functionality/features for learning activities and class interaction • Ex. Use polls to check for understanding or recap lessons; allow for chats during session and include instructions for the producer to monitor chat Materials • Ensure session content translates to 90 minutes or less; consider blended approach if greater than 90 min • Include ground rules and expectations re: participation in all materials • Include instructions to call on learners directly in facilitator material • Include instructions for facilitator to review the use of VILT function prior to using it (i.e. breakout groups) • Include directions for participant to share screens during walk-through (instead of the facilitator leading the group through screen share)
Technology	• Develop expertise in the functionality and features with the VILT tool • Make use of the functionality/features in the instructional design to ensure objectives are met and engagement is maintained • Functionality includes (but not limited to): o Breakout groups o Chat o Annotations o Status icon (Raise Hand/green check/etc.) o Whiteboard o Polling o Application sharing o Sharing documents o Custom pods
Measurement / Evaluation	• Design materials so that VILT tools are used to monitor progress, comprehension, and to gather real time feedback throughout class (e.g. polls and chat feedback; status) • Use Kirkpatrick's 4 levels of evaluation and corresponding feedback for content design and iterations