# ONLINE LEARNING SATISFACTION: DOES CULTURE MATTER?

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## ABSTRACT

## ONLINE LEARNING SATISFACTION: DOES CULTURE MATTER?

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The purpose of this mixed-methods study, which used sociocultural learning theory as its framework, was to understand the differences between personal culture orientation and online learning satisfaction by examining culture at the macro and micro level in a global learning environment. More specifically, this paper investigated the cultural orientation differences among graduate students enrolled in at least one online course in the fall of 2011 at a western institution of higher education and how these cultural differences impact their level of satisfaction with online learning. Both quantitative and qualitative data collected through respectively via surveys and interviews indicate that, although culture does not directly affect satisfaction, there is a need to raise awareness about the critical factors that may affect online learning experience and to provide guidance for practice and future research.

This study reports results of the Learners' Value Index of Satisfaction (LeVIS) and the Cultural Values Scale (CVSCALE) questionnaire for respondents from one large western institution of higher education who participated in the fall 2011 study (199 graduate students from 22 academic departments). The questionnaire comprised three sections. The first section measured participants' level of cultural orientation across four categories: (a) power distance, (b) collectivism, (c) uncertainty avoidance, and (d) masculinity and consisted of 28 items. The second section measured participants' satisfaction across four constructs: (a) technology/support, (b) quality of course content, (c) interaction with instructor, and (d) learner-self-assessment and consisted of 48 items.

The third section comprised a demographic questionnaire which asked about participants' ethnicity, gender, age group, academic department, degree program, and country of citizenship. The quantitative data analysis consisted of (a) data screening, (b) assessment of normality (which brought the number of participants from 199 to 195 for Research Question 1 and 4 and 196 for Research Question 2 and 3), (c) one-way univariate analysis of variance (ANOVA), and (d) descriptive statistics. The one-way ANOVA showed that there was no significant difference between cultural orientation and satisfaction. The descriptive statistics indicated that the sample roughly mirrored the general institution's population because 72.4% of the participants were Caucasians and this should be taken into account when interpreting the results of this study.

The qualitative data consisted of six unstructured interviews with three males and three females and were analyzed using a constant comparison method, which consisted of (a) interview transcription, (b) interview coding, (c) generating categories or themes, and (d) reporting the findings. The findings indicated that culture has little or no impact on satisfaction, thus confirming the quantitative results. However, other factors such as age, online learning experience, and individual personality had been found to influence student satisfaction in this study. The study concludes with a discussion of the results and their implications for online learning, along with recommendations for future research.

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# Chapter 1

## Introduction

Online learning has roots in the tradition of distance education, which goes back at least 100 years to the early correspondence courses (US Department of Education, 2009). With the advent of the Internet and the World Wide Web, the potential for reaching learners around the world increased greatly, and today's online learning offers rich educational resources in multiple media and the capability to support both real-time and asynchronous communication between instructors and learners as well as among different learners. Institutions of higher education and corporate training were quick to adopt online learning. According to the US Department of Education, online learning has become popular because of its potential for providing more flexible access to content and instruction at any time, from any place. Frequently, the focus entails: (a) increasing the availability of learning experiences for learners who cannot or choose not to attend traditional face-to-face offerings, (b) assembling and disseminating instructional content more cost-effectively, or (c) enabling instructors to handle more students while maintaining learning outcome quality that is equivalent to that of comparable face-to-face instruction. In addition, online learning offerings are being designed to enhance the quality of learning experiences and outcomes.

However, research in online education is generally impoverished with respect to theory, and the limited theoretical underpinnings used in online education research largely ignore culture as a significant factor. Few online education researchers have incorporated cultural dimensions into their investigations, and there is an even greater lack of research investigating the connections between cultural orientation and

satisfaction with online education. An extensive survey of the literature by Macfadyen, Roche, Doff, Reeder, and Chase (2004) revealed four different research orientations regarding culture and education in cyberspace. Generally, these research orientations focus on studies related to: (a) the interactions in an online course which involved culturally-diverse adult learners; (b) the access to the Internet among different groups; (c) the assessment criteria applied in online education; and (d) the design of virtual learning environments to accommodate the needs of culturally-diverse learners (Edmundson, 2007). As noted above, there is surprisingly little published literature on the cultural aspects of online learning and teaching, and there are even fewer research-based studies (Gunawardena et al., 2003). Traditional learning environments may become sites of struggle for teachers and learners when there is a collision of different cultures (Uzuner, 2009). More often than not, it is difficult for the teacher to accommodate each and every student's culture. Therefore, the students are expected "to step out of their own culture and temporarily enter into the culture of the instructor" (Moore, 2006, p. 1).

In this study, sociocultural learning theories are applied as a foundation for studying how culturally diverse learners feel satisfied with their online learning experience. The rationale is that sociocultural learning theories are learner-centered and provide insight into collaborative approaches to student learning. These theories also take into account the social and cultural aspects of acquiring knowledge. Collaborative learning, as outlined in the literature review, is an effective means of increasing student achievement and cognitive development (Wang, 2007). Research also shows that in a community-of-learners, a learner's potential performance level is increased.

This chapter provides the underlying statement of the problem, the purpose of the study, and the significance of the research. The research questions, design, and limitations of the study are also addressed. In addition, key terms used in the study are defined.

**Purpose of the Study**

The purpose of this study was to understand the difference between one's culture and online learning satisfaction by examining culture at the macro and micro level in an online learning environment. More specifically, this paper investigated the cultural orientation differences among graduate students and how these cultural differences impact their level of satisfaction with online learning. The intent is to raise awareness about the cultural factors that may affect online learning and to provide guidance for practice and future research.

**Significance of the Study**

Understanding the cultural orientation and key factors that explain a satisfactory learning experience from the perspectives of multiple students can help online educators and program administrators meet the needs of online graduate students more effectively. By means of surveys of and interviews with graduate students with online course taking experience (students who have taken one online course or more) at Blue Moon University, this study seeks to provide a better understanding of how cultural orientation might influence the overall satisfaction of graduate students with their online learning experience. Also, this study seeks to contribute to the general body of knowledge about culture and satisfaction in distance education and the findings of this research will have pedagogical implications for online curriculum designers and instructors to better address

the needs of culturally-diverse online learners. Another contribution of this study is to help instructors and administrators develop and implement online course evaluation that takes into account the variable of student cultural orientation. It is further hoped that this study will contribute to a better awareness and understanding of the important and unresolved issues surrounding cultural attributes and learners' satisfaction.

**Statement of the Problem**

Working together in a culturally-diverse learning environment that focuses on interactive computer-mediated communication and collaborative online learning community requires the online instructor to have a clear understanding of how to develop and implement a course that satisfies the needs and expectations of various learners. Many research studies (Hofstede, 1980; Hall, 1976; 1984; Callahan, 2005; Hermeking, 2005; Wurtz, 2005) have looked at culture at the national and organizational level, but very few studies (Yoo, Donthu, & Lenartowicz, 2011) examined culture at the individual level. Studies (e.g., Stevenson, 1982) have also shown that educational experiences influence one's view. Knowing the differences in student satisfaction regarding quality of course content, technology support, interaction with instructor, and student comfort with technology is an important consideration in the design and development of online curricula, where real-time cues that aid and impact the teacher–learner communications are not readily apparent (Wang, 2007). This study examines culturally anchored characteristics (power distance, collectivism, uncertainty avoidance , and masculinity dimensions in this case) that play a role on not only how learners perform and persist in online learning environments, but also on how they perceive online learning satisfaction in general.

## Design of the Study

The proposed study uses a mixed methods research design (Creswell, 2008), thus, combining both quantitative and qualitative data collection approaches. The purpose of using a multiple method approach is that it provides greater flexibility to the researcher for finding new and interesting ways of understanding a phenomenon. Specifically, this study looks at differences between graduate students on their level of online learning satisfaction and cultural orientation at one point in time.

## Research Questions

**Research Question 1.** To what extent does the cultural orientation, based on low and high Power Distance, differ among online learners' level of learning satisfaction?

**Research Question 2.** To what extent does the cultural orientation, based on low and high Collectivism, differ among online learners' level of learning satisfaction?

**Research Question 3.** To what extent does the cultural orientation, based on low and high Uncertainty Avoidance, differ among online learners' level of learning satisfaction?

**Research Question 4.** To what extent does the cultural orientation, based on low and high Masculinity, differ among online learners' level of learning satisfaction?

## Delimitations of the Study

The purpose of this study was to understand the difference between graduate students' cultural orientation and their online learning satisfaction by examining culture at the macro and micro level in an online learning environment at a western institution of higher education; thus, one of this study's delimitations is the narrow scope of its context (Blue Moon University). A second delimitation of this study is that it looked at graduate

students who happened to be enrolled in at least one online class in fall 2011. The study also made use of only four out of Hofstede's (1980) five cultural dimensions. The rationale for choosing these four dimensions (Power Distance, Collectivism, Uncertainty Avoidance, and Masculinity) is that the fifth dimension, Long-Term Orientation (the 'Confucian' Axis), seems to have little impact on online communication (Ess, 2009), and also because Hofstede's dimension can exist as fully functioning separate constructs (Kankanhalli, Tan, & Wei, 2007). A further delimitation of this study concerns the makeup of the sample. In fact, there were more Caucasian participants (72.4%) than any other ethnic group and a larger number of females (71.4%) compared to males and that 95% of the participants were citizens of the United States and only five percent from other countries.

**Definitions of Terms**

Asynchronous — "A type of communication that can occur at any time and at irregular intervals, meaning that people can communicate online" (Palloff & Pratt, 1999, p. 189).

Collaborative Learning — when learners work together to construct common meaning and knowledge.

Community — learning communities are group of people who investigate problems and share what they learn with others in the community, thus, advancing both their individual knowledge the community's knowledge (Collins & Bielaczyc, 1997).

Computer-Mediated Communication — CMC is defined as the application of computer and Internet technology in human communication (Thurlow, Lengel, & Tomic, 2004).

Culture — is defined as "the collective programming of the mind which distinguishes the members of one group or category of people from another (Hofstede, 1997, p. 9)".

Individualism/Collectivism — According to Hofstede's (2001) definition, Individualism/Collectivism reflects a culture's relation to individual goals and accomplishments.

Interaction — Interaction is defined as "Reciprocal events that require at least two objects and two actions. Interactions occur when these objects and events mutually influence one another" (Wagner, 1994, p. 8).

Masculinity — the Masculinity dimension reflects how a culture defines and deals with the gender roles of men and women (Hofstede, 2001).

Online Learning — Online learning is defined in this context as "an open and distributed learning environment that uses pedagogical tools, enabled by Internet and Web-based technologies, to facilitate learning and knowledge building through meaningful action and interaction" (Dabbagh & Bannan-Ritland, 2005, p. 15). In other words, it is learning that takes place partially or entirely over the Internet. This definition excludes print-based correspondence education, broadcast television or radio, video-conferencing, video cassettes, and stand-alone educational software programs that do not have a significant Internet-based component.

Personal Cultural Orientation — in the context of this study, Personal Cultural Orientation is defined as an individual's degree of power distance, collectivism, uncertainty avoidance, and masculinity (Yoo & Donthu, 2005).

Power Distance — Power distance is the "extent to which the less powerful members of a society expect and accept that power is distributed unequally", in terms of social status, respect, wealth, rights and privileges (Hofstede, 2001, p. 98).

Student Satisfaction — an affective construct that is often considered to be a predictor of learning outcomes (LaPoint & Gunawardena, 2004). It indicates the degree of learner reaction to their learning experience in a particular course. This opinion may reflect attitudes about the content of the course, learning activities, peer learners, or the instructor.

Social Presence — the degree that students perceive that other students in the course are real persons (Tu, 2001).

Socio-cultural learning theory — a theory that is learner-centered, provides insight into collaborative approaches to student learning, and that takes into account the social and cultural aspects of acquiring knowledge (Wang, 2007).

Synchronous — “A type of communication in which those communicating do so at the same time” (Palloff & Pratt, 1999, p. 191). Examples of synchronous communication are instant messaging and chats.

Uncertainty Avoidance — Uncertainty Avoidance is expressed as the tolerance for unstructured, ambiguous, or unpredictable future events (Hofstede, 2001).

Transactional Distance — the psychological and communication space between learners and instructors (Moore, 1993).

**Summary**

This chapter began by introducing the reader to an overview of the mixed method study which investigates how cultural orientation influences graduate students online

learning satisfaction. In this study, sociocultural learning theories are applied as a foundation for studying how culturally diverse learners feel satisfied or dissatisfied with their online learning experiences.

The underlying statement of the problem, purpose of the study, and significance of the research were discussed. The research questions, design, and limitations of the study were addressed. In addition, key terms used in the study were defined.

The rest of the paper is organized as follows: the subsequent section presents the review of the relevant literature in order to provide the theoretical framework for this study. It provides a review of the literature related to the theoretical developments of distance learning, sociocultural learning theories, and online learning satisfaction of culturally different learners. The following section presents the research questions guiding this study and some rationale for each question. Next, the methodology guiding this research is described including the instrument and validity issues. The method of data collection, analysis and reporting of results are presented subsequently. The last section concludes this research study with discussion of findings, contributions of the study, limitations, and suggestions for future research.

# Chapter 2

## Literature Review

The 2010 Sloan Survey of Online Learning reveals that enrollment rose by almost one million students from a year earlier. The survey of more than 2,500 colleges and universities in the United States finds approximately 5.6 million students were enrolled in at least one online course in fall 2009, the most recent term for which figures are available (Allen & Seaman, 2010). For the seventh consecutive year, according to this report, the number of students taking at least one online course continued to expand at a rate far in excess of the growth of overall higher education enrollments. The growth from 1.6 million students taking at least one online course in fall 2002 to the 5.6 million for fall 2009 translates into a compound annual growth rate of 19% for this time period. For comparison, the overall higher education student body has grown at an annual rate of less than two percent during this same period – from 16.6 million in fall 2002 to 19.0 million for fall 2009 (Allen & Seaman, 2010). Not only do these results show the growth of online learning as an alternative form of instruction, but also its popularity among students and institutions of higher education in general. In this literature review, the following sections are presented: (a) purpose of the literature review, (b) methods of the literature review, (c) distance education theoretical developments, (d) sociocultural learning theories and their implications for online learning, (c) culturally different learners and learning satisfaction, and (f) a summary of the literature review.

### Purpose of Literature Review

The purpose of this review is three-fold: (a) to provide important theoretical developments in distance education, (b) to present the state of knowledge concerning the

questions of culture and satisfaction in distance learning and (c) to provide practical insights into teaching culturally and linguistically diverse online communities of learners.

Dabbagh and Bannan-Ritland (2005) defined online learning as "an open and distributed learning environment that uses pedagogical tools, enabled by Internet and Web-based technologies, to facilitate learning and knowledge building through meaningful action and interaction" (p. 15). Distance learning, according to Dabbagh and Bannan-Ritland contains five specific attributes: "open or flexible learning, distributed learning, learning communities, communities of practice, and knowledge-building communities" (p. 8). Throughout this paper, the terms distance learning, distance education, online learning, and e-learning will be used interchangeably to signify the development of educational practices in virtual environments (synchronous and/or asynchronous).

**Methods of Literature Review**

This literature review was conducted in order to explore the current trends in distance education and more specifically to examine research pertaining to culture and online learning satisfaction. This theoretical review involved the analysis of findings of many quantitative, qualitative, and mixed methods studies on culture and satisfaction in distance education. The following criteria of inclusion were used in order to maximize the credibility and relevance of sources of information. First, peer-reviewed articles, books, dissertations, theses, and reports published in the last ten years within the field of higher education were given preference to keep the work current. However, older research materials were also included because they greatly informed the review. Second, articles were searched for using the Northern Arizona University Cline Library extensive

search feature. Primarily, sources from the EBSCO database and the ProQuest (see proquest.com) were used in addition to Google Scholar. Finally, the following search terms were employed either in standalone or in different combinations: *student satisfaction, online learning, distance learning, distance education, e-learning, asynchronous communication, synchronous communication, culture in distance education, online dropouts/persistence, computer-mediated communication, course satisfaction, ethnicity, cultural identity online, Hofstede's cultural dimensions, cultural orientation, individual culture, power distance, uncertainty avoidance, collectivism, masculinity, diversity in higher education, culturally various learners, interaction and satisfaction, online course dropout, online instructor, online learning benefits, challenges of distance education, online support quality, content analysis, qualitative data analysis, qualitative interview, role of coding, methods of coding, and qualitative reports*.

**Distance Education Theoretical Developments**

This section examines major theoretical developments and contributions that have influenced the field of distance education. More specifically, the following theories are discussed: (a) theories of learner independence and autonomy, (b) theories of interaction and communication, (c) theory of social presence, (d) theory of connectivism, and (e) social learning theory and its implications for online teaching and learning.

Theories are necessary because they help us to understand, communicate, and predict the nature of a discipline or a field of practice, its purpose, goals, and methods (Gunawardena & McIsaac, 2004). Because of the rapid changes brought about by new communications technologies, the field of distance learning has faced multiple challenges such as the adaptation of theories to the new technologies. Online learning has roots in

the tradition of distance education, which goes back at least 100 years to the early correspondence courses. With the advent of the Internet and the World Wide Web, the potential for reaching learners around the world increased greatly, and today's online learning offers rich educational resources in multiple media and the capability to support both real-time and asynchronous communication between instructors and learners as well as among different learners. Institutions of higher education and corporate training were quick to adopt online learning (U.S. Department of Education, 2009).

Recent trends in distance education go beyond simply defining the concept of distance as a physical proximity and put more emphasis on psychological aspects of distance (Gunawardena & McIsaac, 2004). While many view distance learning as a new concept, in fact, it has been around for quite some time. According to Cohen (1999) "distance learning began as correspondence learning and has evolved from the use of primary print-based material into a worldwide movement using various technologies" (p. 218) and the first entirely online course was not offered until 1981 (Harasim, 2000). Harasim (1990) proposes a formal view of computer-mediated communication that highlights its social nature, collaborative environment, and capability to amplify intellectual discourse and foster the social construction of knowledge. Adding to Harasim's definition, Dabbagh and Bannan-Ritland (2005) took the concept further when they state: "Online learning is an open and distributed learning environment that uses pedagogical tools, enabled by Internet and Web-based technologies, to facilitate learning and knowledge building through meaningful action and interaction" (p. 15). Distance learning, according to Dabbagh and Bannan-Ritland contains five specific attributes: "open or flexible learning, distributed learning, learning communities, communities of

practice, and knowledge-building communities" (p. 8). They also identify online learning as a derivative of distance learning as it possesses a sixth attribute: "the use of Internet and web-based technologies to support the teaching and learning process" (p. 25).

**Theory of learner independence and autonomy.** In the 1960s, Wedemeyer broke from the concept of correspondence study and focused instead on independent study or learning. In doing so, he noted that a particular philosophy of teaching and learning usually lies behind" (Wedemeyer, 1971, p. 548) the concepts of independent study and learning. It was clear that this was not merely a change in terminology. The focus on the pedagogical assumptions of independent study was a shift from the world of correspondence study dominated by organizational and administrative concerns, to a focus on educational issues concerning learning at a distance.

Notwithstanding Wedemeyer's (1971) clear focus on teaching and learning, independent study was focused on the individual as opposed to the group. Wedemeyer was careful to identify the characteristics and advantages of independent learning—not the least of which was "a democratic social ideal" (p. 549) of not denying anybody the opportunity to learn. Consistent with the principles of equity and access, independent study was also related to self-directed learning and self-regulation. Again we see a concern for learning but under the geographical and temporal control of the learner.

In addition to the obvious separation of teaching and learning tasks and responsibilities, Wedemeyer (1971) also identified defining characteristics such as communication, pacing, convenience and self-determination of goals and activities. He was a great advocate of freedom and choice for the learner. However, Wedemeyer also noted that independent study "courses offer less freedom in goal determination and

activity selection" (p. 551). He foreshadowed (or perhaps precipitated) a persistent debate in the literature by critiquing the practice of not individualizing (i.e., personalizing) independent study courses and the general practice and complacency to let the course determine (i.e., prescribe) the goals and activities. In this regard, Wedemeyer questioned "the seeming rigidity of the format and materials [that] apparently deters teachers and students from more completely exercising their respective options" (p. 551). He insisted that "the independent study method is not, in its basic concepts, different from other teaching-learning methods" (p. 553).

**Theory of transactional distance.** Moore (1983) introduced the concept of transactional distance which clearly defines the relationship between learner and instructor. He states that "transactional distance is a distance between learner and teacher which is not merely geographic, but educational and psychological as well" (p. 155). In other words, it is a relationship between dialog (autonomy) and structure. More specifically, Moore in 1980 highlights that transactional distance is a measure of student involvement in distance education courses, transactional distance was defined as a function of dialogue and structure. Moore's idea is that a smaller transactional distance would be a sign of greater involvement by the students. More dialogue between instructor and students indicated a smaller transactional distance, while more structure provided by the instructor was taken for a proxy for a larger transactional distance. In a mode of teaching, Wallace (2003) states that transactional distance can vary depending on how the course is structured and delivered. For example, indicates Wallace, lectures with no discussions are characterized by large transactional distance (high structure, low dialogue) while synchronous online peer-group discussions have small transactional

distance (low structure, high dialogue). Moore and Kearsley (1996) hypothesized a third factor, student autonomy interacted with dialogue and structure and that the three together formed a useful model for understanding the role of the learner in distance education, a model they called theory of transactional distance. Moore describes his theory of transactional distance in the following terms:

> The theory of transactional distance has served as a tool than can be used to describe distance education courses and programs and to locate any one in relation to others in the universe of such events. At the same time it provides a framework within which researchers can locate numerous variables of structure, dialogue, and learner autonomy, and then ask questions about the relationships among these variables (Moore & Kearsley, 1996, p. 211).

According to So and Brush (2008), when we approach the concept of distance as a psychological dimension, there are several important questions to examine: how learners perceive psychological distance; what are the factors affecting learners' perceptions of psychological distance; how learners' perceptions of distance affect their learning; what are the strategies to minimize psychological distance. Although these factors are very important to distance learning theory, there is no room to discuss them in detail in this paper.

**Theories of interaction and communication.** It is important to discuss to understand the concept and role of interaction in distance learning environments. Interaction can be defined as a reciprocal communication process between human and human and between human and non-human (So & Brush, 2008). The most frequently

used typology in distance education may be Moore's (1991) three types of interactions: (1) learner-content interaction, (2) learner-instructor interaction, and (3) learner-learner interaction. A fourth type of interaction may be considered: learner-interface interaction, but I will focus on the first three types of interaction aforementioned because of the lack of enough literature that addresses the fourth type.

***Learner-content interaction***. Interactionist theorists apply Vygotsky's (1978) socio-cultural theory of human mental processing to define the role of interaction in language learning and hypothesize that learners gain proficiency when they interact with one another, teachers and peers. As regards the first type of interaction (learner-content interaction), according to Moore and Kearsley's (1996), a major role of distance educator is to present appropriate content and promote interaction between this content and the learner in ways that will cause the learner to "construct knowledge through a process. Learner-content interaction cannot occur if learners do not understand the content; therefore, a critical design feature for learners includes comprehensible input. The use of multimedia may, for instance, provide additional support for comprehension and also accommodate different learning styles. Individuals who need more cooperative learning to interact with others, may respond better to an assignment that necessitates group communication, while more field independent learners might prefer an individual assignment with time to be introspective.

***Learner-instructor interaction***. The second type of interaction, learner-instructor interaction, is seen as essential in distance learning environments. The instructor's role is to present content and then maintain the learners' motivation and interest, while assisting them as they interact with the content. Individualized attention is essential because it

addresses the needs, motivation, and performance of each individual learner (Ariza & Hancock, 2003). According to Moore (1991), social interaction prompted by the instructor and his/her prompt feedback are both elements of students' satisfaction with the course. Instructor-students interaction, among other forms of interaction, is also seen as a predictor of student success in online courses. In a research on the role of instructor-learner interaction, Dennen et al. (2007) found that student satisfaction is related to the belief that learners will feel more satisfied if their interpersonal communication needs are met. Among other top priority actions instructor should carry out to meet student needs in that research were: (a) checking his/her email to assess learners' needs; (b) responding to student inquiries; (c) providing timely feedback; and (d) providing extensive feedback.

***Learner-learner interaction***. The third type of interaction, learner-learner interaction, according to Moore and Kearsley (1996), is also called inter-learner interaction, i.e. interaction between one learner and other learners, alone or in group settings, with or without the real time presence of an instructor. Many researchers believe that computer-mediated interaction for learners has beneficial features (Blake, 2000; Lamy & Goodfellow, 1999; Warschauer, 1998). Warschauer believes that it is less threatening than face-to-face interaction and may encourage risk taking while allowing students to set their own pace. In addition, it allows learners to have access to their texts, which can be analyzed.

As aforementioned, interaction is seen as central to an educational experience and is a primary focus in the study of online learning. In a study on the nature of online interaction in four distance education course designs, Garrison and Cleveland-Innes (2005) found that design had a significant impact on the nature of the interaction and

whether students approach learning in a deep and meaningful manner. As Garrison and Cleveland-Innes put it: "The purpose of an educational experience, whether it is online, face-to-face, or a blending or both, is to structure the educational experience to achieve defined learning outcomes" (p. 134). However, Picciano (2002) drew a distinction between interaction and presence. Interaction by itself, according to Picciano, does not presume that one is engaged in a process of inquiry and cognitive presence exists. In other words, the quantity of interaction may not reflect the quality of discourse (i.e., cognitive presence). In this sense, students are expected to reach a high level of critical thinking and knowledge construction through cognitive engagement, a term first coined by Corno and Mandinach (1983) used in research to examine classroom learning from the perspective of learning, motivation, and instruction.

Speaking of motivation, Biggs (1999) described two distinct groups of learners: those who learn for the sake of knowledge acquisition and those who learn to gain a passing grade or qualification. The first group typically learns by using a deep approach and is highly engaged. They study to learn and are motivated to go beyond the basic requirements for passing. Surface learning, on the other hand, involves only as much as is necessary to get a passing grade; learners who use this approach are less cognitively engaged than their counterparts (Richardson & Newby, 2006). Cognitive engagement may be possible when the interaction or discourse is structured and cohesive. According to Richardson and Newby, scholars put forward various factors that facilitate critical thinking within asynchronous web-based discussion: the level of questions asked and roles of the instructor. Asking thoughtful questions plays an important role in inducing students' higher level cognitive processes, such as self-reflection, revision, social

negotiation, and conceptual change of students' misconceptions, all of which are integral to critical thinking (Yang, Newby, & Bill, 2005). Yang et al. suggest the use of Socratic questioning, one of the powerful teaching approaches that can be used to guide students in generating thoughtful questions, thus fostering their critical thinking skills, to stimulate students' minds by continually probing into the subject with thought-stimulating questions. Fostering cognitive presence often depends on the kind of collaboration and sense of community that exist among learners.

**Theory of social presence.** The genealogy of social presence can be traced back to Mehrabian's (1969) concept of immediacy. Mehrabian defined immediacy as "those communication behaviors that enhance closeness to and nonverbal interaction with another" (p. 203). Short, Williams, and Christie (1976), were the first to introduce the concept of social presence. Their work was initially based on previous research that addressed one-to-one interpersonal communication. They defined the social presence theory as "the degree of salience of the other person in the interaction and the consequent salience of interpersonal relationships (p. 65)." It was through this research that these scholars sought to obtain a better understanding of how mediated communication could affect the learner's feelings of satisfaction, attitudes and behaviors (affective learning), their sense of being perceived as "real" (social presence), and their overall retention of knowledge (cognitive learning) in a distance-learning environment. In an attempt to obtain a better understanding of social presence, Short et al. (1976) investigated, compared and evaluated the effects of social interaction via various types of communication media. It is through this exploration that Short et al. (1976) defined social presence as "a quality of the medium itself" (p. 65). Although Short et al. (1976)

conceived the theory of social presence and attempted to define it as simply as possible, it is apparent from the body of literature that a standardized definition for the theory of social presence remains lacking. A decade ago, the term social presence was defined as "the degree of salience of another person in an interaction and the consequent salience of an interpersonal relationship" (Tu, 2002, p. 39). Social presence has emerged as an important social factor in the field of distance learning (Gunawardena & Zittle, 1997), but in order to fully understand the concept of social presence, it is important to understand what socialization and presence entails. According to Kanwar and Swenson (2000), socialization refers to the "process by which people learn the characteristics of their group and the attitudes, values, and actions thought appropriate for them" (p. 18). Jacobson (2001) described presence as "the sense of being caught up in the representation of virtual worlds" (p. 653) or as Garrison and Anderson (2003) put it "the ability of learners to project themselves (i.e. their personal characteristics) socially and emotionally, thereby representing themselves as "real" people in a community of inquiry" (p. 115). With these definitions in mind one can see how the learner's perception of presence could affect their desire to socialize with peers. In addition, the learner's comprehension or retention of knowledge (cognitive learning) as well as their feelings, attitudes, behavior and satisfaction (affective learning) with the course may also be affected.

As computer-mediated communication (CMC) technologies have become more sophisticated, more widely used, and used with greater skills, theoretical constructs of social presence in CMC environments, including online learning environments, have also evolved and changed (Kehrwald, 2008). Social presence appeared to be a social and

communication factor that is particularly important to distance learners' perceptions of psychological distance with their instructor and other learners (Gunawardena & McIsaac, 2004). In other terms, social presence within the online environment is the degree of feeling, perception and reaction of being connected (Tu & McIsaac, 2002). In addition, social presence is dynamic because its roles and functions are related to various factors such as the contexts of communication, the type of communicative task, and the learners' particular traits (skills with the media, cultural dispositions, and confidence in communications).

Wiske, Franz, and Breit (2005) argue that learning is a social process that is mediated by language and advanced through interpreting and negotiating meaning with other people. Social presence enables for the critical discourse required for a community of learners to function successfully in the online world. Because the social construction of knowledge within a community draws from and connects to a larger community and culture, it is of prime importance for learners and educators, at the beginning of educational experiences, to see and sense the other participants in order to create the condition for sharing and challenging ideas through critical discourse (Garrison & Cleveland-Innes, 2005). Social presence is henceforth imperative for the development of the learning community and cultivating an environment of trust, where participants are free to express emotions, ideas, concerns, and collaborate. The instructor's intentional planning of activities to promote social presence and cohesion among group members contribute the degree of social presence experienced by learners. Redmond and Lock (2006) argue that successful communication and collaboration requires profound, pedagogical insight, an eye for situations and skills in guiding other people. Among

other strategies that foster social presence are activities focusing on getting to know each other by posting personal information, images and artifacts.

**Theory of connectivism.** Connectivism is a theoretical framework for understanding learning (Kopp & Hill, 2008). In connectivism, the starting point for learning occurs when knowledge is actuated through the process of a learner connecting to and feeding information into a learning community. In the connectivist model, a learning community is described as a *node*, which is always part of a larger network. Nodes arise out of the connection points that are found on a network. A network is comprised of two or more nodes linked in order to share resources. Nodes may be of varying size and strength, depending on the concentration of information and the number of individuals who are navigating through a particular node (Siemens, 2008).

According to connectivism, knowledge is distributed across an information network and can be stored in a variety of digital formats. Learning and knowledge are said to "rest in diversity of opinions" (Siemens, 2008, para. 8). Learning transpires through the use of both the cognitive and the affective domains; cognition and the emotions both contribute to the learning process in important ways. Since information is constantly changing, its validity and accuracy may change over time, depending on the discovery of new contributions pertaining to a subject. By extension, one's understanding of a subject and one's ability to learn about the subject in question will also change over time. Connectivism stresses that two important skills that contribute to learning are the ability to seek out current information, and the ability to filter secondary and extraneous information. Simply put, "The capacity to know is more critical than

what is actually known" (Siemens, 2008, para. 6). The ability to make decisions on the basis of information that has been acquired is considered integral to the learning process.

The learning process is cyclical, in that learners will connect to a network to share and find new information, will modify their beliefs on the basis of new learning, and will then connect to a network to share these realizations and find new information once more. Learning is considered a ". . . knowledge creation process . . . not only knowledge consumption." One's personal learning network is formed on the basis of how one's connections to learning communities are organized by a learner. Siemens (2008) asserts, "The ability to see connections between fields, ideas, and concepts is a core skill" (para. 10). The connectivist metaphor is particularly timely, since the navigation of the Internet and the means by which information is dispersed on the Internet now provides a reference point for Siemens' assertions.

A review of the literature reveals connectivism to be a step beyond constructivist learning theory. According to Siemens (2005), it can be understood that connectivism presents a new way in which learners gather and assimilate information.

Eight core principles of connectivism identified by Siemens are:

1. Learning and knowledge rests in diversity of opinions
2. Learning is a process of connecting specialized nodes or information sources
3. Learning may reside in non-human appliances
4. Capacity to know more is more critical than what is currently known
5. Nurturing and maintaining connections is needed to facilitate continual learning

6. Ability to see connections between fields, ideas, and concepts is a core skill
7. Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities
8. Decision-making is itself a learning process

Since the knowledge base of the 21st century is migrating from individuals to the clouds, future workers must learn how to access the networked data and mash it up in the most effective way to meet their present need. Collaboration isn't so much about connecting with people who "know" but rather connecting with people who possess the "connections" we need. Therefore, Connectivism is about teaching learners how to access and acquire real time data of value and share it in a meaningful way that benefits society.

So far I have discussed the different theoretical developments and contributions that play a significant role in distance education. Now it is time to turn to the next section about sociocultural learning theories and their implications for online learning.

**Sociocultural Learning Theories and their Implications for Online Learning**

Sociocultural learning theories are learner-centered and provide insight into collaborative approaches to student learning. These theories take into account the social and cultural aspects of acquiring knowledge (Wang, 2007). In other words, sociocultural learning theories put more emphasis on the roles that social relations, community, and culture play in cognition and learning (Rogoff, 1990). In this section, two important theories are discussed because of their connection and relevance to online learning: (a) collaborative learning and (b) community of learners. In addition, the influences of

culture and ethnicity and learner characteristics in online learning environments are explored.

**Sociocultural learning theories and collaborative learning.** Sociocultural learning theories draw heavily on the work of Vygotsky (1978) as well as other later theoreticians, such as Lave (1988), Lemke (1990), Rogoff (1990), and Wertsch (1998). These theories argue that learning, thinking, and knowing are relations among people in activity in, with, and arising from the socially and culturally structured world (Lave, 1991). Vygotsky states that learning is embedded within social events, and social interaction plays an important role in the improvement of learning. The major theme in Vygotsky's (1978) socio-cultural theory of learning is that human intelligence originates in the society's learning environment, and the individual's growth in cognition occurs first through interpersonal rather than intrapersonal situations. One important aspect of Vygotsky's theory is the "Zone of Proximal Development" (ZPD). This is a zone in which a learner cannot achieve an understanding of a new idea or concept unless he/she acquires help or feedback from a teacher or a peer. Vygotsky stated that the ZPD is the distance between the "actual developmental level as determined by independent problem solving" and the higher level of "potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 86). In Vygotsky's view, peer interaction is an important way to facilitate individual cognitive growth and knowledge acquisition. Vygosky's idea assumes that because of engagement in collaborative activities, individuals can master something they could not do before the collaboration. In other words, collaboration is more a matter of participation in a social

process to construct new knowledge and cognition growth than an individual endeavor (Lipponen, 2002).

**Collaborative learning**. Collaborative learning is defined as "an activity that is undertaken by equal partners who work jointly on the same problem rather than on different components of the problem" (Brandon & Hollingshead, 1999, p. 111). Before engaging into collaborative learning, it is important to know what collaboration means. Collaboration involves the interdependence of individuals as they share ideas and reach a conclusion or produce a product. Collaboratively, these individuals must come to a common understanding of the problem, identify what they as a group already know, and focus on what areas they need to research or investigate further. They must also come up with a plan of action and possibly conduct independent work that will ultimately affect the rest of the team. As Lauron (2008) sums it up, collaboration is any activity in which two or more people work together to create meaning, explore a topic, or improve skills. Since learning takes place most effectively in social situations from a sociocultural learning perspective, collaboration has multiple advantages in online learning. For example, Goldenberg (cited in Lauron 2008) has found that collaborative groups had a higher retention rate, were more motivated, and more supportive of fellow students' efforts. So, collaborative learning, as an instruction method in which students at various levels work together in small groups toward a common goal (Gokahle, 1995), is an important component of online learning. .

Vygotsky (1986) says that learning appears twice: first on the social level and later on the individual level. Without social and cultural interaction, meaning of context and content would not exist. At the same time, the means and the transference from the unknown to

the known would disappear. Therefore, collaboration serves as a powerful vehicle of socialization in human psychological development.

Several studies have linked increased satisfaction in an online course to increased collaboration (Ferguson & DeFelice, 2010). Ferguson and DeFelice assert that effective communication between students and instructors is vital to a successful online course and that instructional strategies should include a variety of ways to promote communication such as live chat rooms, threaded discussions, and the use of blogs, combined with prompt responses to all email inquiries.

Jung, Choi, Lim, and Leem (2002) found that students who reported a high level of collaboration with others in the course also expressed a high level of satisfaction than those who engaged solely in task-oriented interaction with the instructor.

**Community of learners.** According to sociocultural theories, learning is enhanced when knowledge is shaped by the activities and perspectives of the group. There will be an opportunity for more academically capable students to assist those who are less capable (Vygotsky, 1986). In adult learning situations, the teacher becomes the facilitator whose responsibility is to create a climate to foster collaborative learning. Both teachers and learners are participants in the learning process, "a sense of community is created, and knowledge is considered to be located in the community rather than the individual" (Imel, 1991, p. 1). Also, engaging the learner in reflective and collaborative thought processes through learner to learner interaction results is the most effective learning strategy (Cox & Cox, 2008). Liu, Magjuka, Bonk, and Lee (2007) suggest the following strategies for fostering student high level of communication, cooperation, and collaboration: (a) designing an onsite orientation, (b) encouraging students to post their

personal profiles, and (c) incorporating an online café for off-topic discussions. Liu at al. add that encouraging high quality discussion through assessment and peer critique, group projects requiring extensive negotiation and modeling of effective communication skills in online discussion foster effective learning.

In the community of learners, students take on the role of collaborative community members. They work together toward their common goal—to complete the task. In achieving this goal, they will listen to others and engage in brainstorming and discussion in order to find the best solution to the question or complete the task. Students are provided with opportunities to express themselves and take initiatives. Teachers are guides who can intervene if students ask questions or stray off the task in the class. As Kumpulainen and Wray (2002) summarize it, in the community of learners, "the students also had opportunities to practice various social skills as they jointly worked out problems and co-constructed knowledge in the learning community" (pp. 13-14).

So far I have discussed the importance of collaborative learning and the community of learners and their relationship to student satisfaction. Now, it's time to look at other factors that may influence online learning. The next few paragraphs discuss the influence of culture and ethnicity as well as learner characteristics and how they influence online learning experience.

Research by Hill, Song, and West (2009) has shown that several factors influence teaching and learning per social learning perspectives: context, culture, and learner characteristics. Context is integral to how cognition facilitates understanding (Brown, Collins, & Duguid, 1989). According to Pea (1993), cognition involves exploiting various resources in the environment (human and nonhuman) in order to develop

understanding. From a social learning perspective, knowledge is constructed while individuals are engaging in activities, receiving feedback, and participating in other forms of human interaction in public, social contexts (Henning, 2004). Because cognition is not considered an individual process, learning and knowing are shaped by the kinds of interactions a student has with others, and the context within which these interactions occur. Another characteristic of social learning theories is that of modeling. A model is a pattern or example that is provided to a student to illustrate how one might behave. The expectation is that observing the model will impact the student's perceptions and understandings about the subject (Lefrancois, 1982), something that has been supported by research in face-to-face settings (e.g., Bandura, 1977). Research is also beginning to provide evidence of this in online environments. An example of how modeling impacts online learning is found in online discussions. Some studies have found that when there is a strong example, or model, of how to reflectively interact with others in online learning (e.g., discussion board), then the class engages in the learning more effectively. For example, Garrison and Cleveland-Innes (2005) conducted a study in which they surveyed 75 undergraduate students representing four different groups: two groups with low teacher presence (low modeling) and two groups where there was high teacher presence (high modeling). They found that in the last group, where high teacher presence combined with a course design that emphasized critical discourse, students engaged in much deeper and more meaningful learning.

**The influence of culture and ethnicity**. The influence of culture during online learning has been primarily explored through two lenses: gender and ethnicity. Recent research indicates that female students tend to want more support, have a stronger sense

of learning community, and exhibit a more connected communication pattern (Jeong, 2006; Rovai, 2002; Wheeler, 2002). For instance, Fahy (2002) examined gender-related communication differences in the use of linguistic qualifiers and intensifiers in a fifteen-week online graduate course. The study focused on linguistic qualifiers and intensifiers in the transcripts of 356 postings. Results indicated that female students tend to use more qualifiers (e.g., "I think," "maybe"), whereas male students tend to use more intensifiers (e.g., "very," "only").

Ethnicity also appears to influence perceptions of the online learning experience. Studies exploring English as a second language learners have provided insight into how an online environment may help assist in the learning process. In Biesenbach-Lucas's (2003) study of nonnative speakers, participants indicated that asynchronous discussions helped facilitate assimilation of the course content. Some (e.g., Petrides, 2002) have speculated that asynchronous discussions allow more time to reflect, which may be particularly valuable among learners with limited synchronous, real-time language fluency. Based on such fundamental design decisions, online learning communication affordances may enable or limit opportunities to address individual cultural needs and the needs of the larger group.

**Learner characteristics**. Hill, Song, and West (2009) identified four characteristics that influence learner cognitive activities. There are learner's epistemological beliefs, individual learning styles, self-efficacy, and motivation. These characteristics are briefly discussed below.

***Personal epistemological beliefs***. Personal epistemological beliefs refer to one's beliefs about "the definition of knowledge, how knowledge is constructed, how

knowledge is evaluated, where knowledge resides, and how knowing occurs" (Hofer, 2002, p. 4). As students experience and learn, their thinking and judgment about knowledge and knowing changes. This, in turn, has implications for others learning with and from the individual. Research on student epistemological beliefs (Tsai and Chuang, 2005) indicated that students holding constructivist-oriented beliefs tended to prefer Internet-based learning environments that fostered inquiry learning and reflective thinking.

***Individual learning styles***. Individual learning styles "describes learner preferences for different types of learning and instructional activities" (Jonassen & Grabowski 1993, p. 5). As students experience a variety of learning environments, online and face-to-face, their predilections for learning may become reinforced or they may change as students adapt to new settings.

Graff (2003) studied the influence of individual characteristics during online learning among undergraduate psychology students using two forms of a Web-based instructional system, one with course content segmented to a greater degree than the other, to investigate the influence of information segmentation and a Web system overview on learning. Using Riding's Cognitive Style Analysis, the results indicated that analytic personalities like information less segmented whereas imager personalities perform better in more information segmented online learning environments. Given the indications of differences with information processing styles (i.e., analytics vs. imagers), Graff concluded that online learning designers and implementers should account for different cognitive styles when creating systems to meet individual needs.

***Self-Efficacy***. According to Bandura (1993), self-efficacy reflects the confidence learners report in approaching and handling new tasks. From a social learning perspective, self-efficacy is context-dependent, associated with social anxiety and attention. Research indicates that self-efficacy influences the likelihood of engaging with a task or instruction, the confidence reported in learning, and the probability that knowledge or skill will be applied (Hill & Hannafin, 1997; Pajares, 1996). More recent studies have indicated that self-efficacy may also be related to learning contexts. In a qualitative study of adult learners' self-directed learning in online environments, Song (2005) found that learners who were comfortable with online technologies reported less anxiety associated with learning online, and they engaged more actively in bulletin board and chat discussions. Once learners become familiar with the distance learning technology, they tend to become less anxious and less frustrated (Hara & Kling, 1999; Song et al., 2004), thus increasing the likelihood of individual learning as well as support for the larger community.

***Motivation***. Motivation is categorized as being either intrinsic or extrinsic to the learner. Intrinsic motivation refers to behaviors that are engaged in for personal interest or desire for mastery, whereas extrinsic motivation refers to behaviors that are performed for externally prized consequences (Deci et al., 1991). Consistent with social learning perspectives, Lim and Kim (2003) examined how different types of motivation affected learners' online learning and learning application. The researchers investigated five different types of motivation: course relevancy, course interest, affect/emotion, reinforcement, and self-efficacy. Results indicated that all motivation variables except course interest showed a significant effect on student learning in the individual

ANCOVA (Analysis of co-variance) model where one type of motivation was considered at a time as a covariate. However, only reinforcement and self-efficacy were found to be significant motivation variables influencing students' learning in the simultaneous ANCOVA model, whereas all types of motivation were simultaneously considered covariates. The findings of the study imply the significance of motivation factors in online learning and the complexity of motivation as an influencing factor.

**Criticism of Online Learning**

Some people are concerned that distance education is compromising the quality of education. They believe that technology will denigrate higher education and destroy the special relationships instructors have with their students and students have with each other (Rovai & Barnum, 2003). They cite research evidence that suggests courses taken at a distance can be impersonal, superficial, misdirected, and potentially dehumanizing and depressing, and that they disrupt the interactions that create a productive learning community (Nissenbaum & Walker, 1998; Phipps & Merisotis, 1999; Trinkle, 1999).

On the other hand, many researchers believe that the course delivery medium is rarely the determining factor for a variety of educational outcomes, including student satisfaction and student learning outcome (Russell, 1999). Moore and Thompson (1990) and Verduin and Clark (1991) suggested that teaching and studying at a distance can be as effective as traditional instruction provided: (a) the methods and technologies used are appropriate to the instructional tasks, (b) there is student-student interaction, and (c) there is timely teacher-to-student feedback.

Merisotis and Phipps (1999), in a review of the research literature on the effectiveness of distance education, concluded that the technology involved "is not nearly

as important as other factors, such as learning tasks, learner characteristics, student motivation and the instructor" (p. 17). Furthermore, Owston (1997) wrote, "the key to promoting improved learning with the Web appears to lie in how effectively the medium is exploited in the teaching and learning situation" (p. 29). This view supports Clark's (1983) argument that how the medium is used determines course effectiveness, not the medium itself. Although there remains some debate, many experts in distance education are convinced that learning at a distance can be as effective as traditional programs.

Jones and Paolucci (1997) reported that less than 5% of the published research since 1993 is sufficiently valid to support any conclusions about the effectiveness of using technology in teaching. Moreover, Phipps and Merisotis (1999) questioned the quality of research on the effectiveness of distance education, in particular, the validity and reliability of measurements of student outcomes.

Carr (2000) reported significant variation in distance education dropout rates among schools; with some postsecondary schools reporting course-completion rates of more than 80% and others finding that fewer than 50% of students finished their distance education courses. Such outcomes suggest that distance education programs are not equally effective.

Part of the explanation for this situation may be the variety in course designs. Boshier et al. (1997) described the design of on-line courses along a continuum ranging from "best dressed" to "worst dressed" based on attractiveness, interactivity, and accessibility. They reported that most on-line courses they examined were clustered toward the "worst dressed" end of the continuum. Such courses were particularly deficient in the area of interaction, both student-instructor and student-student.

As Rovai and Barnum (2003) explained:

> The variety of online course designs makes it difficult to characterize the typical on-line program; one might as well try to characterize the typical animal in a zoo. Some online courses resemble the traditional lecture course; others come across as self-paced correspondence courses with no student-student interaction and limited instructor feedback, whereas others are designed to encourage interaction between students and between students and the instructor. Some online courses include collaborative group work and others do not, and some are taught entirely online, whereas others include face-to-face meetings. In addition, some online instructors are well trained in online course design and teaching methods whereas others receive no training (p. 59).

Despite the criticism that distance learning, or distance education, is not a future possibility for which higher education must prepare, it remains a current reality which creates opportunities and challenges for educational institutions; a reality offering students expanded choices in where, when, how, and from whom they learn; a reality making education accessible to ever larger numbers of persons (Mehrotra, Hollister, & McGahey, 2001); a reality presenting a lot of benefits for students, teachers, and administrators as will be discussed in the next subsection.

**Benefits of Online Learning**

The potential advantages of taking online courses are numerous. Among the benefits most often and most consistently reported in the literature is expanded access: namely, access to broader educational opportunities for students who are unable to attend

traditional schools, access to advanced courses and/or courses not typically offered in students' local schools, and access to resources and instructors not locally available (Cavanaugh, Clark, & Barbour, 2008; Li & Beverly, 2008; Ravaglia, Suppes, Stillinger, & Alper, 1995; Wallace, 2005). Distance learning allows adult learners who have employment, family, and/or other responsibilities to update knowledge and skills related to their job by saving travel costs and allowing a flexible schedule (Park & Choi, 2009).

Moore and Kearsely (2005) indicated that most distance education students are adults between the ages of 25 and 50. In 1995 only one-third of the institutes of higher education in the United States offered distance education courses (Lewis, Snow, & Farris, 1999). The 2006-07 national study on distance education sponsored by the Department of Education indicates that "two-thirds (66%) of 2-year and 4-year Title IV degree-granting postsecondary institutions reported offering online, hybrid/blended online, or other distance education courses" (Parsad & Lewis, 2008, p. 2). For a variety of reasons, distance education and online learning are appealing to students, teachers, and administrators in many fields.

**Online learning benefits for students**. In a mixed method study of students enrolled in the University of Illinois-Chicago Masters of Health Profession Education (MHPE) program, Dyrbye, Cumyn, Day, and Heflin (2009) identified three major themes as reasons for choosing to take courses online: (1) convenience and flexibility; (2) cost of the program; and, (3) learning format preference (i.e. preferred online to on-site instructional method). The online learning format provided convenience and flexibility that enabled students to overcome constraints that would otherwise have prohibited their participation in educational programs. The online learning environment provides

students with access to course material and assignments 24 hours a day, 7 days a week (Cavanaugh et al., 2008; Li & Beverly, 2008; Ravaglia et al., 1995; Wallace, 2005).

The online learning format also allows for the use of a wide range of varied multimedia tools to present the course material (Cavanaugh, 2007; Dykman & Davis, 2008; Li & Beverly, 2008; Moore, 2007; Ravaglia et al., 1995), which may allow students more opportunities to choose the strategies that best suit their particular learning styles (Moore, 2007), can provide students more control and direction over their own learning (Cavanaugh, 2007), can encourage independent learning and build students' sense of accountability for their own learning (Li & Beverly, 2008), and often allows students the opportunity to review certain units multiple times or work through the material at a faster pace, according to their individual learning rate (Ravaglia et al., 1995). For example, in Poole's (2000) study of student participation in a discussion-oriented online course, the results indicated that students participated in online discussions at times most convenient to them, such as on Saturdays. Poole also found that students mostly accessed course materials from their home computers, the place most convenient to them. Murphy and Collins (1997) also found similar results in their study of communication conventions in instructional electronic chats. Participants indicated they read and responded to comments in online discussions at times convenient to them (e.g., early morning, late evening).

The research on online learning has also found that the online learning environment opens up doors to a more informal type of communication (Cavanaugh et al., 2008; Dykman & Davis, 2008; Li & Beverly, 2008; Wallace, 2005). Because of the nature of the online format, with its emphasis on "anytime, anyplace" asynchronous

learning, most of the communications between instructors and learners are one-on-one, which opens up the door to the development of a teacher-learner relationship that is more along the lines of a mentor-mentee relationship (Cavanaugh et al., 2008; Dykman & Davis, 2008; Li & Beverly, 2008).

**Online learning benefits for instructors**. The same flexibility that distance students enjoy is shared by the instructor to a lesser degree. Although it is important that the instructor who offers contact time by telephone, chat rooms or e-mail actually responds regularly, neither the distance instructor, nor the institution, are confined to a schedule that classroom availability creates (Warner, 2001). If the method of contact is by e-mail, the instructor does not have to be available at the same moment that the student is available. Flexibility is especially important to the instructor who may have another job to consider. Like the student, the instructor does not need to be resident in or near the same city as the institution. This is an advantage to the instructor who would not need to move or commute, and it is an advantage to the institution that can hire qualified instructors from a larger market.

**Online learning benefits for administrators**. The institution's market for students and instructors increases with distance education because it can expand beyond its geographical limits (Warner, 2001). A student does not need to study at an institution just because it is located in the right place. Its market also increases because students who would not have been able to take courses on campus can now take them by distance. New buildings are not needed to make this happen, but additional equipment and additional academic and support staff is needed. For example, some studies also indicate that online learning enables institutions and/or instructors to reach new learners at a

distance, increases convenience, and expands educational opportunities (Hara & Kling, 2001; Hill, 2002; Hofmann, 2002; Rourke, 2001; Owston, 1997).

**Culturally Different Learners and Learning Satisfaction**

Sociocultural learning theory and constructivism have broad histories ranging from Piaget's schema-based theories to the postmodern constructivist theories in which the locus of knowledge is based in social interaction (Prawat, 1996). Sociocultural theory (Dewey, 1916; Vygotsky, 1986; Wenger, 2000) suggests that one's development is not independently constructed, but rather it is interconnected with social experience to form meaning. Thus, it is possible that the more unique and diverse the social experiences one encounters, the more development may occur. For example, Arvaja (2007) and Tu, Blocher, and Roberts (2008) view learning as based on socio-cultural theory. According to Arvaja, "The socio-cultural approach emphasizes the role of social interaction and activity in the process of knowledge construction, as well as the meditative role of technologies and the historical and cultural settings in which the knowledge construction occurs" (p. 133). However, there are also several issues that dominate the various common computer-mediated communication systems and the participants who engage in group interactions within them (Blocher, 2008). There are especially issues of media richness and communication style differences. In addition, there is the issue of a group's communication norms. These factors, according to Blocher, can impact the group's communication norms, which might be defined by: (1) the makeup of the group membership, (2) the purpose of the group, and (3) the media they employ to communicate.

Considering the cultural dimension as a crucial element in the effectiveness of distance learning, I will argue, support and elaborate on the idea that successful distance learning is not only dependent on optimal uses of available technologies, teachers' pedagogical-content knowledge, and students' motivation level, it is also dependent on the cultural (mental) representations that learners and teachers bring to the learning situation. In this section, I will attempt to define culture, examine the importance of culture to online learning, and discuss whether technology is culturally neutral.

**Culture defined.** Culture is a complex term to define precisely. As such, it has a long and complicated history. In most disciplines, the historical tendency has been to connect culture to nationality and ethnic origin. The first official definition of culture found in the literature was from British anthropologist Sir Edward Tylor (Kroeber & Kluckhohn, 1952). In his book, *Primitive culture*, Tylor defined culture as "that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society" (Tylor, 1871, p. 1).

Since Tylor's seminal work, many definitions of culture have found their way into the scholarly literature. In the early work done by Kroeber and Kluckhohn (1952), they identified 164 different definitions of culture across various disciplines. Although giving a specific definition of culture may be helpful while communicating with a particular group, given the huge number of definitions of culture, it is difficult, if not impossible, to pick one appropriate definition, because different scholars define culture based on their own research interests and experiences (Edmundson, 2007). Fortunately, among the many definitions found by Kroeber and Kluckhohn, a broad consensus on two points has emerged, as described by Danesi and Perron (1999): "(1) culture is a way of life based on

some system of shared meanings; and (2) culture is passed on from generation to generation through this very system" (p. 22) or as Weber (2003) highlights, culture is a set of shared traditions, beliefs, values, and ways of life to which groups or individuals subscribe to varying degrees..

Also grounded in the influential work of Hofstede (1980), the inclination has been to assume national groups as having the same patterns of thought, action, and values. More recently, however, culture has been seen as an entity that transcends ethnic and national boundaries. Viewed from this perspective, culture encompasses "the patterns shaped by ethnicity, religion, socio-economic status, geography, profession, ideology, gender, and lifestyle" (Branch, 1997, p. 7). This more recent definition of culture embraces the idea that every person and human group is both cultural and multicultural. In her part, Koch (2006) identifies three different conceptions of culture in an emerging literature in intercultural e-learning: (a) culture as structure (including the approaches associated with Hofstede); (b) culture as text (e.g. approaches shaped by cultural anthropology); and culture as practice and community (Lave & Wenger, 2002). Koch' approach to culture recognizes that 'technology' itself is a culturally produced and also culturally shaped 'artifact' as opposed to the predominant assumptions found in human computer interaction and computer-mediated communication literature that technology is just a tool, thus neutral. As Reybourn et al. (2003) highlight, digital communication environments are seen as places in which identity can be constructed and negotiated through interaction with other participants where online scenarios are relatively open, thus, invite the formation of so-called third culture. In this third culture, observes Koch (2006):

> Individuals combine elements from the different cultural traditions in which they were socialized to form their own, new self-created identity. In doing so, they transcend their own traditionally, nationally, or ethnically influenced cultural ties in favor of constructs in which elements from different traditions are recombined to form a new cultural self-perception (p. 220).

In other words, culture alive is always on the run, always changeful, to borrow Spivaks'(1999) words or "a site where identities are constructed" (Giroux & Myrsiades, 2001, p. 121). For the purpose of this paper, culture was defined as "an individual's values that can be found across countries or cultures" (Yoo & Donthu, 2005, p. 10). This definition is appropriate for the context of this study because cultural orientation is seen as a result of personal learning through interactions with social environments such as family, workplace, community, host country, and media. Hofstede's typology of culture was used to describe the types of cultural orientation. For example, from the cultural perspective, a person can be described in this study as having high/low power distance, high/low collectivism, high/low uncertainty avoidance, or high/low masculinity (Yoo & Donthu, 2005).

**Importance of culture to online learning.** While online education is increasing in popularity and allows for new possibilities within education (Harasim, 2000) and for cross-cultural educational contexts (Merryfield, 2003), one's culture can inhibit or facilitate learning. Several studies have examined the impact of cultural background on students' learning experiences in online learning, such as gender differences (Fahy, 2002; Rovai 2002; Wheeler, 2002) and ethnicity (Biesenbach-Lucas, 2003; Lim, 2004).

Although the studies are helpful in that they raise people's awareness of its significance, more research is needed to provide in-depth knowledge and understanding of the impact of cultural perspectives. We need to explore how culture impacts the online learning experience.

Thompson and Ku (2005) explored seven Chinese graduate students' online learning experiences in an American university. One of the key findings of this study was that the participants were less critical and opinionated in online discussions than their US peers. Thompson and Ku attributed this finding to Hofstede's (1980) view that "Chinese culture is highly collective and feminine and tends to value group effort, harmony, affection, compassion and emotionality" (p. 43). The study also revealed the participants' frustration with the following issues in online learning: not getting immediate feedback from the instructor, inability to understand specific cultural references in online discussions, and lack of face-to-face communication (Uzuner, 2009).

Tu (2001) and Zhao and McDougall (2008) also looked at Chinese online learners. Tu examined the impact of social context on Chinese graduate students' online interactions in Asynchronous Learning Networks (ALNs) in the U.S., and Zhao and McDougall explored Chinese graduate students' experiences and attitudes toward online learning in a Canadian university. Specifically, Tu's study emphasized the importance of social context in Chinese culture and showed how reliance on non-linguistic cues is tied to the way Chinese students interacted in online learning. In Zhao and McDougall's study, cultural factors that were found to hinder six Chinese students' engagement in online learning were their conservative, modest, and face-saving cultural traits and their unfamiliarity with the disciplinary cultures of education in Canada.

Harasim's (2000) studies revealed that students learned through diversity of ideas and critical dialogue. "These students reported online education to be *more* social and convivial than face-to-face at a time when computer-mediated communications were being dismissed as cold and inhuman; they also noted superior learning opportunities" (p. 48).

In another study conducted by Postma's (2001), it has been documented how South African Learning Centers—as designed by Whites for use by indigenous South African—fail to accomplish their well-intended goals of helping indigenous people acquire the skills and literacy needed to successfully engage in information society. In this study, Postma notes the existence of a cultural conflict between the pedagogical and epistemological assumptions of the ICT designers and those of their indigenous clients. The designers follow the European model in which individual and silent study of texts is emphasized—thereby requiring high literacy skills. In contrast, for many indigenous peoples, knowledge and learning are usually collective activities.

Rather than focusing on one particular nation, some studies investigated the distance learning experiences of various cultural groups. For example, Goodfellow, Lea, Gonzalez, and Mason (2001) focused on non-English speaking adults undertaking graduate level course work at a UK-based higher education institution. They found that these students' unfamiliarity with the linguistic and academic culture of the UK negatively impacted their success and academic performance.

Shattuck (2005) studied Asian and Middle Eastern students taking distance education courses delivered by an American university, and Walker-Fernandez (1999) investigated non-American graduate students' experiences in an American distance

education program while they were situated within their local cultures. These two studies found that cultural differences hinder students' communication and success in online learning, causing them to experience feelings of isolation, alienation, and "dissonance out of conflict with the dominant educational culture" (Shattuck, 2005, p. 186).

Of the studies focusing on culture, Fang's (2007) study was unique because it investigated the impact of multiple levels of cultures (such as national culture, ethnic culture, and cyber culture) on students' online learning experiences. Twenty Singaporean Chinese engineering students were the focus of this study. The purpose was to understand how different levels of culture influenced what these students perceived as useful, enjoyable, and effective in a predominantly online program. The results, based on individual and group interviews, were as follows: Influenced by their national culture, which values achievement and success, the students cared less for fun and exciting activities and valued tasks that led to achievement in learning. Influenced by their ethnic (Chinese) culture, which stresses learning from an authority figure, the students preferred teacher feedback to peer feedback. Lastly, influenced by their cyber culture, the students appreciated the convenience, flexibility, and social benefits of online learning.

Lim (2004) used surveys to compare 236 undergraduate and graduate students' online learning motivation by country. Students enrolled in online courses at four Korean universities ($n$ = 95) and an American university ($n$ = 141) were the participants. The findings were that regardless of the country affiliation, all students considered course relevancy (belief that a particular course matches a student's needs) as the most important motivational factor in their online learning. The differences between the two groups were that while American students indicated they "prefer voicing personal opinions during

class, enjoy learning and enroll in classes to obtain a sense of belonging," Korean students expressed their tendency to "avoid voicing their opinions and keep passive and quiet during class as they are influenced by the authoritarian classroom context of Asian culture" (pp. 169-170). These findings supported Lim's contention that cultural orientation influences national groups' learning motivation in online learning.

Hannon and D'Netto (2007) surveyed Australian and non-Australian/international students to find out how linguistic and cultural backgrounds impacted their engagement in online learning. The students surveyed were undergraduate and graduate students (*n* = 241) taking business classes at a large Australian university. The findings revealed that international students differed from Australian students in terms of their perceptions of and satisfaction with their online learning experiences. Specifically, international students experienced more challenges with technological aspects of online learning and more isolation than their Australian peers.

**Is technology culturally neutral?** There is also a widespread notion that technology is culturally neutral or even irrelevant and can be easily used in a variety of settings. In the online context, communication takes place through a computer-mediated environment, by which people create, exchange, and perceive information using networked telecommunications systems that facilitate encoding, transmitting, and decoding messages. Three attributes of computer-mediated communication, time-independence, text based communication, and computer-mediated interaction (Harasim, 1990), influence the way individuals communicate in groups. Each of these attributes has strengths and weaknesses that can detract from or add to the complexity of the communication (Gunawardena et al., 2003).

For example, Rogers, Graham, and Mayes (2007) in their interviews with instructional designers quote an interviewee they pseudonymously refer to as 'Derek': "I believe that good instructional design principles and techniques are universal, cross-cultural. It doesn't matter where in the world they are coming from […]" (p. 210).

However, McIsaac (1993) disagrees with these assumptions when she states that media, materials and services are often inappropriately transferred without paying attention to the social setting or to the local recipient culture. This means, as Ess (2011) commented: "online learning technologies and techniques grounded in one's culture (s) will reflect the cultural values and communication preferences of that culture, including basic assumptions regarding what sorts of knowledge (s) are of value (and hence to be learned) and how those knowledges are to be acquired." (p. 20). In other words, as McLoughlin (1999) observes, "Culture and learning are interwoven and inseparable" (p. 232).

This view of the important role of culture in online learning contradicts Hall (1976) and Hofstede (1980) who assumed a national culture as something fixed and shared in equal degrees by all its members. While Hofstede and Hall's frameworks remain salient and useful, Baumgartner (2003) found that at least twenty two cultural factors affect the design and appropriation of new technologies.

For instance, in their cross-cultural study of identity, gender, and language in synchronous cybercultures in high context cultures (Morocco and Sri Lanka), Gunawardena, Alami, Jayatilleke, and Bouachrine (2011) found that CMC is not a mere neutral technological innovation but a practice that is affected by the culture and society of its users (p. 49). More specifically, chatters in this study developed unique forms of

language and visual expressions to communicate their ideas and feelings through a new medium, thus, building new identities online.

Using surveys and focus group interviews, Gunawardena, Nolla, Wilson, Lopez-Islas, Ramirez-Angel, and Rosa (2001) examined Mexican and American students' perceptions of online group process and development. Fifty American and 50 Mexican students who were enrolled in distance education programs in their respective local contexts participated in this study. Framed within theories of group development, diversity, and culture, this cross-cultural study found strong evidence showing the influence of students' national culture on their online learning behaviors. For example, compared to their American peers, Mexican students showed higher tendencies for affection, compassion, and emotion in online group processes, a finding that reflects the importance of care and affection in Mexican culture (Hosftede, 1980).

**Cultural orientation.** Researchers have begun employing cultural parameters in their studies regarding online education (Srite, Thatcher, & Galy, 2008; Zaharias, 2008). Some studies have examined both technology acceptance and national culture (Gallivan & Srite, 2005; Srite & Karahanna, 2006). A majority of the studies in this field have employed Hofstede's framework and cultural dimensions. According to Hofstede (1997, p. 9), culture is "the collective programming of the mind which distinguishes the members of one group or category of people from another."

I need to offer a few cautionary remarks here, however, since individual members of a culture may vary from the typical pattern of their own culture. Factors as divergent as socioeconomic status, educational level, occupation, personal experience, age, and gender can also shape the individual's view of the environment. Thus, variations in

students' cultural orientation and to some extent their satisfaction with online learning might sometimes be caused by differences in individual behavior.

To understand the nature of cultures and their different behaviors, generalizing about common characteristics is unavoidable to develop a better understanding as long as one does not let these generalizations turn into stereotypes, represented by an oversimplified opinion, prejudiced attitude, or uncritical judgment (Reimann et al., 2008). Despite these caveats, Hofstede's (1980) cultural values dimensions do remain a valuable tool for understanding an individual's fundamental cultural orientation.

These four cultural orientations examined in this study are *the degree of power distance*, indicating the extent to which a society accepts the fact that power in institutions and organizations is distributed unequally; *the degree of uncertainty avoidance*, indicating the extent to which a society tries to avoid uncertain situations by, for example, establishing more formal rules and believing in, and/or striving for expertise; *the degree of individualism*, indicating the extent to which relationships are based on loose social frameworks rather than on collectivism and when people are tightly integrated into primary groups, such as families and organizations; and *the degree of masculinity*, indicating the extent to which dominant values or roles in society are viewed as "masculine," for example, achievement, assertiveness, and performance, when measured against its opposite pole, "feminine," defined as quality of life, caring for other people and also social and gender equality. These four cultural orientations (Hofstede, 1997) can be used to examine important intercultural value differences, including satisfaction (Donthu & Yoo, 1998).

Culture, as stated earlier in this paper, refers to values, traits, beliefs, and behavioral patterns that may characterize a group of people while cultural orientation refers to the participants' level of power distance, collectivism, uncertainty avoidance, and masculinity. So, they do not mean the same thing in this study. Hofstede (1991) suggested that culture reflects a composite of human nature and personality (i.e., values and traits inherited or learned by individuals). Hofstede's cross-cultural research has identified an array of cultural values including individualism/collectivism, masculinity/femininity, power distance, and uncertainty avoidance, which may influence the satisfaction levels of students taking online courses.

Researchers have suggested various aspects of cultural orientation as universal. But, through a survey of more than 70,000 IBM workers in 67 countries, Hofstede (1980, 2001) empirically identifies dimensions of culture that integrate the cultural values proposed for years prior to Hofstede and shows their meaningful relationships with important demographic, geographic, economic, and political indicators of a society (e.g. Clark, 1990; Kale & Barnes, 1992). Hofstede's indices of national culture have been adopted widely to characterize the national culture of a country of interest, that is, the modal cultural characteristic of the country. Empirically, Hofstede takes the personality-centered approach to culture, which is to collect data from random samples of individuals and generate evaluations of the societal culture. However, it has been observed that individuals show as much heterogeneity of cultural orientation as countries do (e.g. Rokeach, 1973; Schwartz & Bilsky, 1990). Graff, Davies, and McNorton (2003) found individual differences in terms of attitudes with respect to computer-based learning and differences between students belonging to the UK and China. Srite et al. (2008)

suggested that cultural values influence technology acceptance and use; in particular, collectivism directly influences the use of computer-based learning systems. Downey, Wentling, Wentling, and Wadsworth (2005) evaluated the relationship between national culture and the usability of an online learning system and reported that individuals from cultures with low power distance indicators found the system more beneficial as compared to individuals from high power distance cultures. This may be necessary for recognizing the role played by cultural differences in the acceptance of online courses as well as in understanding student satisfaction. This study applies Hofstede's (1980, 2001) typology of culture to describe the exhaustive types of personal cultural orientation. In other words, the cultural values of an individual in terms of Hofstede's dimensions of culture that primarily have been used to characterize countries are identified.

***Power distance***. Power distance is the extent to which people accept the unequal distribution of power in society (Hofstede, 1980, 1991; Hofstede & Bond, 1984). Hofstede (1986) draws a distinction between Eastern cultures (China, Taiwan, Thailand, etc…) which are collectivist, intuitive, and indirect, traditionally focused on relationships, roles, and status, and Western cultures (e.g. US, Germany, UK, etc…) which have a definite orientation towards individualism, are logical, rational, direct, and success-oriented. In addition, according to Hofstede, western cultures base their ethics on competitiveness whereas the ethics of Eastern cultures are based on humility and calmness; Easterners value cooperation and harmony more than competition between individuals.

According to Hofstede (1991), power distance and individualism/collectivism are related in many societies. Specifically, collectivistic cultures tend to be high power

distance cultures and individualistic cultures tend to be low power distance cultures. Therefore, it is expected that members of high power distance cultures are more likely to engage in face saving indirect communication than their low power distance counterparts (Merkin, 2006). Cultural power distance suggests that members of high power distance cultures accept power as part of society and members of low power distance cultures favor the relatively equal distribution of power in society. Therefore, individuals may vary in the degree to which they accept the unequal distribution of power.

However, the influence of power distance, particularly individual-level power distance, on classroom communication, is largely ignored in instructional communication, and very little published research to date seems to have investigated the possible effects of individual-level power distance on student online learning satisfaction. Because high power distance creates distance and encourages hierarchy, whereas low power distance shortens distance and fosters egalitarianism, it seems plausible to assume important differences between student individual-level power distance and online learning satisfaction. For example, Hofstede (1980) cited power distance and uncertainty avoidance as two of the cultural dimensions most problematic for effective group performance.

Wang (2007) conducted a cross-cultural study to investigate the differences among Chinese, Korean, and American students in terms of their motivation to participate in online discussions, perceptions of online team work, and comfort level in approaching their online instructors. Participants in this study were students from universities across the US, China, and South Korea and data were drawn predominantly from online surveys. The findings revealed that students' cultural identity has a

significant impact on their participation in and perceptions of online learning. Specifically, course requirement was found to be the major factor behind Korean and Chinese students' participation in online discussions and activities. American students, on the other hand, indicated that they participated in online discussions because they enjoyed connecting with their peers. All three cultural groups preferred asynchronous discussions to synchronous ones. Wang (2007) attributed Korean and Chinese students' preference for asynchronous communication to an Asian cultural trait, "think more, talk less, and think it through before speaking" (p. 303). Although all three cultural groups found individual work boring and challenging, mixed results were found regarding their perceptions of online team work. Among the three groups, Korean students were found to be the least comfortable with online collaborative work. The study also showed that American students tended to communicate more with their instructors because they perceived them as equals, whereas Korean and Chinese students reported low levels of comfort in approaching their instructors. Wang (2007) attributed this finding to Asian culture's embodiment of power distance.

***Collectivism***. The collectivism dimension refers to the balance in a society between the expectation that individuals put their own interests foremost and the expectation of group integration (Cukier & Middleton, 1996; Hofstede, 1980; Mejias, Shepherd, Vogel, & Lazaneo, 1997). In individualist societies, relations between individuals are loose and people care more about themselves and their immediate family (Watson, Ho, & Raman, 1994). In collectivist societies, according to Watson et al., individuals consider themselves as part of larger society and tend to consider the interests of the overall society above personal benefit. Whereas in individualist cultures, the most

important distinction is between self and others, in collectivist cultures, the self is always defined in the context of social networks, and the important distinction is the line between in-group and out-group. Collectivists are characterized by a "we" consciousness, which means that their identity is based on the social system in which they are embedded. Moreover, Hofstede argues that collectivist cultures are characterized by high-context communication (Hall, 1976) because the tightly knit social system encompasses many rules that regulate people's behavior.

In contrast, individualists live in a society in which everyone is supposed to take care of him- or herself and his or her immediate family only. These cultures are characterized by a strong "I" consciousness and the emotional independence of individuals from institutions and organizations. Furthermore, individualist cultures are characterized by low-context communication (Hall, 1976).

Anakwe and Christensen (1999) investigated whether differences arising from individualistic and collectivistic cultural orientations impacted 424 undergraduate and graduate students' perceptions of distance learning in two American universities. The results showed distance learning to be more compatible with individualists' motives and ways of interacting. A similar study was also conducted by Tapanes, Smith, and White (2009). Based on survey data obtained from 40 online students from two American universities, this study found students from collectivistic cultures to be less motivated to participate in online learning than those from individualistic cultures.

Furthermore, Wurtz (2005) observes that high-context cultures tend to be collectivistic while low-context cultures tend to be individualistic and that collectivistic cultures prioritize group welfare over the goals of the individual. Individuals in

collectivistic cultures tend to be interdependent with others and will usually have built a network of deep-rooted relationships and personal, loyal ties. Values in collectivistic cultures include training, physical condition, and the use of skills. Low-context cultures, however, tend to be individualistic, where emphasis is put on the goals and accomplishments of the individual rather than the group. Individuals are expected to be independent of others and look after themselves. All these characteristics can influence how learners interact and/or perceive satisfaction in an online learning environment.

***Uncertainty avoidance***. Uncertainty avoidance dimension is 'the extent to which the members of a culture feel threatened by uncertain or unknown situations' (Hofstede, 1991, p. 113). In his research, Hofstede (1980, 2001) compared low and high uncertainty avoidance in societies and used the degree of uncertainty avoidance to distinguish between societal norms. With regard to beliefs, attitudes, and behaviors, *low uncertainty avoidance* refers to the following characteristics: low levels of stress and anxiety, weaker superegos and less showing of emotions, aggressive behavior being frowned on, greater tolerance and acceptance of diversity and uncertain situations, and a strong belief in general approaches and common sense to problem solving, whereby people should be rewarded for innovative approaches. Furthermore, commitments are less binding and relationships are built quickly, but they can also be dissolved as quickly; commitment also focuses on short-term planning (up to 5 years); rules and laws should be adaptive and changed if they don't work; there is greater acceptance of dissent; and there is willingness to take unknown risks (Reimann et al., 2008).

On the other hand, *high uncertainty avoidance* refers to higher stress levels and an inner urge to be busy; robust superegos and more showing of emotions; acceptance of

aggressive behavior of self and others; less tolerance and acceptance of unclear situations; less acceptance of dissent and a strong need for consensus, clarity, and structure. In addition, there is a strong belief in expertise and knowledge for problem solving, and accuracy is rewarded; commitments are long-lasting, and relationships are built slowly and expected to last a long time; there is a focus on long-term planning (up to 20 years) and a strong need for and adherence to rules and regulations to make behavior predictable; there is also concern with security in life and knowing about risks (Hofstede 2001; Lynn, Zinkhan, & Harris, 1993).

In a study across 62 countries (the GLOBE study), Javidan and House (2001) found that uncertainty avoidance influences the communication process. In high uncertainty avoidance cultures, communication needs to be clear, explicit, and based on facts. Work in low uncertainty avoidance countries is oriented toward relationships, whereas work in high uncertainty avoidance countries is oriented towards the task, according to Hofstede (2001), and therefore the degree of uncertainty avoidance in a culture may be related to what interaction behaviors are seen as important. Hofstede states that the unpredictability of the future is a given fact of human existence, of which all people are conscious. However, people in different cultures deal with this fact in different ways. High-uncertainty-avoidance cultures are characterized by a need to reduce ambiguity and risk (Kale & Barns, 1992), which is manifested in a high prevalence of strict rules and regulations. Compared with people in low uncertainty-avoidance cultures, members of high uncertainty-avoidance cultures perceive life more as a threat and experience higher levels of anxiety.

Through surveys and focus group interviews, Ku and Lohr (2003) studied 23 graduate students' (18 American, two Chinese, and three Taiwanese) perceptions and attitudes towards their first online learning experiences in the U.S. Some of these students indicated that they felt uncomfortable with the nonlinear nature of their online course and its emphasis on peer feedback. This finding was attributed to the uncertainty avoidance dimension of Asian culture as described by Hofstede (1991). The study also found that Chinese and Taiwanese students "liked the idea of building an online community among peers and instructors" (p. 100), a finding reflecting the collectivist attributes of their culture.

Finally, in their study of 303 Spanish, German, and Swedish business-to-business customers, Reimann, Lünemann, and Chase (2008) found that the degree of uncertainty avoidance as a cultural variable has a significant moderating influence on the perceived service quality–customer satisfaction relationship. It was found that customers from cultures with a high degree of uncertainty avoidance were less satisfied with the service quality than customers from a low degree of uncertainty avoidance.

***Masculinity***. The Masculinity dimension refers to the degree of divide between gender-based roles; that is, the degree to which it is expected biological differences are reflected in social and emotional roles (Cukier & Middleton, 1996; Hofstede, 1980; Mejias et al., 1997). According to Cukier and Middleton, in masculine societies, male and female roles are very distinct. For instance, males are considered to be aggressive, assertive, etc., and to be the primary breadwinners while females are expected to possess such traits as nurturing, caring, and modest. In feminine societies gender roles overlap, and both males and females are expected to be caring and tender and both males and

females are accepted as breadwinners (Cukier & Middleton, 1996). Whereas in more masculine cultures, men adhere to traditionally masculine gender roles and only women adopt the feminine roles, in more feminine cultures, both men and women adhere to traditionally feminine gender roles. Therefore, masculinity/femininity refers to the way "tough" values (e.g., assertiveness, success, competition) dominate "tender" values (e.g., solidarity, nurturance, service) (Hofstede, 2001). Feminine cultures are characterized by a stronger relationship orientation. For them, the quality of life and people are more important.

Bing and Ai-Ping's (2008) study, which examined the influence of national culture on learners' asynchronous interactions in two distance education institutions, one in China and the other in Malaysia. Using qualitative and quantitative content analysis, the researchers divided students' interactions into five categories (social, procedural, expository, explanatory, and cognitive) and explained group differences by using Hofstede's (1991) cultural dimensions. The results revealed that Malaysian learners had a higher degree of individualism and lower degree of masculinity and power distance compared to their Chinese peers. Consistent with other study findings (Smith et al., 2005; Smith & Smith, 1999) Chinese learners were found to display a high degree of uncertainty avoidance. As Bing and Ai-Ping wrote, "they wanted to be certain of the exact scope of assessments and preferred a more structured way of learning" (p. 333). One common feature in both groups' interactions was that the cognitive dimension, which is associated with higher order thinking, was the least dominant dimension.

**Student satisfaction**

Student satisfaction outcomes in the field of distance education is a commodity highly sought after by faculty and institutions alike (Strachota, 2003). In this study, satisfaction in a given situation was defined as "an affective construct that is often considered to be a predictor of learning outcomes (LaPoint & Gunawardena, 2004)". It indicates the degree of learner reaction to their learning experience in a particular course. This opinion may reflect attitudes about the content of the course, learning activities, peer learners, or the instructor.

Many studies (Arbaugh, 2002; Arbaugh & Duray, 2002; Chen & Bagakas, 2003; Hong, 2002; Stokes, 2001; Thurmond, Wambach, & Connors, 2002) reported that in an online learning environment, several factors account for users' satisfaction: student, teacher, course, technology, system design, and environmental dimension. Moore and Kearsley (2005) point out satisfaction in students may not correlate with actual student achievement. When student satisfaction is reported, this presents a motivating factor and motivation is often a predictor of student future success (Schifter, 2001). Several other studies reported students' satisfaction as a major factor that is related to students' decision to drop out from distance education courses (Chyung et al., 1998). Chyung et al. reported that ''forty-two percent of the students who dropped out expressed dissatisfaction with the learning environment as the reason [for dropping]'' (p. 7). Fredericksen, Pickett, Shea, Pelz, and Swan (2000) reported that students who reported the highest levels of satisfaction with various aspects of online learning courses also reported significantly higher levels of learning than students who rated their satisfaction

level as lower. Moreover, Fredericksen et al. also noted that older students appear to report a higher level of satisfaction from online learning course than younger students.

Levy and Murphy (2002) noted that administrators, practitioners, and researchers should have a great interest in understanding the key factors that affect student perception of online learning effectiveness. Levy (2003) conducted a study with over 200 students attending online learning courses on the relationship of students' satisfaction and e-learning effectiveness. He reported that students' satisfaction with e-learning is a significant factor in measuring the effectiveness of online learning.

Additionally, Sachs and Hale (2003) noted that universities and colleges that offer online learning courses should put major emphasis in students' satisfaction in measuring the success of such programs and students' potential to successfully complete the program. Moreover, they noted that the goal of such schools should be to keep the students' satisfaction level with e-learning program as high as possible.

Shea, Pickett, and Pelz (2003) reported on the relationship of pedagogy, design, and faculty development issues to students' satisfaction in e-learning courses in addition to proposing a conceptual framework for students learning in online learning environments. Their results indicate that students' satisfaction level in online learning courses is highly correlated with various issues such as instructional design and organization of the online learning courses, instructors' discourse facilitation, and instructors' direct interaction. They concluded by noting that the key factors that contribute to students' satisfaction can help uncover the drivers for effective online learning environments. Nonetheless, this study proposes taking this notion further by

looking at the impact of cultural orientation on students' satisfaction with online learning courses.

Richardson and Swan (2003) examined the role of social presence in online learning courses as well as its impact on students' perceived learning and satisfaction with the instructor. Their results show that satisfaction with the instructor is strongly correlated with students' perceived learning (Richardson & Swan, 2003, p. 78). Moreover, they concluded that additional online learning research is needed to determine what constitute positive social behaviors of the instructor in order to improve online learning courses (Richardson & Swan, 2003, p. 81). However, in an effort to improve online learning courses, it is also essential to understand the factors that account the most for student satisfaction in such environments. Thus, the aim of this study was to look at the four main cultural orientation constructs proposed by literature (power distance, collectivism, uncertainty avoidance, and masculinity) and their impact on student satisfaction with online learning. I will now examine the four dimensions of satisfaction discussed in this study: technology/support, quality of course content, interaction with instructor, and learner self-assessment.

***Technology/support.*** This construct relates to technology and includes characteristics such as the reliability of the technology, the quality of the technology, perceived media richness, and location (Levy, 2006). Previous research studies indicate that technology quality and Internet quality significantly affect satisfaction in e-learning (Piccoli, Ahmad, & Ives, 2001; Webster & Hackley, 1997). A software tool with user-friendly characteristics, such as learning and memorizing few simple ideas and meaningful keywords, demands little effort from its users. Users will be willing to adopt

such a tool with few barriers and satisfaction will be improved (Amoroso & Cheney, 1991; Rivard, 1987). Therefore, the higher the quality and reliability in IT, the higher the learning effects will be (Hiltz, 1993; Piccoli et al., 2001; Webster & Hackley, 1997). Moreover, empirical research undertaken by Webster and Hackley studied learning effects on the technology-mediated distance learning of 247 students. Quality and reliability of technology, as well as network transmission speed, were shown to impact learning effects.

***Quality of course content.*** According to Levy (2006) this second dimension refers to course and includes characteristics such as quality of course content, course availability, and course structure (course objectives/expectation and infrastructure). Quality of course content is seen as a crucial variable that affects the success of distance education along interaction because it "expresses the rigidity or flexibility of the program's educational objectives, teaching strategies, and evaluation methods" and describes "the extent to which an education program can accommodate or be responsive to each learner's individual needs" (Moore 1991, p. 3). Course flexibility and quality are both proven to be significant in this research. Flexibility of an online learning course is a strong indication of student satisfaction. This result corresponds to Arbaugh (2002) and Arbaugh and Duray (2002) findings that online learning course flexibility played an important role in perceived learners' satisfaction. The degree of student satisfaction with courses has played an important role in evaluating the effectiveness of distance learning. When students are satisfied with their online course experience, the likelihood of their completing the course and returning to enroll in a subsequent course greatly improves (O'Brien & Renner, 2002). This implies that course satisfaction is a critical component

in improving learning achievement in both the traditional and the distance education environments.

***Interaction with instructor***. This construct refers to characteristics related to the online instructor and includes instructor's attitude, teaching style, and his/her control over the technology and the students (Levy, 2006). Constructivism assumes that individuals learn better when they control the pace of their learning. Under the model of collaborative learning, student involvement is critical to learning. The basic premise of this model is that students learn through shared understanding of a group of learners. Therefore, instruction becomes communication-oriented and the instructor becomes a discussion leader. Distance learning facilities promote collaborative learning across distances with facilities to enable students to communicate with each other. The socio-cultural model emphasizes student empowerment, freedom and responsibilities because learning is individualistic. The instructor's role is therefore, to become a facilitator who stimulates, guides, and challenges his/her students rather than a lecturer who focuses on the delivery of instruction. For example, Mullen and Runnels (2006) found that student satisfaction with the course instructor was a strong predicator of overall student satisfaction in online learning. The distance education instructor is a primary predictor in student course satisfaction showing a high correlation with the performance of the instructor and overall course satisfaction (DeBourgh, 1999). The area most noted for student satisfaction was the instructor's responsiveness and involvement with the students themselves. Instructor availability in the measurement of time as well as receptivity to the students' needs both hold great value in satisfaction determination (Moore & Kearsley, 2005).

Next, Yang, Tsai, Kim, Cho, and Laffery (2006) found a significant relationship between perceived social presence of the instructor and motivational self-efficacy in the online environment. The study shows that students who hold higher motivational self-efficacy beliefs perceived higher levels of instructor presence in the course. These students feel a connectedness with the instructor, potentially leading to not only course completion but also greater learner satisfaction. According to Liaw, Huang, and Chen (2007), when learners increase their interaction with instructors, they raise their chances of building their own knowledge, as much of learning takes place in the social context, and mutual construction of understanding occurs.

Finally, as indicated by previous research, instructors' timely response significantly influences learners' satisfaction (Arbaugh, 2002; Thurmond et al., 2002; Richardson & Swan, 2003). The rationale is that when learners face problems in an online course, timely assistance from the instructor encourages learners to continue their learning, suggesting that students with high perceptions of social presence have high perceptions of learning and high satisfaction with their instructor.

***Learner self-assessment.*** This last dimension of satisfaction refers to student and includes students' comfort with the technology and their classmates' attitude (Levy, 2006). Because online courses are delivered through networks, it would be particularly important to have related assessments concerning individuals' perceptions of using a given technology and individuals' ability to use the technology, that is, assessments concerning computer/network self-efficacy (Hung, Chou, Chen, & Own, 2010). Self-efficacy stems from social cognitive theory which offers a conceptual framework for understanding how self-efficacy beliefs regulate human functioning through cognitive,

motivational, affective, and decisional processes (Bandura, 1977, 1986, 1997). Compeau and Higgins (1995) developed and validated a 10-item instrument of computer self-efficacy (CSE) and identified that computer self-efficacy had a significant influence on computer-use outcomes, emotional reactions to computers, and actual computer use. The researchers claimed that computer self-efficacy does not reflect simple component skills, such as booting up the computer; instead, it represents an individual's perception of his or her ability to use computers to accomplish a task, such as using software to analyze data.

Similarly, in discussing Internet self-efficacy (ISE), Eastin and LaRose (2000) pointed out that ISE does not result merely in performing some Internet-related tasks, such as uploading or downloading files; rather, it is one's ability to apply higher-level skills such as troubleshooting problems. Internet self-efficacy may be different from computer self-efficacy and may require a set of behaviors for establishing, maintaining, and using the Internet. In addition, Tsai and Tsai (2003) showed that students with high Internet self-efficacy learned better than did students with low Internet self-efficacy in a Web-based learning task.

Wang and Newlin (2002), from research on 122 students, conclude that students with higher self-efficacy are more inclined to adopt network-based learning and earn significantly better final grades. Internet self-efficacy is defined in this study as learners' ability to evaluate their ability to use the Internet to perform activities related to e-Learning. In a study of the role of interaction in distance education, Swan (2001) found that student perceptions of interaction with their peers were related to four components: actual interactions in the courses, the percentage of the course grade that was based on discussion, required participation in discussions, and the average length of discussion

responses. Graham and Scarborough (1999) confirmed these findings as their survey determined that 64% of students claimed that having access to a group of students was important. Furthermore, Picciano (1998) discovered that students perceive learning from online courses to be related to the amount of discussion actually taking place in them.

**Summary of Literature Review**

The purpose of this review was: (a) to provide important theoretical developments in distance education, (b) to present the state of knowledge concerning the questions of culture and satisfaction in distance learning and (c) to provide practical insights into teaching culturally and linguistically diverse online communities of learners. First, three major theories have been explored: (a) *Theories of independence and autonomy* which placed the learner in the middle of the educational process (Holmberg, 1986; Wedemeyer, 1981; Keegan, 1996; Saba, 2003). According to Saba, "the centrality of the learner is one of the distinguishing features of distance education, and understanding this fact is essential for discerning why it is essentially different from other forms of education" (p. 4); (b) *Theories of interaction and communication* which built on contemporary ideas and views of Holmberg (1989) to highlight the constructs of interaction and communication as important factors in distance education (Keegan, 1996; Moore, 1991), and (c) *Sociocultural learning theories* which, drawing on the work of Vygotsky, emphasize that learning is embedded within social and cultural contexts. In order to better understand the ideas behind the development of each type of distance education theory, descriptions of several well-known theories were given.

Second, the review revealed that there was a dearth of studies that specifically looked at culture and online learning satisfaction. However, several studies suggest that

student cultural orientation plays an important role in students' online communication and interaction (Javidan & House, 2001; Hosftede, 2001; Bing & Ai-Ping, 2008), motivation (Wang, 2007; Tapanese, Smith, & White, 2009), and their attitudes towards online learning (Ku & Lohr, 2003; Anakwe & Christensen, 1999). Next, this review found that several factors (student, teacher, course, technology, system design, and environmental dimension) account for students' satisfaction with their online learning experience (Arbaugh, 2002; Arbaugh & Duray, 2002; Chen & Bagakas, 2003; Hong, 2002; Stokes, 2001; Thurmond, Wambach, & Connors, 2002).

Finally, this review found that researchers have begun employing cultural parameters in their studies regarding online education (Srite, Thatcher, & Galy, 2008; Zaharias, 2008). It was also revealed that some studies have examined both technology acceptance and national culture (Gallivan & Srite, 2005; Srite & Karahanna, 2006) and that several studies (e.g., Yoo et al., 2011, Yoo & Donthu, 2005; Triandis, 1995; Dorfman & Howell, 1988) in this field have employed Hofstede's framework and cultural dimensions.

# Chapter 3

# Methodology

The following section describes the methodology of the present study, including a description of the research design, followed by a description of the identified sample, including an explanation of the sampling criteria and selection procedures. This is followed by a description of the instruments that were used in the data gathering portion of the study, then includes an explanation of the procedures that were utilized for this study. This section concludes with a description of the statistical analyses, which includes assumption checking procedures, and information about the particular statistical analyses for each of the research questions.

## Research Questions (RQ)

***RQ 1***: To what extent does the cultural orientation, based on low and high Power Distance, differ among online learners' level of learning satisfaction?

***RQ 2***: To what extent does the cultural orientation, based on low and high Collectivism, differ among online learners' level of learning satisfaction?

***RQ 3***: To what extent does the cultural orientation, based on low and high Uncertainty Avoidance, differ among online learners' level of learning satisfaction?

***RQ 4***: To what extent does the cultural orientation, based on low and high Masculinity, differ among online learners' level of learning satisfaction?

## Research Design

Research design has three key purposes: (1) to provide answers to research questions, and (2) to provide a road map for conducting a study using a planned and deliberate approach that (3) controls or explains quantitative variation or organizes

qualitative observations (McGaghie, Bordage, & Shea, 2001). The design helps the investigator focus on the research question(s) and plan an orderly approach to the collection, analysis, and interpretation of data that address the question. This study uses a mixed-methods design, thus, combining both quantitative and qualitative data collection approaches. The purpose of using a multiple method approach is that it provides greater flexibility to the researcher for finding new and interesting ways of understanding a phenomenon (Schutz, Nichols, & Rodgers, 2009). Greene, Caracelli, and Graham (1989) identified the following five general purposes of mixed-methods studies: (a) triangulation (i.e., seeking convergence and corroboration of findings from different methods that study the same phenomenon); (b) complementarity (i.e., seeking elaboration, illustration, enhancement, and clarification of the results from one method with results from the other method); (c) initiation (i.e., discovering paradoxes and contradictions that lead to a re-framing of the research question/questions); (d) development (i.e., using the results from one method to help inform the other method); and (e) expansion (i.e., seeking to expand the breadth and range of the investigation by using different methods for different inquiry components). As documented by Greene et al., every mixed methods study can be classified as having one or more of these five purposes and this study adopted the mixed methods design for the purpose of triangulation because both the quantitative and qualitative set of research questions investigated the same outcome or phenomenon, graduate students' level of online learning satisfaction and cultural orientation at one point in time.

The types of data collection methods used in this study comprise the use of two survey instruments and follow up interviews. The purpose of the surveys is to gather

information on the constructs and characteristics of interest regarding online learning satisfaction and cultural orientation. The purpose of the follow up interview is to gain a deeper understanding of the phenomenon under investigation.

**Participants**

The target population for this study was graduate students in both master's and doctoral degree programs in twenty-two different academic departments with the majority being in Education (33.7%). The Survey was sent to a total of 2659 graduate students who were enrolled in at least one online course at western institution of higher education (hereafter referred to as Blue Moon University) in the fall of 2011. Initially, 269 students attempted the survey and 205 (76.2%) completed it. Six entries were deleted because the participants had no online course taking experience, and thus bringing the total number of respondents to 199. As shown in Table 3.1 below, the majority of the participants were between the age of 25-34 ($n$ = 79, or 39.7%), followed by the 35-44 years old ($n$ = 51, or 25.6%), the 45-54 years old age group ($n$ = 36, or 18.1%). The younger and older participants were the smallest group respectively representing 8% and 8.5% of the total sample. As far as gender, there were more female participants ($n$ = 142, or 71.4%) than male participants ($n$ = 57, or 28.6%).

Table 3.1

*Participants Frequency Distribution by Age Group and Gender*

| Age Group | *N* | % |
|---|---|---|
| Under 25 | 16 | 8.0 |
| 25-34 | 79 | 39.7 |
| 35-44 | 51 | 25.6 |
| 45-54 | 36 | 18.1 |
| 55 and Over | 17 | 8.5 |
| Total | 199 | 100.0 |
| **Gender** | *N* | % |
| Female | 142 | 71.4 |
| Male | 57 | 28.6 |
| Total | 199 | 100.0 |

As far as ethnicity, the participants were 144 Caucasians (72.4%), 16 Hispanic (8%), 15 Native Americans (7.5%), six Asians (3%), five African American (2.5%), four Asian Americans (2%), two Blacks, two Mexican Americans, one Hispanic Asian, one Arab, one Bi-racial and two participants preferred not to disclose their ethnic background. Table 3.2 below highlights the complete picture of the participants' racial/ethnic background.

Table 3.2

*Participants Frequency Distribution by Ethnicity*

| Ethnicity | *N* | % |
|---|---|---|
| African American | 5 | 2.5 |
| Arab | 1 | .5 |
| Asian | 6 | 3.0 |
| Asian American | 4 | 2.0 |
| Black | 2 | 1.0 |
| Biracial | 1 | .5 |
| Caucasian | 144 | 72.4 |
| Hispanic | 16 | 8.0 |
| Hispanic Asian | 1 | .5 |
| Mexican American | 2 | 1.0 |
| Native American | 15 | 7.5 |
| Unidentified | 2 | 1.0 |
| Total | 199 | 100.0 |

As far as age, the majority of participants (39.7% ) were between the age of 25 and 34, 25.6% belong to the 35 to 44 years old age group, 18.1% were between 45 and 54 years old, 8.5% were 55 or over, and 8% under 25 . Next, 166 (83.4%) participants were enrolled in the master's degree program, 24 (12.1%) in the doctoral program, eight (4%) in the certificate program and one (.5%) in non-degree program. Finally, 189

participants (95%) were citizens of the United States and ten (5%) were international students from Afghanistan, Canada, China, Europe, Mexico, Nigeria, South Africa, and Yemen.

**Procedures**

Participants were contacted via three different channels. First, a request to access distance learners was sent via email to Terri Hayes, the interim executive director of the Blue Moon University's extended campuses in late October 2011. After approval by the extended campus director, a letter explaining the purpose of the study and how to participate and the Institutional Review Board approval letter along with the link to the actual survey were sent to participants on October 26, 2011.

Next, the director of the International Student and Scholar Services (ISSS) at the Blue Moon University Center for International Education was contacted via email for assistance in gaining access to international graduate students in the same manner as above in late October 2011. Upon approval by the ISSS director, a letter explaining the purpose of the survey and how to participate, the link to the survey, and the IRB approval letter were sent to the international student advisor who, in turn, sent the documents to the target population (graduate international students and scholars).

Finally, five instructors who taught online courses during the fall of 2011 at Blue Moon University were contacted for assistance in gaining access to their students in order to maximize the probability of getting a larger sample. A letter summarizing the IRB protocol, the IRB approval letter, and the link to the survey were sent to those professors who in turn sent them out to their students inviting them to participate in the research. After the first two weeks of data collection, a reminder was sent on November 10, 2011

and the survey was left open until the end of December 2011 to allow participants to have enough time to complete it.

## Instrumentation

The following sections present an overview and justification for each instrument used in this study.

**Demographic Questionnaire**. Demographic information will be collected from participants in this proposed study by means of a demographic questionnaire. Questions 1-8 ask each participant to provide their ethnicity, gender, age group, academic program, degree, number of online courses taken, and country of citizenship. Questions 9-10 ask participants to describe how traditional and assimilated they consider themselves and Question 11 ask them whether or not they would be interested in participating in the follow up interview.

**Learners' Value Index of Satisfaction (LeVIS)**. LeVIS was developed specifically for online learning systems (Levy, 2006). It derived from two valid instruments for measuring satisfaction: (a) the User Information Satisfaction (UIS) developed by Ives, Olson, and Baroudi (1983) based on a theoretical case study and survey conducted by Bailey and Pearson (1983) and (b) Doll and Torkzadeh's (1988, 1991) End User Computing Satisfaction (EUCS). Bailey and Pearson developed UIS to measure and analyze computer user information satisfaction. Initially, Bailey and Pearson compiled a list of 36 distinct survey items from past computer and user satisfaction studies (Cai, Jun, & Pham, 2007; Levy, 2006; Whitten, 2004). After the compilation of these 36 survey items, the importance of each survey was reviewed and ranked by professionals. Based on the results, Bailey and Pearson concluded that UIS

needed to be supplemented by three additional characteristics. Therefore, their final list contained 39 survey items affecting and reflecting user information satisfaction (Cai et al., 2007; Levy, 2006; Whitten, 2004).

Later, Ives et al. (1983) conducted a follow-up study on Bailey and Pearson's (1983) UIS in an effort to improve its consistency and reliability. Ives et al. eliminated those survey items with lower correlations to the overall measure, including the measurement of the importance level of the characteristics to the user. Ives et al. claimed that the level of importance measurement was redundant and provided little information on user satisfaction. However, Etezadi-Amoli and Farhoomand (1991) disagreed with Ives et al., claiming that measurement of the importance level can actually provide a better understanding of user satisfaction. Kettinger and Lee (1994) also criticized Ives et al.'s UIS for omitting the service quality. In addition, they also claimed that Ives et al.'s UIS had validity and reliability because it focused specifically on data processing systems rather than the general personal computing environment (Kettinger & Lee, 1994). Another limitation of UIS is that its measuring scale is semantic differential rather than the Likert scale type. Due to these limitations, UIS does not enjoy the popularity of Doll and Torkzadeh's EUCS among researchers (Xiao & Dasgupta, 2002).

According to Doll and Torkzadeh (1988), the UIS focuses mainly on evaluating specific rather than general applications. In response to this, Doll and Torkzadeh developed the EUCS to measure general satisfaction. EUCS contains 12 items and is comprised of five components: (a) content; (b) accuracy; (c) format; (d) ease of use; and (e) timeliness. Many subsequent studies have confirmed the reliability and validity of the EUCS measurement. Despite EUCS's popularity and the confirmation of its reliability

and validity by subsequent studies, EUCS has also been criticized for its lack of measurements of service quality and technical support (Cai et al., 2007; Seddon & Yip, 1992). Another criticism is that the EUCS measures the frequency of satisfaction rather than the extent of satisfaction with the characteristics of a given application (Etezadi-Amoli & Farhoomand, 1991). Therefore, additional research was needed to investigate the measurement of online learning systems using an instrument that overcomes the limitations of UIS and EUCS.

In 2003, Levy developed the Learners' Value Index of Satisfaction (LeVIS) based upon criticisms of the limitations of UIS and EUCS for measuring online learning systems effectiveness. It has four components with a 48 survey-item self-report survey instrument to measure both learners' perceived value and satisfaction for each online learning system characteristic. Since value and satisfaction are two different and uncorrelated constructs according to Levy (2003), the value component of the LeVIS scale was not used in this study because the goal was not to evaluate the effectiveness of online learning, but rather to measure learners' satisfaction on each of the four components of LeVIS: (a) technology/support (with 14 items); (b) course content (12 items); (c) interaction with instructor (7 items); and (d) learner self-assessment (15 items). Another rationale for excluding the value component was that measuring satisfaction and value is a major burden on the respondents and that it might result in the difficulty to gather data due to respondents' fatigue from long questionnaires (Brown, 1976). The five-point Likert scale (1-5) were used to indicate learners' level of satisfaction, where "1" indicates "Extremely unsatisfied" and "5" indicates "Extremely satisfied. As reported in Levy (2003) and Keng (2010) studies, the reliability of LeVIS is

well established with high Cronbach's alpha coefficient of .946 for Course Content, .946 for Interaction with Instructor, .897 for Technology and Support, and .571 for learner self-assessment.

**Individual Cultural Values Scale (CVSCALE).** To generate an appropriate pool of items, Yoo, Donthu, and Lenartowicz (2011) first chose and modified items from the HERMES (later revealed to be IBM Corporation) values questions, which were Hofstede's original questions (see Hofstede, 1980, pp. 403-410), the Values Survey Module 1994 (an improved and shortened version of the HERMES questions: Hofstede, 2001, pp. 494-497), and Hofstede's other works. They also considered items from non-Hofstede works when they observed them carry the core meanings of the constructs as defined by Hofstede. As for long-term orientation, they used the Chinese Culture Connection's (1987) original items as they had been designed for general contexts. Hofstede (2001, p. 491) developed the power distance index for a country using a formula based on three questions selected after examining their relationships to other related items in the survey. Yoo et al. modified Hofstede's original items to fit general contexts. For example, their modified item "I prefer a superior who consults with me before reaching a decision" was meant to measure the consultative tendency of high-position people. Second, they adopted some of Bochner and Hesketh's (1994) items. They validated Hofstede's power distance and individualism scales in a single multicultural work setting using 263 workers from 28 different countries employed in a large bank. Third, Yoo et al. (2011) transformed Hofstede's power distance definition into items covering a larger domain of the construct as they delivered the core meanings of power distance.

Hofstede's (2001, p. 491) formula for the uncertainty avoidance index was based on three items. One of the items modified read "I feel comfortable in ambiguous situations and with unfamiliar risks." Yoo et al. (2011) also added other candidate items to more closely reflect Hofstede's definition of the dimension. Examples are: "Uncertainty in life is a threat that must be overcome," "I prefer questions with the right answers," and "I am precise and punctual." Hofstede (2001, p. 492) created the individualism index based on the factor loadings of work goal items. As Hofstede's work goals are too work-related to serve broad situations, new items were generated by reflecting Hofstede's definition of the dimension and other relevant studies (Hui, 1984; Triandis, 1972; Triandis, Bontempo, & Villareal, 1988). In addition, Yoo et al. referenced Triandis et al.'s (1993) items, which found that independence, personal competence, and separation from in-groups were strong etic items for individualism. Example items included "I would rather struggle through a personal problem by myself than discuss it with my friends," "Individuals should be judged on their own merits, not on the company they keep," and "I prefer to work in a team or a pair rather than alone."

The masculinity-femininity dimension, originally labeled "social-ego" in reference to the dominant sex-role pattern, represents male assertiveness and "social" represents female nurturance. Hofstede's (2001, p. 492) masculinity index was also comprised of the factor scores of work goal items. Because Hofstede's items were highly work-related, Yoo et al. (2011) generated other modified items. Examples of the items include "Men are supposed to be assertive, ambitious, and tough."

The original pool of 230 items was carefully reviewed for their fit to corresponding dimensions and 125 items were selected by Yoo et al. (2011) and other

scholars who were familiar with Hofstede's typology of culture. Then, a questionnaire was developed by organizing the items in a random order and adding other questions including demographic. The cultural orientation items were evaluated using 5-point Likert-type scales anchored as 1 = "very unimportant" and 5 = "very important" for the long-term orientation dimension, and 1 = "strongly disagree" and 5 = "strongly agree" for the remaining dimensions. The questionnaire was administered to undergraduate college students of the U.S. to check for wording. A total of 196 participants reviewed the items and the wording of the items was modified based on participants' suggestions to enhance face validity and clarity in meaning. After eliminating redundant items, 86 newly worded items were administered to another sample of 116 American undergraduate students to obtain items which provide decent reliability. After a series of item selection procedures, satisfactory reliability, ranging from .74 to .91, was achieved for the cultural dimensions. As a result, a total of 39 reliable candidate items were retained to enter the main scale development process (nine for power distance, six for uncertainty avoidance, six for masculinity, eight for collectivism, and eleven for long-term orientation).

The CVSCALE was tested for a variety of validity, using another set of samples. To validate CVSCALE, Yoo et al. (2011) obtained 433 responses (213 from American adults and 220 from Korean adults). The two samples were not different in gender composition (60 percent male in both samples: $\chi 2 = .72$) or age (34.1 years each for Americans and Koreans: *t*-value = -.04) but, as expected, very different in personal income (US $32,334 for Americans and US $18,624 for Koreans: *t*-value = 9.77). The CVSCALE was highly reliable in both adult samples, indicating the credibility of the

scale. The reliability ranged from .79 for long-term orientation to .91 for power distance for Americans and from .78 for long-term orientation to .89 for collectivism for Koreans. The five-dimensional measurement model of the CVSCALE exhibited an excellent level of fit. Specifically, the model's $\chi 2$ with 289 degrees of freedom was 496.27 for Americans and 416.34 for Koreans. RMSEA was .058 for Americans and .039 for Koreans. CFI was .91 for both samples. The item loadings to their constructs ranged from .43 (*t*-value = 5.97) to .85 (*t*-value = 15.10) for Americans and .56 (*t*-value = 4.71) to .87 (*t*-value = 14.24) for Koreans.

In an additional validation study, Yoo et al. (2011) collected data from Brazil and Poland. According to Hofstede (2001), the national culture scores of Brazil are between American and Korean scores in all dimensions except for power distance, where Brazil is higher than both the U.S. and Korea. According to Nasierowski and Mikula (1998), Poland is higher in power distance, uncertainty avoidance, and masculinity than both the U.S. and Korea and moderate in individualism between the U.S. and Korea. Using Brazilian and Polish language versions of the questionnaire developed by following the same method described previously, Yoo et al. (2011) obtained 300 complete responses from Polish adults and 149 from Brazilian college students. The confirmatory factor analysis of the 26 CVSCALE items produced a clear pattern of five dimensions for each sample. The reliability was satisfactory for both samples. Poles and Brazilians showed .84 and .79 reliability alpha, respectively, for power distance; .76 and .70 for uncertainty avoidance; .85 and .76 for collectivism; .78 and .72 for long-term orientation; and .71 and .71 for masculinity. This high reliability in the new samples of different countries demonstrates further cross-national generalizability of the scale.

## Data Analysis

The quantitative and qualitative analyses can be conducted in chronological order, or sequentially (i.e., sequential mixed analysis) or they can be conducted in no chronological order, or concurrently (Onwuegbuzie & Combs, 2010). In this study, a sequential quantitative-qualitative analysis was used; thus, the quantitative analysis phase was conducted first, which then informed the subsequent qualitative analysis phase.

### Quantitative Data Analyses

There are multiple steps to be taken in the preparation of data for statistical analysis. Data screening was performed after the data was collected and prior to the primary data analysis and formal hypothesis testing was conducted. According to Tabachnick and Fidell (2007), preparatory data analysis is considered essential to an honest analysis of the data, as these preliminary steps allow the researcher to determine whether the data is clean and appropriate for analysis. The quantitative data was analyzed using the Statistical Package for the Social Sciences software (SPSS version 19) at an alpha level of .05 for all significant tests in this study. The Likert-type scales were considered to be interval or continuous variables.

Examining the accuracy of data entry, checking for missing data, assessing both univariate and multivariate outliers, and investigating the fit between the data set and pertinent statistical assumptions represent the initial steps of the data screening process. This is followed by an examination of the normality, linearity, and homoscedasticity of the data by looking at the skewness, kurtosis, scatter plots, and residual plots of the variables.

**Accuracy of data entry**. Tabachnick and Fidell (2007) indicate that the first step in data screening is to check the accuracy of the data file. The data file was proofread by comparing the responses indicated in the SPSS file with the respondents' answers on the questionnaires to verify the accuracy of the data that was going to be statistically analyzed. Examples of issues of accuracy include variables that are out of range, implausible means and standard deviations, and univariate outliers.

**Missing data analysis**. The next step taken in data screening was to examine the file for data that is missing, possibly due to participants not responding to certain items or sets of items, participant attrition, or various data management mistakes. Missing data is considered a serious threat to the generalizability of the research findings. The pattern of missing data is noteworthy, as data that is missing at random is less of a threat to the study than non-randomly missing values, which may reflect a response pattern of certain participants and can potentially distort research results. Methods for dealing with missing values include identifying the missing data response when the participant is still accessible so that the data can be re-entered, deleting the subject data entirely, or replacing the missing value with an acceptable estimation, as outlined by Tabachnick and Fidell (2007). No missing data set was found in this study.

**Assessment of univariate and multivariate outliers**. Both types of outliers refer to extreme values in the data which may distort the results of the statistical analyses resulting in potential Type I and Type II Errors. According to Tabachnick and Fidell (2007), outliers may be the result of any one of four potential causes:

1. The data may have been entered incorrectly.
2. The computer may consider a missing value to be "real" data.

3. The outlier is not representative of the population that one intends to sample.
4. The distribution of the population values includes more extreme values than would be anticipated in a normal distribution.

The Mahalanobis distance statistic is often used to identify multivariate outliers Tabachnick and Fidell (2007). This statistic is the measure of the distance of the case from the centroid of the reaming cases (the centroid is point of intersection of all the variables). The presence of a multivariate outlier in the data can be dealt with via data transformation or case deletion, thereby reducing their distorting influence on the data. Any such measures will be reported in the Results section of this study.

**Assessment of univariate and multivariate normality**. Multivariate normality refers to the assumption that each variable and all combinations of the variables, and the residuals, are normally distributed. Univariate and multivariate normality were assessed by looking at the variables skewness, kurtosis, scatter plots, and residual plots. Skewness refers to the overall symmetry of the distribution, with a mean of the data existing at the center of the distribution. Kurtosis refers to how peaked or flat the distribution of the data is. If the residuals of the analysis are normally distributed and independent, then the assumption of normality is met (Tabachnick & Fidel 2007). In order to ensure that the scores were normally distributed, several steps were undertaken. First, an initial analysis was run for each dependent variable to determine its normal distribution. Examination of the skewness value for each dependent variable indicated that the scores were not normally distributed because their skewness values were above the threshold of ±3.29. Next, the z-standard scores were calculated and examined for each dependent variable.

The z-scores values that were above ±3.29 were excluded from analysis, thus resulting in a sample of 195 for some variables and 196 for others.

**Linearity and homoscedasticity**. Linearity refers to the assumption of a straight-line (normal) relationship between two variables. Nonlinearity was assessed in this study by examining the residual plots in the analysis that involved the predicted variable, and from bivariate scatter plots generated for pairs of variables. Homoscedasticity refers to the assumption that the variability score for one continuous variable is approximately the same across all levels of another continuous variable (Tabachnick & Fidell, 2007). Examination of the bivariate scatter plots was performed to evaluate this assumption, and the scatter plots between pair of variables were of approximately the same width, with some clustering towards the middle, thus, this assumption was not violated. According to Tabachnick and Fidell, violation of this assumption is not fatal to the analysis, though it does weaken the analysis.

**Multicollinearity and singularity**. Variables that are too highly correlated lead to the potential for redundancy among variables. A bivariate regression correlation test was run to check the redundancy among all the dependent variables technology/support, course content, interaction with instructor, and learner self-assessment. These variables were found to be correlated with one another, meaning that they were essentially measuring the same construct of satisfaction and were consequently accounting for the same variance, thus making it difficult to ascertain effects on the dependent variable.

Research Question 1 sought to understand whether there were any significant differences as measured by the power distance subscale between graduate students on their level of online learning satisfaction across technology/support, course content,

interaction with instructor, and learner self-assessment. In this question, there is one independent variable, power distance operationally defined as high and low and four continuous dependent variables (technology/support, course content, interaction with instructor, and learner self-assessment). A mean score of 3.50-5 on power distance meant a high power distance while a score of 1-3.49 indicated a low power distance. The dependent variables were operationally defined as the satisfaction scores for each construct. A high score (4-5) means more satisfaction and a low score (1-3) meant dissatisfaction with the construct. This question was analyzed using descriptive statistics because there was only one group, low power distance.

Research Question 2 looked at the cultural orientation differences as measured by the collectivism subscale among graduate students on their level of online learning satisfaction across technology/support, course content, interaction with instructor, and learner self-assessment. The purpose of asking this question is to understand the extent to which each individual's own cultural orientations reflect their online learning satisfaction. This question had one independent variable (Collectivism) with two levels (high & low) and four dependent continuous variables (technology/support, course content, interaction with instructor, and learner self-assessment). A mean score of 3.50-5 on collectivism meant a high collectivism while a score of 1-3.49 indicates a low collectivism. The dependent variables were operationally defined as the satisfaction scores for each construct. A score of 4-5 means satisfaction and a score of 1-3 means less dissatisfaction with the construct. This question was analyzed using a one-way way univariate analysis of variance (one-way ANOVA).

A first analysis was conducted to find out whether the dependent variables were conceptually related and correlated with one another, thus measuring the same construct (in this case satisfaction). The correlation matrix showed that there was a moderate to high correlation among these dependent variables (Hinkle, Wiersma, & Jurs, 2003); thus, the decision was to proceed by using One-way ANOVA as the primary method of analysis. Univariate Analysis of Variance is a technique used to compare two or more means to see if there are any statistically significant differences among them (Tabachnick & Fidell, 2007). The univariate analysis for each dependent variable was carried out. In each analysis, assumptions of normality were evaluated by examining the Shapiro-Wilk statistic, skewness standardized scores, and the Q-Q normality plots. The homogeneity of variance between groups was assessed by conducting the Levene's Test. Next, a comparison of group means and standard deviation were performed to find out how the dependent variables were weighted in the equation that maximally distinguished the groups. Furthermore, *F* values and partial eta squared values were examined in each univariate analysis and were tested at the .001 level of significance. Finally, a non-parametric follow up analysis using the Mann-Whitney *U* Test was conducted for each significant ANOVA score to determine which cultural orientation level affected satisfaction most strongly.

Research Question 3 considered to what extent cultural orientation as measured by uncertainty avoidance subscale differed among graduate students on their level of online learning satisfaction across technology/support, course content, interaction with instructor, and learner self-assessment. This question had one independent variable (uncertainty avoidance) with two levels (high & low) and four dependent continuous

variables (technology/support, course content, interaction with instructor, and learner self-assessment). High uncertainty avoidance was operationally defined as a score of 4-5 on the uncertainty avoidance subscale while a score of 1-3 indicates low uncertainty avoidance. The dependent variables were operationally defined as the satisfaction scores for each construct. A score of 4-5 means satisfaction and a score of 1-3 means dissatisfaction with the construct. This question was analyzed using a one-way way univariate analysis of variance (one-way ANOVA).

A first analysis was conducted to find out whether the dependent variables were conceptually related and correlated with one another thus, measuring the same construct (in this case satisfaction). The correlation matrix showed that there was a high correlation among these dependent variables thus; the decision was to use One-way ANOVA as the primary method of analysis. The univariate analysis for each dependent variable was carried out. In each analysis, assumptions of normality were evaluated by examining the Shapiro-Wilk statistic, skewness standardized scores, and the Q-Q normality plots. The homogeneity of variance between groups was assessed by conducting the Levene's Test. Next, a comparison of group means and standard deviation were performed to find out how the dependent variables were weighted in the equation that maximally distinguished the groups. Furthermore, *F* values and partial eta squared values were examined in each univariate analysis and were tested at the .001 level of significance. Finally, a non-parametric follow up analysis using the Mann-Whitney *U* Test was conducted for each significant ANOVA score to determine which cultural orientation level affected satisfaction most strongly.

Research Question 4 sought to understand the extent to which cultural orientation as measured by masculinity/femininity subscale differed among graduate students on their level of online learning satisfaction across technology/support, course content, interaction with instructor, and learner self-assessment. There was one independent variable (Masculinity) with two levels (high & low) and four dependent continuous variables (technology/support, course content, interaction with instructor, and learner self-assessment). High masculinity was operationally defined as a score of 3.50-5 on the masculinity subscale while a score of 1-3.49 indicates low masculinity. The dependent variables were operationally defined as the satisfaction scores for technology/support, course content, interaction with instructor, and learner self-assessment. A score of 4-5 meant satisfaction and a score of 1-3 meant dissatisfaction with the construct. This question was analyzed using descriptive statistics because there was a very poor split between low masculinity and high masculinity (191 to 8) and thus, this question did not qualify for a group comparison on the satisfaction variables because the split was less than 90 to 10 (Tabachnick & Fidell, 2007). However, masculinity mean comparison was performed across age groups.

**Qualitative Inquiry**

The aim of this qualitative part study was to add breadth to the quantitative results by providing convergent or divergent evidence for the findings. This qualitative inquiry looked at how and why cultural orientation may have an impact on student level of satisfaction with their online learning experience. The questions were designed to allow students to describe more in depth their level of satisfaction, their interaction with instructor and with their peers, and explain why they feel satisfied or unsatisfied with a

particular aspect of online learning (technology/support, course content, interaction with instructor, and learner self-assessment) as well as elaborate on other factors that account for their satisfaction or the lack of it. This section discusses the choice of participants, the instrument of data collection, the procedures, and method of data analysis.

**Participants**

Creswell (2007) discusses the importance of selecting the appropriate candidates for interviews. Participants in this qualitative inquiry were drawn from the study sample and comprised graduate students who were enrolled in at least one online course during the fall of 2011 at Blue Moon University. The rationale was that students with online course taking experience would have greater familiarity with a broader range of instructional styles and practices, and thus potentially be in a better position to discuss the different constructs that might influence student satisfaction. A brief description of each participant, using their pseudonym, is provided below and in alphabetical order.

**Angelina**. Angelina is a master's student who has studied and worked at Blue Moon University. She has taken many online classes both at the undergraduate and graduate level. Angelina had taken 11 online courses since the beginning of her program and she was between the age of 25 and 34 at the time of the study.

**Bobby**. Bobby is originally from a Midwestern state and moved to Blue Moon University because of the opportunity to work and study at the same time. He is a master's student who likes the convenience of his program and the mentality of the city as well as its beautiful mountain scenery. Bobby had taken one course and was between the age of 25 and 34 at the time of the study.

**Diana**. Diana was in a doctoral program somewhere else and then decided that her areas of interest were more in the area of online education because she has had experience in that field. She has lived in the western region for several years and decided to go to Blue Moon University after speaking with a staff member who suggested she speak with a program coordinator. At the time of the study, Diana had taken six online classes at Blue Moon University and she was between 45 and 54 years old.

**Hartman**. Hartman is a student that is returning to education to obtain an additional master's degree. He is a faculty member at a large community college in a metropolitan area. He chose to study at Blue Moon University because it is an in-state school and a public institution that he admires and also because his program is entirely online. Hartman had taken 10 online courses at the time of study.

**Nathan**. He is both a doctoral student and an instructor between the age of 35 and 44 at Blue Moon University. His interest is in education. He likes the convenience of studying online and he had taken 10 online classes at the time of this study.

**Rosa**. Rosa is a first generation student who was born and raised in a big western state. She graduated top of her class in high school and spent her first three years of college at a two-year community college. She later transferred to Blue Moon University where she obtained her bachelor's in 2009 and then started her master's program in 2010. Rosa had taken six online classes and was between the age of 25 and 34 at the time of the study.

**Data collection method**

The primary instrument for the qualitative part of this study was an in-depth semi-structured interview protocol based on those used in previous studies (Gomez et al.,

2001; Richie et al., 1997). The interview protocol included questions specific to online learning satisfaction and cultural orientation. The interview protocol comprised the following areas: (a) attitudes and beliefs about online learning; (b) cultural orientation (power distance, uncertainty avoidance, collectivism, and masculinity); (c) satisfaction (satisfaction with technology/support, course content, interaction with instructor, and learner self-assessment), and (d) a section on suggestions and/or recommendations to improve online teaching and learning. More specifically, the first two questions aimed to prepare the interviewee for more in-depth sharing of information and pertain to student overall perception of online education, Question 3 investigated on the constructs that students are most or least satisfied with when learning online, Questions 4-5 pertained to culture and its influence or lack of it in explaining student satisfaction with their online learning experience, Questions 6-9 investigated on student level of cultural orientation based on power distance, collectivism, uncertainty avoidance, and masculinity, and the last question asked students to make suggestions and/or recommendations to improve teaching and learning for both online students and instructors.

In the interviews, a series of open-ended questions (Appendix A) were asked of the participants in a conversational fashion, and the participants were encouraged to keep talking by use of follow-up probing questions (Maykut & Morehouse, 1994) because "For the qualitative-minded researcher, the open-ended interview apparently offers the opportunity for an authentic gaze into the soul of another" (Denzin & Lincoln, 2000, pp. 822-823).

Consistent with the goal of qualitative research to allow participants to describe their experiences from their own viewpoints and their own words (Creswell, 1994;

Morrow & Smith, 2000), questions also eschewed psychological jargon to avoid imposing researcher bias or existing constructs on participants (Gomez et al., 2001; Richie et al., 1997). All informants were interviewed by the researcher on one occasion, for between 10 and 15 minutes.

**Procedure**

Initially, participants were contacted during the survey via email with a description of the study and an invitation to participate. Those who agreed to participate in the follow up interview gave their email contact and/or phone number and selected one of the following interview options: (a) web-based interview, (b) phone interview, and (c) in-person interview to ensure that each participant was comfortable. Next, the researcher contacted each participant via phone or email to arrange for the best time and location of the interview because it is important to do so in a comfortable environment where the participants do not feel restricted or uncomfortable to share information. This was done to build rapport with respondents in order to maintain an unambiguous focus as to how the interviews will be erected in order to provide maximum benefit to the proposed research study, as suggested by McNamara (2009). Also, in the selection of interview participants, a random sampling technique was employed using the free randomization software Research Randomizer because there were 110 participants who volunteered for the follow up interview and only six were needed. Participation was on a voluntary basis because, as Creswell (2008) suggests, it is important to acquire participants who will be willing to openly and honestly share information or "their story" (p. 133). Along these lines Chenail (2009) provides a number of pre-interview exercises researchers can use to improve their instrumentality and address potential biases. These exercises, as

highlighted in McNamara's eight principles to the preparation stage of interviewing, were applied to conduct these interviews and included the following: (a) choice of a setting with little distraction; (b) explaining the purpose of the interview; (c) addressing terms of confidentiality; (d) explaining the format of the interview; (e) indicating how long the interview usually takes; (f) telling participants how to get in touch with you later if they want to; (g) asking them if they have any questions before you both get started with the interview; and (h) not counting on your memory to recall their answers.

All interviews were recorded using a digital voice recorder, with the permission of the participants being interviewed. After the interviews, the recordings were transcribed into computer files. Care was taken by the researcher to assure the respondents that they would not be identifiable in any subsequent report either by name, age, or ethnicity. Once the final research report was written, the tapes from the interviews were destroyed.

**Sample**

A sample of twelve graduate students was randomly selected from a pool of 110 participants who volunteered to take part in the follow up interviews. Six of those interviews were conducted in-person, three via phone, and the other three via Skype. As there appears to be no general agreement about sample size in qualitative studies, because there are reports of single-person studies (Onwuegbuzie et al., 2012) and other commentators suggest sample sizes ranging from six (Henry, 1990) to thirty (Johnson, 1991), it was felt that six interviews should be able to supply varied and detailed accounts for the purposes of this study. The researcher selected those six respondents who were three males and three females with two in the doctoral program and four in the master's

program based on the fact that their responses informed the research questions. The participants were between the age of 25 and 54 years old at the time of the study.

**Trustworthiness**

Validity, reliability, and objectivity are criteria used to evaluate the quality of research in the conventional positivist research paradigm. As an interpretive method, qualitative content analysis differ from the positivist tradition in its fundamental assumptions, research purposes, and inference processes, thus making the conventional criteria unsuitable for judging its research results (Bradley, 1993). Lincoln and Guba (1985) recognized this gap when they proposed four criteria for evaluating interpretive research work: credibility, transferability, dependability, and confirmability.

Credibility refers to the "adequate representation of the constructions of the social world under study" (Bradley, 1993, p. 436). In other words, it evaluates a researcher's reconstruction of social reality. To satisfy this criterion, the researcher designed transparent processes for coding (e.g., the coding manual & coding framework), drew conclusions from the raw data, provided coders with precise coding definitions and clear coding procedures, and prepared coders through a comprehensive training (Weber, 1990). To further ensure the quality and reliability of the data, the researcher had the transcripts checked by two native speakers of English who listened to the original interviews and then compared to the transcription. Several semantic and syntactic errors were found and then fixed. Most of the transcription errors included but not limited to wrong word choice (e.g., "each structure" in place of "each instructor", "thrown about" in place of "strewn about", "from a distance" in place of "in my district", etc…), omission (e.g., "in context" instead of "in the context"), and incomplete sentences (e.g., "If I have a question

or articulate a question that might not otherwise have been articulated head enough in the classroom environment" instead of "If I have a question or articulate a question that might not otherwise have been articulated had it not been in the classroom environment". After the quality check was completed, the researcher proceeded with the data analysis, which constitutes the subject of the next section.

Transferability refers to the extent to which the researcher's working hypothesis can be applied to another context (Bradley, 1993). The researcher did not claim transferability of the research results, but the transferability of the study was made possible by the documentation of the data processing in a coding scheme. For example, the coding scheme included among other things coding rules and examples.

The dependability of the research findings in this study was established by the transparent coding process and inter-coder verification. To make sure that the distinction between codes and categories were clear to the coders, the researcher defined them. To ensure coding consistency, every coder used the same version of the framework to code the raw data. Both the training and the experience of the coder are necessary for reliable coding (Nuendorf, 2002). In this study, coders were graduate students who had been involved in the revision of the coding framework and, thus, were experienced at using the scheme.

Confirmability refers to "the extent to which the characteristics of the data, as posited by the researcher, can be confirmed by others who read or review the research results" (Bradley, 1993, p. 437). This criterion was also satisfied through the data coding process, during which team members consistently checked and monitored one another's work, discussing decisions carefully with the entire team to ensure accuracy of the data.

**Qualitative Data Analysis**

Data analysis was conducted using the constant comparison, a modified grounded theory approach (Strauss & Corbin, 1998) in which a theory is generated through a series of steps that proceed from data collection to coding of data into concepts; to categorization of concepts into increasingly comprehensive aggregates of categories, or constructs; to description of categories based on their properties and dimensions; and finally to the articulation of a theory in which the emergent constructs and their interrelationships are described. All of the interview transcripts were read by the researcher and three advanced doctoral students and coded in the style of a grounded theory approach to data analysis as outlined by Strauss & Corbin.

Data was manually transcribed by the researcher and quality check was performed by two native speakers of English to ensure the accuracy of transcribed data. Next, the researcher developed a coding manual and coding framework in preparation for the training of coders and data analysis. Data was coded by the researcher and three advanced doctoral students at Blue Moon University in mid February 2012, using the steps described by Strauss and Corbin (1998). The selection of the coders was based on their experience and interests in qualitative research, data coding and analysis, and their experience in online learning. Each of the coders had completed their doctoral coursework including courses in qualitative research and learned how to do data coding in their previous classes or on their job. For example, the researcher had worked as a graduate research assistant in two qualitative studies: the Family and Community Case Study (FCCS) and the Longitudinal Child Study of Arizona (LCSA) for the First Things First External Evaluation, a tri-university grant designed to determine how First Things

First programs and investments into the early childhood delivery system affect children's health and readiness for school in Arizona.

An initial two-hour training workshop on qualitative data coding and analysis was conducted by the researcher with the assistance of Dr. Ishmael I. Munene, a faculty with expertise in qualitative research at Northern Arizona University. The role of the faculty expert was to provide guidance and suggestions for improving the analysis and resolving problems. During the training, team members were given readings and exercises in coding and analysis. During team meetings, each phase of the analysis was introduced, practiced, and completed by all team members, with teaching and close supervision provided by the researcher. Throughout this process, team members consistently checked and monitored one another's work, discussing decisions carefully with the entire team to ensure accuracy of the data. This extensive use of auditing (Strauss & Corbin, 1998) enhances data analysis dependability and confirmability (Lincoln & Guba, 1985), thus leading to more useful results as previously discussed.

The first phase of the analysis involved *open-coding*, in which transcripts were broken down into small, discrete parts (e.g. a word, phrase, or group of sentences) labeled as *concepts* (all terminology is from Strauss & Corbin, 1998). The researcher decided that the unit of analysis would be individual themes which could be expressed in a single word, a phrase, a sentence, a paragraph, or an entire document. To test the coding scheme, a sample text was coded by the whole team of four coders in the presence of the faculty expert in qualitative data analysis. The coding consistency was checked through an assessment of inter-coder agreement. Doubts and problems concerning the definitions

of codes, coding rules, or categorization of specific cases was discussed and resolved within the coding team as recommended by Schilling (2006).

Each transcript was coded by each team member individually and then recoded by the entire team. Names of respondents were removed from the transcripts and replaced by pseudonyms to protect participants' privacy and anonymity during the coding process. A coding framework which included the different interview questions, definitions of codes, and examples of codes was used as a guide by each coder. Coders pulled lists of quotes from coded interviews related to the themes within each area of interest. For example, a list of quotes was provided for everything participants said about satisfaction or dissatisfaction with online learning, importance of culture to online learning, instructor, course structure, etc. to show exactly what participants said about each of these aspects of online learning.

After working separately, coding the interviews for a week, the team reconvened to conduct crossover analysis. During that meeting, coding consistency was checked and coding rules revised as this was an iterative process and it continued until sufficient coding consistency was achieved as highlighted by Weber (1990). Disagreements were resolved by consensus, and final coding was reviewed by the researcher. As anticipated this process resulted in a large number of distinguishable codes (383 in total) before they were reduced to 88 codes, which constitute the next step of analysis. A snapshot of these final codes generated is provided below.

*Figure 4.1.* A Cloud of the Final Codes Generated

The next phase of coding involved the creation of *categories*, higher order labels that encompass several concepts. The researcher developed sets of categories from the generated codes of all transcripts, which were further synthesized into one master category list. This step of the analysis resulted in a small number of categories (nineteen in total, eight under cultural orientation and eleven under satisfaction). These were then organized into a much smaller number of *key categories* (*axial coding*) in order to group together several categories, resulting in a total of nine themes.

The next analysis step involved describing categories in terms of *properties* (characteristics of a category) and *dimensions* (location of a property along a continuum). Properties and dimension for each category were generated by the researcher and then reviewed and modified as necessary. When the categories were descriptive of at least 80% of the participants, saturation was achieved (Gomez et al., 2001).

# Chapter 4

## Results and Findings

This chapter presents the results of the statistical analyses carried out in the present study. It begins with the data screening results, and the rest is organized by research question and the type of analyses utilized to answer each question. Similar statistical analyses were utilized for the four research questions. It is worthwhile mentioning that this study was based on a sample of 199 graduate students from different degree programs and departments at Blue Moon University, 95% were citizens of the United States and this should be taken into account when interpreting the results.

### Data Screening

The data screening protocols announced in Chapter 3 were followed to assess assumptions prior to analyses (e.g., missing data, normality, outliers, and multicollinearity) and all the statistical analyses were conducted using the criteria and procedures developed by Tabachnick and Fidell (2007). The data set had several univariate outliers that were subsequently excluded from the analyses.

High correlations were detected between the dependent variables course content and interaction with instructor ($r$ = .78); course content and learner self-assessment ($r$ = .75) and between interaction with instructor and learner self-assessment ($r$ = .71) while moderate correlations were found between technology/support and course content ($r$ = .65), between technology/support and interaction with instructor ($r$ = .52), and between technology/support and learner self-assessment ($r$ = .65) from the regression correlation (Hinkle, Wiersma, & Jurs, 2003). The high correlation among variables suggested that conducting a one-way ANOVA was more appropriate than a one-way MANOVA to

answer each research question. Following the protocol for screening multicollinearity established by Tabachnick and Fidell (2007) were conducted, and no concerns were found for this set of data.

Table 4.1

*Correlation Matrix of the Dependent Variables (N = 199)*

| Variables | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1. Technology/Support | – | .652*** | .523*** | .657*** |
| 2. Course Content | | – | .786*** | .751*** |
| 3. Interaction with Instructor | | | – | .708*** |
| 4. Learner Self-Assessment | | | | – |

***$p < .001$

**Participants' General Profile**

The majority of participants in this study were female ($n$ = 142, or 71.4%) and Caucasians ($n$ = 144, or72.4%) between the age of 25 and 34 ($n$ = 79, or 39.7%) enrolled in the master's program at Blue Moon University. The next largest ethnic groups in this study were Hispanic ($n$ = 16, or 8%), and Native American ($n$ = 15, or 7.5%). All of the participants are low power distance and a big majority of them were low collectivism, low masculinity, and high uncertainty avoidance. Sixteen (8%) of them were under 25, 51 (25.6%) were between 35 and 44 years old, 36 (18.1%) were between 45 and 54, and 17 (8.5%) were 55 or over. As far as citizenship, the big majority of participants were

American (*n* = 189 or 95%); two were citizens of Canada, and one participant from each of the following nations: Afghanistan, China, Europe, Mexico, Nigeria, Pakistan, South Africa, and Yemen. As far as online learning experience, 60 participants (30.2%) had taken between one and three online courses, 54 (27.1%) had taken 4-6 online courses, 46 (23.1%) had taken between 7-11 courses, and the remaining 39 (19.6%) had experience taking 12 online courses or more at the time of the study. In general this study sample mirrors the population from which it was drawn. As an illustration, the Caucasians account for 66%, the Hispanic Americans 16%, and the Native Americans 4% of the Blue Moon University student population (Planning and Institutional Research, 2011) and respectively represent 72.4% (*n* = 144), 8% (*n* = 16), and 7.5% (*n* = 15) of the total sample in this study.

**Research Question 1**. *To what extent does the cultural orientation, based on low and high power distance, differ among online learners' level of learning satisfaction?*

The study found that low power distance is related to more satisfaction. Both the quantitative and qualitative findings suggest that there were no significant differences observed across the dependent variables course content, interaction with instructor, and learner self-assessment based on three of the demographic variables (age group, ethnicity, and gender) because the analysis for this question resulted in a single group (low power distance), thus leaving no option for group comparison based on their level of power distance as will be reported below. The rationale for choosing these three demographic variables to analyze Research Question 1 is that ethnicity, gender, and age have been cited in the literature as some of the key factors that influence student learning experience and satisfaction (e.g. Fahy, 2002; Jeong, 2006; Rovai, 2002; Wheeler, 2002).

**Quantitative Results.** No significant mean differences were observed on the dependent variables technology/support across gender, and ethnicity. The participants' satisfaction level did not differ significantly on the other three constructs (course content, interaction with instructor, and learner self-assessment)

However, slight differences were noted on age where participants who were 55 years old and over expressed more satisfaction on the construct of technology/support than the other age groups. Recall that Research Question 1 asked to what extent the cultural orientation, based on low and high power distance, differed among online learners' level of learning satisfaction on four distinct constructs: technology/support, quality of course content, interaction with instructor, and learner self-assessment.

After data screening for normality and homogeneity of variance assumptions for each dependent variable, a mean comparison was conducted to assess the satisfaction level across ethnicity, age, and gender because all the participants scored low on the power distance subscale, thus resulting in a single group. Descriptive statistics and frequency distributions were used to analyze this question. The mean score on power distance, on a 1-5 scale, varied across the three largest ethnic groups: the Hispanic had the lowest mean score ($M$ = 1.99, $SD$ = .46, $n$ = 16) followed by the Native Americans ($M$ = 2.27, $SD$ = .43, $n$ = 15), and the Caucasians ($M$ = 2.37, $SD$ = .47, $n$ = 144). These results should be treated with caution because these samples may not be representative of the population from which they were drawn. As far as gender, male participants had slightly higher scores ($M$ = 2.42, $SD$ =- 43, $n$ = 57) than their female counterpart ($M$ = 2.28; $SD$ = .49, $n$ = 142) with respect to power distance suggesting that male participants accept the fact that power in institutions and organizations is distributed unequally. No

significant mean differences were observed on the dependent variables technology/support across gender, and ethnicity. As regards to the influence of age on power distance, the 55 years old and over had the lowest mean score (*M* = 2.11, *SD* = .50, *n* = 17) on that cultural dimension compared to the mean score of the under 25 years old age group (*M* = 2.32; *SD* = .39, *n* = 16), the 25-34 age group (*M* = 2.35, *SD* = .49, *n* = 79), the 35-44 age group (*M* = 2.30, *SD* = .46, *n* = 51), and the 45-54 years old (*M* = 2.35, *SD* = .50, *n* = 36) suggesting that older participants accept the fact that power in institutions and organizations is distributed unequally compared to the other age groups.

Furthermore, slight differences were noted on age where participants who were 55 years old and over expressed more satisfaction on the construct of technology/support (*M* = 4.31, *SD* = .39, *n* = 17) followed by the 35-44 age group (*M* = 4.23, *SD* = .39, *n* = 49), the under 25 age group (*M* = 4.16, *SD* = .44, *n* = 16), the 45-54 age group (*M* = 4.14, *SD* = .46, *n* = 35), and the 25-34 age group (*M* = 4.06, *SD* = .40, *n* = 78).

Next, age did not significantly affect satisfaction with the quality of course content although the 55 or over age group had slightly expressed more satisfaction than the other groups (*M* = 3.98, *SD* = .62, *n* = 17). They were followed by the under 25 (*M* = 3.96, *SD* = .49, *n* = 16), the 35-44 age group (*M* = 3.96, *SD* = .44, *n* = 51), the 45-54 age group (*M* = 3.94, *SD* = .60, *n* = 34), and the 25-34 age group (*M* = 3.88, *SD* = .58, *n* = 78).

As far as satisfaction with interaction with instructor, the oldest age group slightly expressed more satisfaction (*M* = 4.19, *SD* = .70, *n* = 17) than the other four age groups. They were followed by the under 25 age group (*M* = 3.90, *SD* = .57, *n* = 16), the 25-34

($M$ = 3.89, $SD$ = .70, $n$ = 77), the 35-44 ($M$ = 3.89, $SD$ = .47, $n$ = 51), and the 45-54 ($M$ = 3.81, $SD$ = .70, $n$ = 36).

Finally, the same trend was observed as far as satisfaction with learner self-assessment where the 55 years old or over slightly expressed more satisfaction ($M$ = 4.21, $SD$ = .33, $n$ = 17) than the other age groups. They were followed this time by the 35-44 age group ($M$ = 4.07, $SD$ = .41, $n$ = 51), the 45-54 ($M$ = 4.06, $SD$ = .45, $n$ = 33), the 25-34 ($M$ = 3.95, $SD$ = .46, $n$ = 78), and the under 25 ($M$ = 3.91, $SD$ = .40, $n$ = 16).

The following table summarizes the key findings on satisfaction with the four satisfaction constructs based on participants' age group.

Table 4.2

*Means and Standard Deviations for LeVIS Scale Items by Age Group*

| | Age Group | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Under 25 *N* = 16 | | 25-34 *N* = 78 | | 35-44 *N* = 51 | | 45-54 *N* = 34 | | 55 and Over *N* = 17 | |
| LeVIS | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| T/S | 4.16 | .44 | 4.06 | .40 | 4.23 | .31 | 4.14 | .46 | 4.31 | .39 |
| CC | 3.96 | .49 | 3.88 | .58 | 3.96 | .44 | 3.94 | .60 | 3.98 | .67 |
| Inst | 3.90 | .57 | 3.89 | .70 | 3.89 | .47 | 3.81 | .70 | 4.19 | .58 |
| Lsa | 3.91 | .40 | 3.95 | .46 | 4.07 | .41 | 4.06 | .45 | 4.21 | .33 |
| Total | 3.98 | .47 | 3.94 | .53 | 4.03 | .40 | 3.98 | .55 | 4.17 | .49 |

*Note*. LeVIS (Satisfaction) Scale Items; T/S= Technology/Support; CC= Course Content; Inst = Interaction with Instructor; Lsa = Learner Self-Assessment.

**Qualitative Findings.** The main qualitative results suggest that power distance is situation-dependent and is to some extent dictated by the pedagogical practices of online instructors. The findings are presented without supporting discussion for clarity purpose (Burnard, 2004).

Recall that after data analysis was completed, 88 codes and nine category headings were generated from the data and under these all of the data were accounted for. These categories were: (a) Power range, (b) distance, (c) learning environment atmosphere, (d) sense of belongingness, (e) individualism, (f) instruction planning and design, (g) assessment, (h) individual personality, and (i) most satisfying online learning experiences. The three coders were asked to verify the seeming accuracy of the category system because in the grounded theory literature, a good category system is said to have 'emerged' from the data (Huberman & Miles, 1994; 2002). The findings are organized by theme in the following section.

*Power range*, *distance*, and *learning environment atmosphere* were the possible themes that were identified for Research Question 1, and within those areas the researcher probed to find out what the informants presented as comfort or discomfort in disagreeing with their peers and/or instructor.

***Power Range***

Many participants in this research study reported that fear of instructor backlash as far as assessment determined the way they interacted with the instructor in the online learning environment. Most of the participants also felt that they were more comfortable expressing divergent opinions with their peers than with the instructor. For example, when asked whether she feels comfortable to disagree with the instructor, Angelina, a

low power distance, low masculinity, low collectivism and high uncertainty avoidance Caucasian participant between the age of 25 and 34 stated: “I find it’s a little easier to disagree, but then, I mean they’re still the professor; you don’t want to disagree to the point where it’s like ‘okay, will this influence my grade’?” When asked the same question, Diana, another low power distance, low collectivism, low masculinity and low uncertainty avoidance Caucasian respondent between the age of 45 and 54 expressed even more fear and reservation in relation to disagreement with the instructor when she said:

> And some professors actually make it safe and encourage disagreement; and although some say that they want you to critically think, they really don’t. They just want you to regurgitate the information they’ve given you and they want you to think like them because if you don’t think like them, then you’re considered a narrow thinker. So, it’s kind of “A Catch 22” with faculty, you know…they hold the power over and so, I’ve learned over the years to kind of sort out the ones that I think it’s safe to overtly disagree with and the ones where I just do what I have to do to get through the class and hold my opinions and don’t share them; even in the online environment (Diana).

Rosa, a low power distance, high collectivism, high uncertainty avoidance, and low masculinity African American participant aged between 25 and 34 reported respecting the power differential between her and her professors because of the way she was raised, thus to be respectful and have the understanding that there is a power

differential between students and their professors. She explained her discomfort in disagreeing with her professors in the following excerpt:

> I rarely in-person even disagree with my professors. Although I'm getting my master's, most of my professors have their doctorates and I was raised to be respectful and to have that understanding. I rarely would disagree with the professor even in online format or in a conversation I would respect their opinion and merely acknowledge that mine was different (Rosa).

This power differential is even more apparent in the following quote in which Rosa expressed total comfort in disagreeing with fellow classmates, but not with her professors:

> My peers, however, don't get the same courtesy; they often are told that I disagree and I present my views; we always have this debate over the online format that goes back and forth until someone gives up.

***Distance***

As far as online communication, all the interviewees felt it was easier to express disagreement with peers than it is to do so with instructors because of the impersonal nature of online communication. Bobby, a male Caucasian with low power distance, low collectivism, low uncertainty avoidance, and low masculinity aged between 25 and 34 thought distance and non-verbal clues helped him to be the devil's advocate when communicating with his fellow classmates when he stated: "I think online can create a comfortable environment because it's more informal; you're just typing. I think it's a lot easier to express your opinion because you're expressing it to a faceless entity, the

computer." Speaking of comfort in disagreeing with peers, like Bobby, Angelina also felt distance fostered easier online communication in the following excerpt:

> I think it's a lot easier because they can't see you. You know in any online forum whether that's in a class or on Facebook or any chat room or anything like that, I think that it's a lot easier for people to say it because they don't know who you are, they don't know where you're coming from; I mean you could be a hundred miles away or more. So it's really easy to disagree or even just to become negative (Angelina).

Distance, absence of non-verbal cues, and lack of visual contact also helped Rosa to express her opinion freely as he states:

> I think is easier because you don't see them face to face. You are just responding to a series of zeros and ones on a computer screen and not necessarily to a person, a person in-person.

***Learning Environment Atmosphere***

Learning environment atmosphere was the last theme that emerged under Research Question 1 and it determined not only how students participated in the discussions, but also dictated the level of their disagreement with the instructor according to Hartman, a Caucasian participant in a master's program at Blue Moon University, aged 55 or over who is also low power distance, low collectivism, high uncertainty avoidance and low masculinity:

> It depends on how the environment of the course feels from the beginning and so it really depends on what is set up. For instance, I would usually probe a little bit; if I post to a discussion board something that is a little bit challenging and the feedback I get from the instructor or from the peers is,

> I guess depending on the way the feedback sounds, I would adjust the way that I participate. And so if the environment is set up where at the beginning of a course and the instructor invites that, invites disagreement or challenge, I'm more likely to maybe go a little bit further.

Overall participants felt that it was easier to express disagreement with peers than it was to do so with the instructor. Disagreement with peers was made easier by the distance that separated the students. However, the existence of power differential between faculty and students even in an online learning environment made it less comfortable for students to express opinions contrary to those of the instructor.

**Research Question 2.** *To what extent does the cultural orientation, based on low and high collectivism, differ among online learners' level of learning satisfaction?*

Both the ANOVA results and the qualitative findings revealed that there was no difference between high collectivism and low collectivism groups on satisfaction with technology/support, course content, interaction with instructor, and learner self-assessment as reported below.

**Quantitative Results**

Overall, the quantitative results indicate that there was no significant difference between cultural orientation and satisfaction across technology/support, course content, interaction with instructor, and learner self-assessment.

**Results of satisfaction with technology/support**. The normality of the dependent variables (technology/support, quality of course content, interaction with instructor, and learner self-assessment) was assessed by each group (high and low collectivism) for Research Question 2. Recall that Research Question 2 asked to what

extent the cultural orientation, based on low and high collectivism, differed among online learners' level of learning satisfaction on four distinct constructs: technology/support, quality of course content, interaction with instructor, and learner self-assessment. After conducting the initial screening for normality, no missing data were found and the sample size for each group was: low collectivism ($n$ = 172) and high collectivism ($n$ = 27). Four univariate outliers were found and the decision was to proceed with the analyses without modifying the dependent variable technology/support and by deleting the outliers thus, bringing the total sample to 195 cases, 27 cases for high collectivism group and 168 cases for the low collectivism group.

After deletion of the outliers, means and standard deviation scores were examined to compare the two groups in terms of satisfaction with technology/support. The results indicate that there is no significant difference between low collectivism ($M$ = 4.14, $SD$ = .40, $n$ = 168) and high collectivism group ($M$ = 4.16, $SD$ = .41, $n$ = 27).

Next, a one-way univariate analysis of variance (ANOVA) was conducted to test the hypothesis that there would be one or more mean differences between collectivism levels (high and low) and the technology/support satisfaction scores. Recall that ANOVA was chosen instead of MANOVA because of the moderate to high correlation that was observed among the dependent variables. The ANOVA results revealed that there was no significant difference between high collectivism and low collectivism groups on satisfaction with technology/support, $F$ (1, 193) = .07, $p$ = .788, partial eta squared < .001.

Table 4.3

*ANOVA Results Summary for Satisfaction with Technology/Support Based on Collectivism*

| Source | *SS* | *df* | *MS* | *F* | *p* | *Eta*$^2$ |
|---|---|---|---|---|---|---|
| CO HL | .01 | 1 | .01 | .07 | .778 | .000 |
| Error | 31.65 | 193 | .16 | | | |
| Total | 31.66 | 194 | | | | |

**Results of satisfaction with course content**. The ANOVA results revealed that there was no significant difference between high collectivism and low collectivism groups on satisfaction with course content. After conducting the initial screening for normality, no missing data were found and the sample for each group was: low collectivism ($n$ = 169) and high collectivism ($n$ = 27). Three cases univariate outliers were found and the decision was to proceed with the analyses without modifying the dependent variable course content and by deleting the outliers thus, bringing the total sample to 196 cases, 27 cases for high collectivism group and 169 cases for the low collectivism group..

After deletion of the outliers, means and standard deviation were computed and compared between the two groups. The results indicate no significant difference between low collectivism group ($M$ = 3.91, $SD$ = .56, $n$ = 169) and high collectivism group ($M$ = 3.99, $SD$ = .50, $n$ = 27).

Next, a one-way univariate analysis of variance (ANOVA) was conducted to test the hypothesis that there would be one or more mean differences between collectivism

levels (high and low) and the course content satisfaction scores. The omnibus ANOVA was not significant, $F$ (1, 194) = .492, $p$ = .484 partial eta squared =.003. A summary of the ANOVA table is provided below.

Table 4.4

*ANOVA Results Summary for Satisfaction with Course Content Based on Collectivism*

| Source | *SS* | *df* | *MS* | *F* | *p* | $Eta^2$ |
|---|---|---|---|---|---|---|
| CO HL | .15 | 1 | .15 | .49 | .484 | .003 |
| Error | 59.41 | 194 | .30 | | | |
| Total | 59.56 | 195 | | | | |

**Results of satisfaction for interaction with instructor**. The ANOVA results revealed that there was no difference between high collectivism and low collectivism groups on satisfaction with instructor. After conducting the initial screening for normality, no missing data were found and the sample for each group was: low collectivism ($n$ = 169) and high collectivism ($n$ = 27). Three cases univariate outliers were found and the decision was to proceed with analyses without modifying the dependent variable interaction with instructor and deleting the outliers, leaving 196 cases for analysis. Means and standard deviation were computed and compared between the two groups. The results indicate no significant difference between low collectivism group low collectivism group ($M$ = 3.88, $SD$ = .62, $n$ = 169) and high collectivism group ($M$ = 4.00, $SD$ = .67, $n$ = 27).

Next, a one-way univariate analysis of variance (ANOVA) was conducted to test the hypothesis that there would be one or more mean differences between collectivism levels (high and low) and the interaction with instructor satisfaction scores. The omnibus ANOVA was not significant, $F$ (1, 194) = .715, $p$ = .399, partial eta squared = .004. A summary of the ANOVA results is provided below.

Table 4.5

*ANOVA Results Summary for Satisfaction with Interaction with Instructor Based on Collectivism*

| Source | *SS* | *df* | *MS* | *F* | *p* | $Eta^2$ |
|---|---|---|---|---|---|---|
| CO HL | .28 | 1 | .28 | .71 | .715 | .004 |
| Error | 77.41 | 194 | .39 | | | |
| Total | 77.70 | 195 | | | | |

**Results of satisfaction for learner-self-assessment.** The ANOVA results revealed that there was no difference between high collectivism and low collectivism groups on learner self-assessment satisfaction. After conducting the initial screening for normality, no missing data were found and the sample for each group was: low collectivism (n = 168) and high collectivism (n = 27) Four univariate outliers were found and the decision was to proceed with further analyses without modifying the dependent variable learner self-assessment and by deleting the ouliers, leaving 195 cases for analysis. Means and standard deviation were computed and compared between the two

groups. The results indicate no significant difference between low collectivism group (*M* = 4.03, *SD* = .43, *n* = 168) and high collectivism group (*M* = 4.05, *SD* = .41, *n* = 27).

Next, a one-way univariate analysis of variance (ANOVA) was conducted to test the hypothesis that there would be one or more mean differences between collectivism levels (high and low) and learner self-assessment satisfaction scores. The omnibus ANOVA was not significant, $F(1, 193) = 315$, $p = .575$, partial eta squared = .002. It was thus concluded that the two groups did not differ in terms of satisfaction with learner self-assessment and that they were overall satisfied with that construct. A table summary of the ANOVA results for satisfaction with learner self-assessment is provided below.

Table 4.6

*ANOVA Results Summary for Satisfaction with Learner Self-Assessment Based on Collectivism*

| Source | *SS* | *df* | *MS* | *F* | *p* | $Eta^2$ |
|---|---|---|---|---|---|---|
| CO HL | .06 | 1 | .06 | .31 | .575 | .002 |
| Error | 37.69 | 193 | .19 | | | |
| Total | 37.75 | 194 | | | | |

**Summary of Quantitative Results for Research Question 2**

The quantitative results for Research Question 2 indicated that there was no significant difference between collectivism and satisfaction across technology/support, course content, interaction with instructor, and learner self-assessment as highlighted by

both the means and standard deviation scores and the results of omnibus ANOVAs and those of the Mann-Whitney U Tests.

**Qualitative Findings for Research Question 2**

This question asked the extent to which the cultural orientation, based on low and high collectivism, differs among online learners' level of learning satisfaction. The findings indicate that the degree of collectivism is context-dependent and that low collectivism is related to satisfaction. *Sense of belongingness* and *individualism* were the two identified themes for this question and are discussed below.

***Sense of Belongingness***

Half of participants (Rosa, Nathan, and Hartman) expressed concerns about clarity of instructions or directions when learning online. Rosa was constantly begging for a strong group dynamic and that having the feeling of belongingness was necessary for online social interaction. She expressed her frustration for feeling lonely and rejected in one of her online classes when she stated:

> For me personally being in a group and not having that feeling like my voice isn't heard is very frustrating. If others are being responded to and I am being cast aside or if I am suggesting things and I can clearly see in a group format that it's being ignored, I do get very, very frustrated; I don't feel accepted in that group, I don't feel like I'm a part of that group and it's strange because these people don't know me; you know…normally I've never met any of my online peers except for one. I know that many of them aren't even in the state of Arizona while they're taking these classes. And so it's strange to say they don't like me or they don't like my ideas or

> why they are outcasting me, but I do feel that way even though I know it's illogical (Rosa).

Nathan, a low power distance, low collectivism, high uncertainty avoidance, and low masculinity Caucasian participant between the age 35 and 44 also emphasized the importance of being accepted in an online community because it helps students become risk takers and fosters more communication among them. He summarized his thoughts in the following terms:

> I believe it's very important. […] I found myself in situations where because my background is not education, and I'm taking courses in education. I don't have the background that the other students do and so I will be a little bit more reserved if I don't feel like I'm being embraced by the community. I would be much more quiet; I may go and just learn on my own, but I won't interact as much. Whereas when I'm pulled into the group, I feel more part of the group, I'm more likely to take risks (Nathan).

As for Hartman, he believed that social interactions are necessary for critical thinking and that being part of the group helps in the real world preparation. As he put it:

> The social interactions that are driven in an online discussion board for instance or in group work if necessary is part of the necessity for the world and also part of building well-being, I think, social interaction helps us in our own personal well-being and in our connection with the world, with the universe, with others. So, I think it's an integral part of online education.

***Individualism***

Two participants (Angelina & Bobby) both expressed ideas that classified them as low collectivism or individualism. For Bobby and Angelina, being part of a group did not matter at all to them. What mattered the most for Bobby, for example, was submitting his assignments on time as he explained: "As of now I'm not too worried about being accepted. I'm more worried about getting my stuff in on time, to be honest with you". Bobby made his individualism even more apparent, suggesting that he did not care whether his classmates read his blogs or not; what counted for him was the different options he got from an online learning environment. As he explained:

> They can choose to read my blog or not. So, I feel more comfortable in that regards, but as far as the community, it just feels much more information, very impersonal I should say. I feel a lot more impersonal… what am I trying to say? Yeah a lot more impersonal and that's part of the reason why I like online because of the options it gives me and because the impersonal of it.

Angelina also expressed her lean toward individualism in one of her answers about the importance of the sense of belongingness to an online community. Angelina made it clear that it did not matter to her when she stated:

> In this sense, my online education is just really to get a degree; to get the schooling. If I don't really form a connection with somebody, I mean that's not the part of my life where I feel I have to form a connection (Angelina).

Diana, a low power distance, high collectivism, low uncertainty avoidance, and low masculinity Caucasian participant between the age of 45 and 54, had a balanced

opinion regarding the sense of belongingness to an online community during the interview and this expression of neutrality contradicted her survey response which classified her as high collectivism. Diana's response to the question "How important is it for you to be accepted as an online group member" clearly explains her ambivalent position:

> If I'm truly going to have a class based learning experience, that's [belonging to an online community] very important to me. If I'm just experiencing an online course basically as electronically-delivered independent study, then it's not important. So, it depends more on what I've signed up for (Diana).

In summary, the interview participants had different views on collectivism and two major themes have been found in this question: sense of belongingness and individualism. While some participants preferred feeling connected to their online community (Rosa & Diana) others thought it was not at all important to feel accepted by your peers in an online learning environment (Bobby, Angelina, Nathan, & Hartman).

**Research Question 3.** *To what extent does the cultural orientation, based on low and high uncertainty avoidance, differ among online learners' level of learning satisfaction?*

Both the quantitative and qualitative findings for Research Question 3 suggest that there was no difference in terms of satisfaction across the four constructs (technology/support, course content, interaction with instructor, and learner self-assessment) based on the level of uncertainty avoidance and that uncertainty avoidance is context-specific.

## Quantitative Results

The quantitative results for Research Question 3 indicated that there was no significant difference between uncertainty avoidance and satisfaction across technology/support, course content, interaction with instructor, and learner self-assessment as highlighted by both the means and standard deviation scores, the results of omnibus ANOVAs, and those of the Mann-Whitney *U* Tests.

**Results of satisfaction with technology/support**. The ANOVA results revealed that there was no difference between high uncertainty avoidance and low uncertainty avoidance groups on satisfaction with technology/support. The normality of the dependent variables (technology/support, quality of course content, interaction with instructor, and learner self-assessment) was assessed by each group (high and low uncertainty avoidance) for Research Question 3. Recall that Research Question 3 asked to what extent the cultural orientation, based on low and high uncertainty avoidance, differs among online learners' level of learning satisfaction on four distinct constructs: (a) technology/support, (b) quality of course content, (c) interaction with instructor, and (d) learner self-assessment. After conducting the initial screening for normality, no missing data were found, but four univariate outliers were found and the decision was to proceed with the analyses without modifying the dependent variable technology/support and by deleting the outliers thus, bringing the total sample to 195 cases, 49 cases for low uncertainty avoidance group and 146 cases for the high uncertainty avoidance group. Means and standard deviation were computed and compared between the two groups. The results indicate no significant difference between low uncertainty avoidance group

($M$ = 4.13, $SD$ = .34, $n$ = 49) and high uncertainty avoidance group ($M$ = 4.15, $SD$ = .42, $n$ = 146).

Next, a one-way univariate analysis of variance (ANOVA) was conducted to test the hypothesis that there would be one or more mean differences between uncertainty avoidance levels (high and low) and the technology/support satisfaction scores. The omnibus ANOVA was not significant, $F(1, 193) = .08$, $p = .776$, partial eta squared < .001. A summary of the main findings is provided in the table below.

Table 4.7

*ANOVA Results Summary for Satisfaction with Technology/Support Based on Uncertainty Avoidance*

| Source | *SS* | *df* | *MS* | *F* | *p* | $Eta^2$ |
|---|---|---|---|---|---|---|
| CO HL | .01 | 1 | .01 | .08 | .776 | .000 |
| Error | 31.64 | 193 | .16 | | | |
| Total | 31.65 | 194 | | | | |

**Results of satisfaction with course content**. The ANOVA results revealed that there was no difference between high uncertainty avoidance and low uncertainty avoidance groups on satisfaction with course content. After conducting the initial screening for normality, no missing data were found, but three univariate outliers were and the decision was to proceed with analyses by deleting the extreme cases and not modifying the dependent variable course content. Means and standard deviation were computed and compared between the two groups. The results indicate no difference at all

between low uncertainty avoidance group ($M$ = 3.92, $SD$ = .47, $n$ = 49) and high uncertainty avoidance group ($M$ = 3.92, $SD$ = .57, $n$ = 147).

Next, a one-way univariate analysis of variance (ANOVA) was conducted to test the hypothesis that there would be one or more mean differences between uncertainty avoidance levels (high and low) and the course content satisfaction scores. The omnibus ANOVA was not significant, $F(1, 194) = .003$, $p = .957$, partial eta squared < .001. A summary table is provided below.

Table 4.8

*ANOVA Results Summary for Satisfaction with Course Content Based on Uncertainty Avoidance*

| Source | *SS* | *df* | *MS* | *F* | *p* | $Eta^2$ |
|---|---|---|---|---|---|---|
| CO HL | .00 | 1 | .00 | .00 | .957 | .000 |
| Error | 59.55 | 194 | .30 | | | |
| Total | 59.56 | 195 | | | | |

**Results of satisfaction for interaction with instructor**. The ANOVA results revealed that there was no difference between high uncertainty avoidance and low uncertainty avoidance groups on satisfaction with instructor. After conducting the initial screening for normality, no missing data were found, but three univariate outliers were found the decision was to proceed with analyses by deleting the outliers and not modifying the dependent variable interaction with instructor. Means and standard deviation were computed and compared between the two groups. The results indicate no

significant difference between low uncertainty avoidance group (*M* = 3.79, *SD* = .65, *n* = 49) and high uncertainty avoidance group (*M* = 3.94, *SD* = .61, *n* = 147).

Next, a one-way univariate analysis of variance (ANOVA) was conducted to test the hypothesis that there would be one or more mean differences between uncertainty avoidance levels (high and low) and the interaction with instructor satisfaction scores. The omnibus ANOVA was not significant, $F(1, 194) = 2.160$, $p = .143$, partial eta squared = .011. A summary of the ANOVA results is provided below.

Table 4.9

*ANOVA Results Summary for Satisfaction with Interaction with Instructor Based on Uncertainty Avoidance*

| Source | *SS* | *df* | *MS* | *F* | *p* | *Eta*$^2$ |
|---|---|---|---|---|---|---|
| CO HL | .85 | 1 | .85 | 2.16 | .143 | .011. |
| Error | 76.84 | 194 | .39 | | | |
| Total | 77.70 | 195 | | | | |

**Results of satisfaction for learner-self-assessment.** The ANOVA results revealed that there was no difference between high uncertainty avoidance and low uncertainty avoidance groups on learner self-assessment satisfaction. After conducting the initial screening for normality for the dependent variable learner-self-assessment; no missing data were found, but four univariate outliers were found the decision was to proceed with analyses by deleting the outliers and not modifying the dependent variable learner self-assessment. Means and standard deviation were computed and compared

between the two groups. The results indicate no significant difference between low uncertainty avoidance group (*M* = 3.94, *SD* = .51, *n* = 49) and high uncertainty avoidance group (*M* = 4.05, *SD* = .41, *n* = 146).

Next, a one-way univariate analysis of variance (ANOVA) was conducted to test the hypothesis that there would be one or more mean differences between uncertainty avoidance levels (high and low) and the learner self-assessment satisfaction scores. The omnibus ANOVA was not significant, $F(1, 193) = 2.321$, $p = .129$, partial eta squared = .012. A table summary of the ANOVA results for learner self-assessment is provided below.

Table 4.10

*ANOVA Results Summary for Satisfaction with Learner Self-Assessment Based on Uncertainty Avoidance*

| Source | *SS* | *df* | *MS* | *F* | *p* | $Eta^2$ |
|---|---|---|---|---|---|---|
| CO HL | .44 | 1 | .44 | 2.32 | .129 | .012 |
| Error | 37.30 | 193 | .19 | | | |
| Total | 37.75 | 194 | | | | |

**Summary of Quantitative Results for Research Question 3**

The quantitative results for Research Question 3 indicated that there was no significant difference between uncertainty avoidance and satisfaction across technology/support, course content, interaction with instructor, and learner self-

assessment as highlighted by both the means and standard deviation scores, the results of omnibus ANOVAs, and those of the Mann-Whitney *U* Tests.

**Qualitative Findings for Research Question 3**

Recall that this question asked the extent to which the cultural orientation, based on low and high uncertainty avoidance, differs among online learners' level of learning satisfaction. Two important categories or themes emerged in this question: (a) *instruction planning and design* and (b) *assessment* and both are related to high degree of uncertainty avoidance and that low uncertainty avoidance is connected to more satisfaction.

***Instruction Planning and Design***

As far as *instruction planning and design*, three participants expressed concerned about course layout, indicating that their comfort level working online with less clear directions depended on how the course was laid out. Rosa for example expressed high uncertainty avoidance in the following excerpt because she thought detailed instructions were needed when learning online:

"I do find that in my online classes I need explicit directions. I need "this is what I want. This is when it's due. If you turn it in late, this is the consequence (Rosa)". Angelina also expressed high uncertainty avoidance because she felt that the directions should be spelled out as she highlighted in the following quote:

> It's very frustrating when it is not laid out easily. I think that the syllabus should be laid out in, you know, conceivable format; and with online education, I think that the syllabus should actually be expanded because you don't have the opportunity to get real feedback in real time.

Both Angelina and Rosa's response was consistent with their survey results which classified them as a high uncertainty avoidance participants. Under the theme of *instruction planning and design* the subcategory *technical problems* was also perceived by some participants as a factor that determined student level of uncertainty avoidance. Bobby for example explained experiencing some technical frustration that he and some of his classmates had in one of his online classes:

> I mean it can be stressful. I remember last summer class, they just chose Blackboard at Blue Moon University and our class was the first class in the department to use Blackboard and it really sucked because we're assigned to do something that night and the Blackboard was down for like half the class; and it was very stressful and for me I'd realized that I was the only one who didn't freak out about it; a lot of my classmates did. I mean it was kind of frustrating and, you know, technology thing is always frustrating.

***Assessment***

The other four participants thought that their level of comfort working online with less clear directions depended on how they would be assessed. In other words, their level of uncertainty avoidance is situational-dependent as Diana explained:

> It depends on the circumstance. I guess I would say it's situational-dependent. I mean if the instructions are so vague that you don't even know what the assignments are, no, I don't feel comfortable with that. And, and I've had that experience. If they're saying that I have to have

> every little every detail of an assignment, no I don't need that. So, I guess I'm kind of somewhere in between all of that.

Nathan expressed both feeling comfortable working independently and concerned about how he would be graded when he stated:

> I do feel comfortable with less clear instructions, but that's sometimes tampered by what I believe that I'm going to be assessed based on a rigid rubric or not. Okay, so the comfort level, I'm much more comfortable if I perceive that my ability to go whichever way I want with something that is poorly defined will not be held against me in the assessment.

Here again, participants views differed on the construct of uncertainty avoidance. While some expressed low level of uncertainty avoidance, others could not tolerate being in uncertain situations when learning online. Nathan and Bobby's responses also agreed with their survey results in which they were classified as low uncertainty avoidance participants. Diana was the only participant whose qualitative response did not match her survey results. Recall that Diana was a low uncertainty avoidance respondent during survey and high uncertainty avoidance during the interview especially when it comes to how student will be graded.

**Research Question 4.** *To what extent does the cultural orientation, based on low and high masculinity, differ among online learners' level of learning satisfaction?*

The main findings of this question were that masculinity level across participants is situation-dependent and that satisfaction varied across experience with online learning.

**Quantitative Results.** The results revealed that participants who had experience taking 12 online courses or more were slightly more satisfied across all four constructs

(technology/support, course content, interaction with instructor, and learner self-assessment) than the other three groups. Recall that Research Question 4 asked to what extent the cultural orientation, based on low and high masculinity, differed among online learners' level of learning satisfaction on four distinct constructs: (a) technology/support, (b) quality of course content, (c) interaction with instructor, and (d) learner self-assessment. Remember also that there was a very poor split between low masculinity and high masculinity (low: 191 or 95.98% to high: 8 or 4.02%) and thus, this question did not qualify for a group comparison because the split was less than 90 to 10 (Tabachnick & Fidell, 2007). So, the decision was to compare the mean scores of two demographic variables: (a) age group and (b) online course taking experience to determine if there were any significant differences. The age group means were based on masculinity (high or low) and the online course taking experience were based on satisfaction. These two demographic variables were chosen because the literature supports that they influence online learning satisfaction (e.g. Piccoli, et al., 2001). The means and standard deviation for each age group are reported below: (1) Under 25 ($M$ = 2.38, $SD$ = .60, $n$ = 16), (2) 25-34 years old ($M$ =2.43, $SD$ = .59, $n$ = 78), (3) 35-44 years old ($M$ = 2.20, $SD$ = .59, $n$ = 49), (4) 45-54 years old ($M$ = 2.37, $SD$ = .51, $n$ = 35), and (5) 55 years old and over ($M$ = 2.17, $SD$ = .69, $n$ = 17). The results of the mean plots in Figure 4.2 indicate that participants under 25 and those between the age of 25 and 34 had relatively higher masculinity means than the other age groups (35-44, 45-54, & 55 years old or over), suggesting that the younger generation in this study expressed more dominance than the older generation about masculinity.

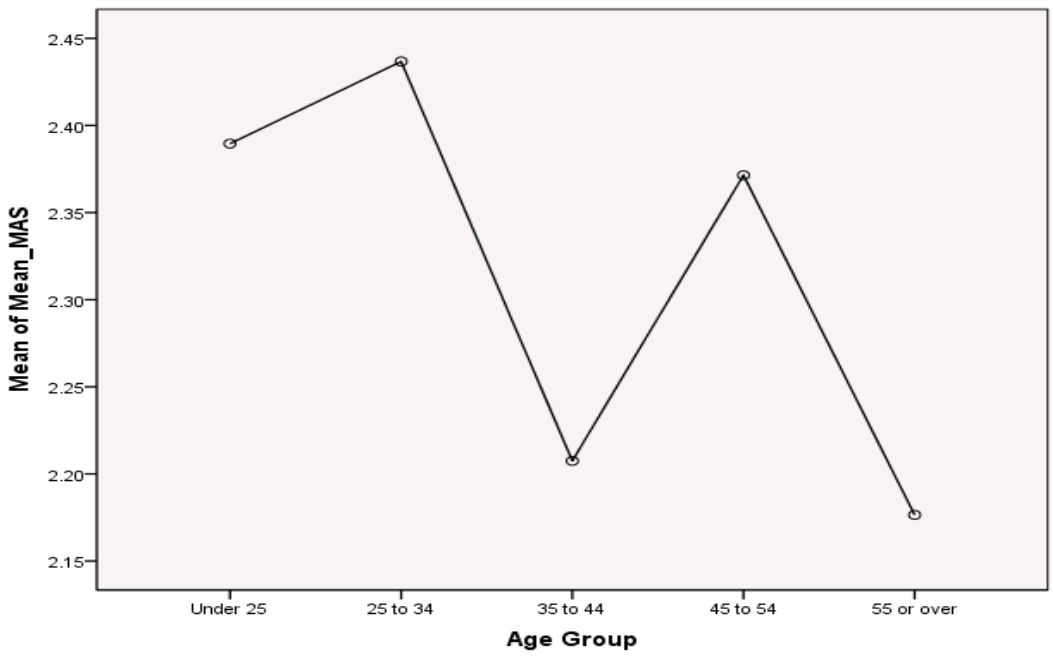


*Figure 4.2*. Mean Plots for Masculinity across Age Groups

As far as online course taking experience, four groups were compared: participants who had taken 1 to 3 online courses, those who took 4 to 6 courses, those who had taken 7 to 11 courses, and those who had taken 12 online courses or more. The results revealed that participants who had experience taking 12 online courses or more were slightly more satisfied across all four constructs (technology/support, course content, interaction with instructor, and learner self-assessment) than the other three groups.

As far as satisfaction with technology/support based on online learning experience, the main findings indicate that participants who had taken 12 online courses or more were slightly more satisfied ($M$ = 4.29, $SD$ = .32, $n$ = 39); they were followed by those who had taken between 7 and 11 online courses ($M$ = 4.22, $SD$ = .38, $n$ = 46), 4-6

courses (*M* = 4.14, *SD* = .36, *n* = 51), and finally 1-3 courses (*M* = 3.99, *SD* = .45, *n* = 59).

The same trend is observed when satisfaction with course content was examined. Participants with more online learning experience showed slightly more satisfaction than those with less experience. The results are as follows: (a) 12 courses or more (*M* = 4.07, *SD* = .59, *n* = 39), (b) 7-11 courses (*M* = 3.92, *SD* = .51, *n* = 46), (c) 4-6 courses (*M* = 3.87, *SD* = .59, *n* = 53), and (d) 1-3 courses (*M* = 3.87, *SD* = .50, *n* = 58).

As far as satisfaction with interaction with instructor, the results indicate the same trend across all four groups with participants who had taken more online courses being slightly more satisfied than those who had taken fewer. The results are as follows: (a) 12 courses or more (*M* = 3.99, *SD* = .64, *n* = 39), (b) 7-11 courses (*M* = 3.93, *SD* = .52, *n* = 45), (c) 4-6 courses (*M* = 3.86, *SD* = .69, *n* = 52), and (d) 1-3 courses (*M* = 3.85, *SD* = .65, *n* = 60).

Finally, when satisfaction on the construct of learner self-assessment was examined the same trend appeared, indicating that participants who had taken more online courses slightly expressed more satisfaction than those with fewer courses taken. The results are as follows: (a) 12 courses or more (*M* = 4.16, *SD* = .34, *n* = 39), (b) 7-11 courses (*M* = 4.11, *SD* = .42, *n* = 46), (c) 4-6 courses (*M* = 3.97, *SD* = .47, *n* = 52), and (d) 1-3 courses (*M* = 3.91, *SD* = .44, *n* = 58).

A summary of the key findings for online course taking experience and satisfaction across all four constructs is provided in the table below.

Table 4.11

*Means and Standard Deviations for Satisfaction by Online Course Taking Experience*

| | Online Course Taking Experience | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1-3 courses *N* = 60 | | 4-6 courses *N* = 54 | | 7-11 courses *N* = 46 | | $12^{+}$ courses *N* = 39 | |
| Satisfaction | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| TS | 3.99 | .45 | 4.14 | .36 | 4.22 | .38 | 4.29 | .32 |
| CC | 3.87 | .50 | 3.87 | .59 | 3.92 | .51 | 4.07 | .59 |
| Inst. | 3.85 | .65 | 3.86 | .69 | 3.93 | .52 | 3.99 | .64 |
| LSA | 3.91 | .44 | 3.97 | .47 | 4.11 | .42 | 4.16 | .34 |
| Total | 3.90 | .51 | 3.96 | .52 | 4.04 | .45 | 4.12 | .47 |

*Note*. TS = Technology/Support; CC = Course Content; Inst. = Interaction with instructor; LSA = Learner Self-assessment

**Qualitative Findings.** The main findings indicate that low masculinity is related to satisfaction. After examining the different responses using a constant comparison method, the following theme emerged from this question: *individual personality* and *most satisfying learning experiences* and they are both related to low masculinity.

***Individual personality***

Three respondents (Angelina, Diana, & Hartman) thought that masculinity level does not play a role in terms of student performance, rather it is the individual's personality that determined whether they would be successful or not in an online learning environment. This response suggests that all three respondents are low masculinity individuals. Two other participants (Nathan & Bobby) did not have an opinion on the same question. Angelina who was a low masculinity participant stated:

> I think it's just the type of person they are. Are they gonna be committed to it? It takes a lot of discipline to be able to on every day, every other day, finish tasks in a timely manner; make sure you do all the readings and things of that sort. (Angelina).

Individual personality was also mentioned as a factor that accounts for online learning performance and not masculinity level according to another low masculinity participant (Hartman) when he argued:

> There are females that perform very, very well, communicate well in writing and discussion boards, are well disciplined and stay on task and meet deadlines and there are men that do the same and there are men that don't and there are women that don't. (Hartman).

This view that masculinity has nothing to do with online learning performance was not shared by Rosa who was a low masculinity participant when she highlighted:

> I think men are almost more comfortable being independent, doing their own work, merely submitting something and waiting for a response and I do find that in general terms of course that women want that collaboration and they want to work together, they want to discuss, they want to pull out ideas before they really have to respond to something […]. I do think that in a lot of ways men, because of characteristics and different personality traits, I think that men have, stereotypically of course, that men have the potential to do much better in online formatting. (Rosa).

Rosa's response contradicted her initial profile (low masculinity) because the above response expresses the participant's high masculinity level.

Next, in order to find out what aspects of online learning the participants were most satisfied with, the researcher asked the following question: "What are your most satisfying online learning experiences?" This question did not aim to measure satisfaction about any specific course, but rather sought to have an overall student experiences, whether positive or negative, when they learn online. The findings of this question are presented below.

***Most Satisfying Online Learning Experiences***

Findings of the study indicated that the majority of the participants identified the following components as key satisfaction factors in their online learning: design of the course, convenience, time management, learning new things, and instructor quick feedback. Students who were satisfied with their online learning experiences felt that the

design of the course, convenience, time management, learning new things, and instructor quick feedback were influencing factors in the success of an online course. For example, Bobby repeatedly gave credit to the professor for being organized and facilitating learning:

> I think what I find satisfying about is probably more reflective of the professor; I think he is incredibly organized; I'm very impressed with how he organized the class. He organized it in a way that I don't think it would be possible to learn the material in a traditional setting. (Bobby).

Angelina also expressed satisfaction about course design when she stated:

> But the satisfying aspect of certain online courses are if it's well put together, well thought out; the professor has gone through and obviously has, you know, observed that it's very clean, you know, there is not a lot of extra stuff that is not pertinent to the course (Angelina).

For Nathan, satisfaction comes with learning new things in the online environment as he put it:

> I think the most satisfying parts are when I discover new things I haven't learned elsewhere. So when I'm stimulated to pursue something, more than just what is presented on the surface, that is, I guess, not unique to online education, but it is something that I like (Nathan).

Rosa on the other hand thought receiving a prompt feedback from instructor constitutes her top priority in online environment. As she explained:

> The most satisfying part is immediate results. So usually if I email the teacher throughout that system or have a concern, they get to me within a

> matter of hours; I don't have to wait till the next class period, I don't have to wait until their office hours, because their office hours are always available online. So, I do like that quite a bit (Rosa).

Furthermore, Hartman reported that the thing that he was most satisfied with was the feeling of personal accomplishment as he stated: "I'm pretty satisfied with online learning. I feel like I've progressed in accomplishing what it is that I want to accomplish."

Additional satisfaction factors were identified in the interviews. Convenience was one of them. Participants reported that it was helpful to not have to go to class every day because of the ability to complete assignments and tasks at any time and from anywhere. Although most of the participants liked the flexibility of completing tasks at any time in the asynchronous courses, some participants expressed preference for traditional classes because of the opportunity of direct contact face-to-face classes offer. Rosa for example explained that she has always preferred face-face-face classes because of the opportunity they offer to interact with peers and instructor. An excerpt of the researcher's conversation with her is reported below:

> I always have preferred to be in face-to-face classrooms. I think it's easier to engage with your peers, I find that working with my teachers is easier when I have a problem or concern or even just want to chat with them about something, it's easier (Rosa).

Some participants indicated that meeting at a specific time online each week would increase the amount of social interaction among students. By meeting each week at a set time, the participants indicated they would be able to form connections with the

instructor and other classmates. Participants indicated that the connections formed among the learners and the instructor would assist with the formation of a strong community within the online learning environment. Table 4.12 summarizes the key factors that create online learning satisfaction.

Table 4.12

*Factors that Create Online Learning Satisfaction*

| Most satisfying experiences | Examples of language expressing satisfaction |
|---|---|
| Design of the course | I think what I find satisfying about it's probably more reflective of the professor; I mean, I think he is incredibly organized; I'm very impressed with how he organized the class (Bobby) |
| | But the satisfying aspect of certain online courses are if it's well put together, well thought out; the professor has gone through and obviously has, you know, observed that it's very clean, you know, there is not a lot of extra stuff that is not pertinent to the course (Angelina). |
| Convenience | I like the convenience of online education; it is good for me with, with the schedule that I have with my family and my teaching (Nathan). |
| | I like the ability to wake up at 2 o'clock in the morning and do my work if I need to because I'm so busy (Rosa) |
| | I think for what I'm doing since I want to work and study at the same time, it's crucial to have online classes (Bobby). |
| Time management | I do like being able to do it on my own schedule (Rosa). |
| | So, the thing that I'm most satisfied with is flexibility, having to be able to work on a time schedule you know that best suits me (Diana). |
| Learning new things | I think the most satisfying parts are when I discover new things that I haven't learned elsewhere (Nathan) |
| Instructor quick feedback | The most satisfying part is immediate results. So usually if I email the teacher throughout that system or have a concern, they get to me within a matter of hours; I don't have to wait till the next class period, I don't have to wait until their office hours, because their office hours are always available online. So, I do like that quite a bit. (Rosa) |

This section reported on the quantitative and qualitative findings for the four research questions. The quantitative results indicate that there was no significance difference between student cultural orientation (power distance, collectivism, uncertainty avoidance and masculinity) and satisfaction with their online learning experiences across technology/support, course content, interaction with instructor, and learner self-assessment. However, the same results revealed a slight significance between satisfaction and certain demographic variables. For example, there was a slightly significant relationship between satisfaction and age group on the one hand and between satisfaction and online learning experience on the other hand. More specifically older participants tend to be more satisfied than younger participants and that satisfaction increases as online learning experience increases. The qualitative findings reported on nine broad themes which were found to be relevant to the research questions. These were: (a) teacher-student relationship and assessment, (b) distance, (c) learning environment atmosphere, (d) sense of belongingness, (c) individualism, (f) instruction planning and design, (g) assessment, (h) individual personality, and (i) most satisfying online learning experiences. In summary, the results of both qualitative inquiry and quantitative survey indicate that participants' cultural orientation does not play a major role in their satisfaction with online learning experiences.

# Chapter 5

## Discussions, Implications, and Conclusions

This study was undertaken to explore the difference between one's cultural orientation and online learning satisfaction by examining culture at the macro and micro level in an online learning environment. More specifically, this research investigated the cultural orientation differences among graduate students and how these cultural differences impact their level of satisfaction with online learning. The intent is to raise awareness about the cultural factors that may affect online learning and to provide guidance for practice and future research. The literature review established a theoretical foundation for the study and provided a comprehensive overview of distance education theoretical developments, the importance of culture and student satisfaction in online learning, sociocultural learning theories, collaboration theory, and the development of the theory of communication, transactional distance, connectivism, and social presence in distance learning.

**Research Question 1.** *To what extent does the cultural orientation, based on low and high power distance, differ among online learners' level of learning satisfaction?*

Participants reported more satisfaction, but course design and instructor's communication were found to be critical to both high and low power distance. These findings are consistent with previous studies (Hofstede's, 1980, 1991; Hofstede & Bond, 1984; Wang, 2007; Yoo et al., 2011) which concluded that western countries such as the United States were identified as low power distance nations. It is no surprise that all the participants scored low on power distance because the sample of this study is comprised of 95% American citizens. Furthermore, the findings indicate that participants were in general satisfied across technology/support, course content, interaction with instructor,

and learner self-assessment. However, cultural orientation did have some effect on teacher student-relationship and communication in general. The power range between instructor and student was indicative of different levels of satisfaction. For example, this study revealed that there are subtle layers of satisfaction that the survey did not bring to light. These are examples of statements in which students said that their satisfaction and comfort level in interacting with the instructor depended on how they were going to be graded, suggesting that power differential still exists even in modern day classroom whether instructors are aware of it or not. As one of the participants put it "I find it's a little easier to disagree, but then, I mean they're still the professor; you don't want to disagree to the point where it's like 'okay, will this influence my grade'?" (Angelina).

Moreover, some unexpected surprises were observed in the qualitative findings. During interviews, all three female respondents reported being satisfied, but uncomfortable in disagreeing with the instructor. Their responses contradicted the results of the quantitative findings in which every participant identified themselves as low power distance. The three other participants maintained consistency of results, thus confirming the same level of cultural orientation. As far as satisfaction, all six respondents reported being satisfied with the following: design of the course, convenience, time management, learning new things, and instructor quick feedback. However, all the six participants voiced their dissatisfaction with instructor communication, instructor pedagogy, course design, accelerated pace, lack of instructor presence, and learning gain. Notice that course design and instructor were both cited as a satisfaction and dissatisfaction factor. These findings are in harmony with those found in previous studies (Arbaugh, 2002; Arbaugh & Duray, 2002; Chen & Bagakas, 2003; Hong, 2002; Stokes, 2001; Thurmond,

Wambach, & Connors, 2002) which reported that in an online learning environment, several factors account for users' satisfaction: student, teacher, course, technology, system design, and environmental dimension. Additionally, these findings are also in agreement with Shea, Pickett, and Pelz (2003) study in which the authors found that students' satisfaction level in online learning courses is highly correlated with various issues such as instructional design and organization of the online learning courses, instructors' discourse facilitation, and instructors' direct interaction.

**Research Question 2.** *To what extent does the cultural orientation, based on low and high Collectivism, differ among online learners' level of learning satisfaction?*

Both low and high collectivism groups were equally satisfied, but both groups need community building to improve their learning satisfaction. Although cultural orientation did not play a direct role in student satisfaction in this study, these results also mirrors those of several previous studies which found that student cultural orientation plays an important role in students' online communication and interaction (Bing & Ai-Ping, 2008; Hosftede, 2001; Javidan & House, 2001), motivation (Tapanese, Smith, & White, 2009; Wang, 2007), and their attitudes towards online learning (Anakwe & Christensen, 1999; Ku & Lohr, 2003). Next, the researcher was surprised to find that some of the qualitative findings were not in agreement with some of the quantitative results. For example, all the participants indicated their satisfaction with the construct of course content during the survey but, during interviews, elements of dissatisfaction with the same construct were brought to surface. A possible explanation is that the study did not focus on a specific course, but rather on a more general experience learning online. So, it is plausible that a participant might be both satisfied and dissatisfied with the same

construct because these might be related to two different courses. This contradiction should be treated with caution when interpreting these results because the participants in this study were not asked to evaluate a specific course that they had taken, but rather to rate their overall online learning experience. Furthermore, the interviews only represent the voices of six participants and thus, may not translate into general findings because there are still 190 voices which were not heard. In addition, the cultural orientation results indicated that the low collectivism group ($n$ = 168) is larger than the high collectivism group ($n$ = 27), thus confirming those found in previous studies, which indicate that the United States is a low collectivist culture (Hofstede's, 1980, 1991; Hofstede & Bond, 1984; Wang, 2007; Yoo et al., 2011). A final note of caution needs to be added here in interpreting these results because the sample was highly skewed and may not reflect the general population's score on collectivism and satisfaction.

**Research Question 3.** *To what extent does the cultural orientation, based on low and high Uncertainty Avoidance, differ among online learners' level of learning satisfaction?*

Both groups were equally more satisfied while effective instructional planning and assessments were critical regardless of participants' degree of uncertainty avoidance. The results of this research question did not vary in terms of satisfaction with those of the previous two questions because no significant mean difference was observed between the low uncertainty group and the high uncertainty group in terms of satisfaction across technology/support: (1) low uncertainty group ($M$ = 4.13, $SD$ = .34, $n$ = 49) and (2) high uncertainty avoidance group ($M$ = 4.15, $SD$ = .42, $n$ = 146), course content: (1) low uncertainty avoidance group ($M$ = 3.92, $SD$ = .47, $n$ = 49) and (2) high uncertainty avoidance group ($M$ = 3.92, $SD$ = .57, $n$ = 147), interaction with instructor: (1) low

uncertainty avoidance group (*M* = 3.79, *SD* = .65, *n* = 49) and (2) high uncertainty avoidance group (*M* = 3.94, *SD* = .61, *n* = 147), and learner self-assessment: (1) low uncertainty avoidance group (*M* = 3.94, *SD* = .51, *n* = 49) and (2) high uncertainty avoidance group (*M* = 4.05, *SD* = .41, *n* = 146). A possible explanation as to why there was no significant satisfaction mean difference between the two groups could be that the online instruction design meets the needs of the students. Another reason for participants' general satisfaction could be attributed to the following factors: the majority being citizens of a low uncertainty avoidance nation, age, and finally participants' online learning experience.

These findings contradict those in previous research in which high uncertainty avoidance cultures expressed less satisfaction than low uncertainty avoidance cultures (e.g. Reimann, Lünemann & Chase, 2008). Another interesting, yet surprising finding in this research question is that the high uncertainty avoidance group is larger than the low uncertainty group across all constructs of satisfaction with a ratio of 146 to 49 or 147 to 49. These cultural orientation results are surprising because the sample is made up of 72.4% Caucasians and according to previous studies (Hofstede, 1980, 2001); western cultures such as the United States are characterized as low uncertainty avoidance nation. These findings also support those of the qualitative inquiry because during the interviews, all six participants reported not feeling comfortable when the clarity and organization of the course layout were questionable, suggesting that their level of uncertainty avoidance was high. Again, this is another surprise because two of the six respondents (Bobby & Diana) scored low on uncertainty avoidance subscale during the survey (Bobby: *M* = 3.17 & Diana: *M* = 2.67), thus, identifying themselves as low uncertainty avoidance while the

other four confirmed the quantitative findings in their responses to the interview questions. A possible explanation could be that the online learning environment and instructor pedagogy could shape the student cultural orientation.

**Research Question 4.** *To what extent does the cultural orientation, based on low and high Masculinity, differ among online learners' level of learning satisfaction?*

The main findings of this question were that masculinity level across participants is situation-dependent and that satisfaction varied across experience with online learning. In general, low masculinity specifically related to more learning experiences. The researcher decided to compare masculinity means across age groups and then satisfaction across the four constructs based on online learning experience because the quantitative results suggest that none of the other background characteristics (e.g. ethnicity, program of study, degree, or gender) were related to satisfaction. These two interesting connections between satisfaction and age group on the one hand and between satisfaction and online course taking experience on the other hand will be discussed shortly. This appears to be somewhat in line with previous research that did not show any relation between student satisfaction and student background characteristics such as gender and ethnicity (e.g. Bradford & Wyatt, 2010). This study showed there is a link between cultural orientation and age and that cultural orientation is determined by the nature of the learning environment and the instructor's pedagogical approaches as reported by some participants. The participants' level of comfort in communicating either with their peers or the instructor was determined by the atmosphere of the learning context.

As far as connection between age and masculinity, the study revealed that younger participants (i.e. Under 25 and 25-34) had a higher mean score on masculinity

than the older participants (55 and over). The researcher found this to be very interesting, because while no study could be identified that specifically dealt with relationships between age and cultural orientation, it is the researcher's suspicion that there may be cultural characteristics such as education, personal beliefs (religious or philosophical), and social status that might cause younger participants to express more masculinity than their older counterparts. While there is as of yet no strong evidence, this may be the first study that has suggested a link between cultural orientation and age in online learning. The researcher's suspicion is that younger generation tends to be more assertive and straightforward in their online communication while the older generation tends to be more conservative. This could also be a very important finding and a very beneficial future direction to take this research as online course enrollment continues to increase more and more in the United States (Allen & Seaman, 2010) and the focus remains on how to help both younger and older generation of students succeed in online learning environments.

It is perhaps also just as important of a finding that no differences were found between many of the other demographic variables such as the program of study, degree, gender, or ethnicity and the four constructs of satisfaction, because it suggests that participants were in general satisfied with their online learning experiences, regardless of variations in demographic variables. A possible explanation for these results is that the majority of participants are from the same ethnic background, in the master's program, and that they were predominantly female whose cultural orientation is described as low across power distance, collectivism, and masculinity. These results are a bit in contradiction with those of previous research which has shown that low cultural

orientation participants are usually more satisfied than those with high level of cultural orientation (e.g. Reimann et al., 2008; Donthu & Yoo, 1998).

As far as the connection between satisfaction and online course taking experience, results indicated that satisfaction increases with experience in online course taking. When the four groups (1-3 courses, 4-6 courses, 7-11 courses, and 12 courses or more) were compared, the results show that the group of participants who had taken 12 courses or more had the highest mean score on satisfaction than the other three groups across all four constructs. These findings are consistent with the results of other previous studies (e.g. Piccoli, et al., 2001) which identified the lack of online learning experience as a source of lower satisfaction. A possible interpretation is that Blue Moon University's online learning system is very effective and meets the needs of various 21st century learners. Next, it is also possible that taking more online classes help students build their comfort level with the technology, thus, resulting in experiencing less anxiety and stress, factors that may inhibit learning and subsequently cause students to be dissatisfied with their online learning experiences or even drop off the online course . Lastly, I would like to offer the following reflections on these unexpected, yet challenging results:

- Face-to-face cultural orientation may not reflect online learners' cultural orientation. May we think that online learners' cultural orientation shapes online course designs while online course designs shape online learners' cultural orientation as well.
- Online learners' cultural orientation is no longer a stereotype.

- Online learner's cultural orientation is learning context/environment-dependent. Learning context is created and facilitated by online instructors and their course design skills and communication skills.

**Conclusions from the Findings**

The major conclusion that can be drawn from this study is to confirm that online learners' cultural orientations may vary from different online learning contexts and it may lead to different levels of satisfaction. Four cultural orientation dimensions and their influence on satisfaction across technology/support, course content, interaction with instructor, and learner self-assessment were examined in this study. These are *the degree of power distance*, indicating the extent to which a society accepts the fact that power in institutions and organizations is distributed unequally; *the degree of uncertainty avoidance*, indicating the extent to which a society tries to avoid uncertain situations by, for example, establishing more formal rules and believing in, and/or striving for expertise; *the degree of individualism*, indicating the extent to which relationships are based on loose social frameworks rather than on collectivism and when people are tightly integrated into primary groups, such as families and organizations; and *the degree of masculinity*, indicating the extent to which dominant values or roles in society are viewed as "masculine," for example, achievement, assertiveness, and performance, when measured against its opposite pole, "feminine," defined as quality of life, caring for other people and also social and gender equality (Donthu & Yoo, 1998; Hofstede, 1997).

The quantitative results indicate that there was no significance difference between student cultural orientation and satisfaction with their online learning experiences across technology/support, course content, interaction with instructor, and learner self-

assessment. However, the same results revealed a slight significance between satisfaction and certain demographic variables. For example, there was a slightly significant relationship between satisfaction and age group on the one hand and between satisfaction and online learning experience on the other hand. More specifically older participants tend to be more satisfied than younger participants and that satisfaction increases as online learning experience increases.

The qualitative findings revealed some exciting surprises. Some participants who were identified as low uncertainty avoidance during survey reversed that tendency during interviews, thus contradicting their cultural orientation results. Overall, the results of this study reflected the general outcomes expected in terms of cultural orientation and reported similar findings to those of Yoo, Donthu, and Lenartowicz (2011) that used the same instrument as this study.

Next, the study confirmed that there is a link between level of masculinity and age group as was also found between online course taking experience and level of satisfaction. The first relationship, between level of masculinity and age, opens the door to the possibility that there may be all sorts of culture-related factors that online course designers should take into account when designing an online course for a targeted cultural group (Asunka, 2008; Hall & Herrington, 2010; Tu, 2001; Yen & Tu, 2011). This reinforces the belief among online instructors that it is critical to know your audience before designing a course for different cultures (Rogers et al., 2007; Uzuner, 2009). The second relationship, between satisfaction and online learning experience, suggests that when the experience of online course taking increases, satisfaction also increases, possibly caused by the comfort level in using technology.

In addition, the finding that suggested a possibly higher level of uncertainty avoidance for the study participants who were 72.4% Caucasian is intriguing, although it seems difficult to draw any hard conclusion from it because there were also 27.6% of the participants who were non-Caucasian. A tentative explanation for this high uncertainty avoidance level expressed by many study participants is that online learning environment may dictate the level cultural orientation among students. Furthermore, these results could be attributed to instructor's pedagogical approaches and communication styles. Another yet plausible explanation is that text-based CMC by its very nature goes beyond the boundaries of uncertainty avoidance for all cultures because of the psychological and geographical distance it imposes on learners and the absence of non-verbal cues. If this finding of high level of uncertainty avoidance for a specific cultural group can be replicated with a larger sample, then it might be possible to explore whether there are any significant issues in terms of online course design that could enhance student satisfaction with their online learning experience.

Furthermore, results of this study revealed that participants were generally satisfied with all four constructs regardless of their cultural orientation and had highly positive perception toward distance learning. For instance, online learners' general lack of value of online community, including feeling connected to classmates, preference for collaboration, or even acknowledgment of the potential value of collaboration is further evidence that individualism is predominant in the participants' culture. The findings further support the view that online learning satisfaction depends on multiple factors such as design of the course, convenience, time management, learning new things, and instructor quick feedback as reported by interview participants and other studies (Bernard

et al., 2004; Priluck, 2004; Tallent-Runnels et al., 2006). Finally, because the characteristics of students in this study may differ from other institutions, the results of this study cannot be generalized beyond the academic programs at the university in this study. Future research should utilize different populations, ethnicity, and cultures to test the assumption whether or not online learning satisfaction varies across cultures.

**Implications and Recommendations**

This study focused on the learners' cultural orientation and satisfaction in online learning environments. The components participants identified as most satisfied with in this study are similar to what has been identified in previous research. Instructional planning and design was one of the primary factors identified as most important for online learning. Instructional designers have devoted decades of research and development to create models and processes to assist with the design and creation of instruction (e.g., Dick, Carey, & Carey, 2000; Smith & Ragan, 2000). It is not overly surprising that this element would rank in the top three, regardless of the student cultural orientation or even the delivery mode. As stated by Dempsey and Van Eck (2002), it takes a good design to make good online instruction.

Time management was another factor identified as useful for decreasing the effects of uncertainty avoidance on online learners. Hill's (2002) research indicates that implementing strategies such as working at the same time and in the same space can have an impact on the success of the online learning process. She also suggests that a regular schedule be established for engaging in the dialogue that occurs in an online context. Students who are good time managers, those who put into place basic time management

strategies, can improve their overall online learning experience according to Hill and become less threatened by uncertain situations that online learning creates.

Other issues that were highlighted as useful in this study related to technology experience and comfort level. In this study, experience with the technology influenced the participants' satisfaction with their online learning because lack of technology skills can lead to feeling of isolation and also raise the level of uncertainty avoidance online. Therefore, concerns associated with comfort in using the technologies are not insignificant. Researchers in the area of technology integration have long understood this to be a key element in the successful use of technology for learning (e.g., Hooper & Rieber, 1995). Indeed, previous research related to Web-based learning has also indicated the importance of this factor (e.g., Hill, 2002). How to best facilitate the building of skills and comfort remains a challenge for facilitators and learners.

Several components were identified as dissatisfying for participants in this study. Lack of community is not a new criticism voiced by learners and it is linked to high collectivism in this research. Research studies have shown the importance of sense of community in students' learning experiences. The stronger the online learners' sense of community, the less isolated and more satisfied they felt (Levy, 2007; Pigliapoco, & Bogliolo, 2008; Rovai & Wighting, 2005). In online learning environment, sense of community dictates the degree of collectivism and to some extent that of uncertainty avoidance because the two dimensions are related (Hofstede, 1991).

The issues associated with lack of understanding goals and objectives link back to what learners stated as satisfying: good instructional design, which in turn links back to uncertainty avoidance. Data from this study indicate that it is important for online

instructors to have goals and/or objectives clearly stated so that learners have a better understanding of what is expected. This means that the less clear the learning goals, the higher the degree of uncertainty avoidance and the less satisfaction and the clearer the learning goals, the lower the level of uncertainty avoidance and the more satisfaction (Reimann et al., 2008). Again, there are many models and processes that can be used to assist with the creation of goals and objectives, particularly as they link into a larger course infrastructure (Dick, Carey, & Carey, 1999). Angelina for example made it clear during interview that knowing what is expected contributes to online learning success. As she put it: "The best way to succeed in an online course it to make sure you have everything written out and know exactly what you're supposed to do". What also appears to be important is the ability to clarify perceptions of goals and objectives. Providing mechanisms where learners can ask questions to improve their understanding of expectations can assist with this effort.

Technical problems have long created challenges with the use of technology for learning. They can also be reason for online course dropout in addition to increasing student level of uncertainty avoidance (Dupin-Bryant, 2004). Indeed, it is important to minimize the issues as much as possible from the beginning of the learning experience. This can be accomplished in a variety of ways, including providing overviews of the tools used for the course and/or hands-on workshops with the technology that will be used in the online learning experience. It is also equally important to help learners understand that problems are going to occur—and most likely at the most inconvenient time (Hill, 2002). Facilitators can help ease the stress by letting learners know at the beginning of the course that they understand problems will occur. Learners can help ease

their own stress by recognizing that problems can occur and making back-up plans and back-up copies to help facilitate their work.

In addition to discussing specific challenges and useful components, participants provided several suggestions for faculty members teaching online courses and for prospective online learners. The main suggestion that was made for both faculty and learners was organization. Organization on the part of the instructor should include establishing goals from the beginning of the course, providing explicit directions, providing examples of the end products, and establishing deadlines for deliverables. Students should also work to maintain organization by setting a schedule and making the course Web site a part of their daily activities. Rosa states, ‘‘I recommend setting your own schedule. So, if you like, a normal class… you know every Tuesday and Thursday you meet from 1:35 till 3:00 then allot that same time schedule in your set up weekly schedule for an online class […].’’ That point was reiterated several times through the various interviews.

The results of this study suggest several implications for different educational stakeholders: policy makers, online learning practitioners, online course designers, students, and administrators. While it is difficult to draw any implications based on causality in this study, it can be said that online learning is suitable for graduate students based on the high levels of self-reported student satisfaction. This suggests that the use of distance learning should be encouraged by policy makers. It also appears that course design may shape cultural orientations. Participants indicated that they need community and online social interaction to increase their satisfaction.

In the light of these results, first, there is a need for effective instructional design for online courses. The design should focus not only on the technological aspects of the course, but also on the goals, objectives, and expectations for the learners. Goals and expectations should be set upfront so that students have a sense of what they are supposed to bring to the online class. In addition, online instructors should thrive to develop rapport with students in order to foster a smooth online communication and reduce both the level of uncertainty avoidance and power distance that online course design and instructors may create whether consciously or unconsciously. Continuing to explore design models that are most effective for online learning will also help facilitate this activity.

Second, there is a need for online instructors to be aware of the power differential that exists between them and their students. To this end, instructors need to create learning environments that allow students to feel confident to express their opinions without fear of instructor backlash. This recommendation should be taken with caution because only a small number of participants (six out of 199) voiced concerns about instructor backlash, thus, it is difficult to generalize this feeling to all participants.

Another important recommendation is to build online courses using the most effective and current technologies as well as student-centered approaches. Online learning might include a variety of learning tools, such as real time collaboration software, self-paced and well organized learning materials, and social media. Picciano (2009) reminds us that instruction is not just about learning content or a skill, but also about providing learners with both social and emotional support. The discussion board is a good tool to accomplish this and to encourage students to think critically about a given

topic. In addition to collaboration, it is important to encourage private reflections and sharing those reflections with others via blogs in order to foster deep learning (Garrison & Vaughan, 2008) for various cultural orientations learners.

Finally, there is a need to work with learners to assist them with establishing community or feelings of connection in online contexts. Integrating strategies for community building into the design of the course may assist with this effort. Continued research related to community building strategies in a variety of contexts is also needed to enable the advancement of best practices in the dynamic context of the Web. While it is important for some learners to be able to work on their own, it is also equally relevant for other students to work in group settings and the role of the online instructor is to facilitate the formation of dynamic and strong online communities through various strategies such as group projects, peer-reviews, and other activities that require collaboration.

**Limitations**

This study was limited to a medium size institution in the western United States whose student population is made up of 66% Caucasian (PAIR, 2011), so its findings may not be transferable to other institutions whose student population is highly mixed in terms of culture. Another limitation is that the sample, which was 72.4% made up of Caucasian students, comprised only graduate students who were enrolled in at least one online course at the time of the study.

Next, the study limits itself to four constructs of satisfaction (technology/support, course content, interaction with instructor, and learner self-assessment) and four dichotomous independent variables (power distance, collectivism, uncertainty avoidance,

and masculinity). The instrument used to measure the constructs of satisfaction may also be dated in view of the fast changing field of online learning. Because this study focused on differences between cultural orientation and satisfaction, it did not claim proving causality. Likewise, discovering link between online learning experience and satisfaction on the one hand and between age and level of masculinity on the other hand will not allow the research to state that these two variables predict student satisfaction.

**Future Research**

I would like to conclude by suggesting that future research should move away from examining stereotype of cultures and online learning. Context-specific types of cultural orientations should be the focus since course design and cultural orientation may shape each other. Although research focusing on the impact of cultural orientation on online learning has increased in the past decade, there is still a dearth of research looking at satisfaction based on students' cultural backgrounds. Based on this study, the following recommendations are made for future research in order to broaden, reinforce or adjust its findings. These include, (a) replicating this study in another setting; (b) including additional independent variables; (c) replicating the current study using a larger sample with multiple locations and cultures, and (d) replicating this study at a future date to reflect potential changes in culture, technology, and course design. More studies looking at the impact of cultures on student online learning satisfaction will provide instructors with important insights. Lastly, in most cultural studies included in this study, there was a tendency to put students into one category without paying attention to their individual differences. This problem is also echoed by Gunawardena et al. (2001) who wrote the following:

> Individual differences in cultural groups need to be accounted for so that we do not subscribe to the fallacy of homogeneity (that terms such as "American" connote international sameness), or the fallacy of monolithic identity (the assumption that individuals in groups have no differential identities) (p. 117).

In future studies, attention to this distinction would likely prove fruitful in understanding the complexity of online learning as it will prevent researchers from generating fixed conceptualizations of various groups' cultural characteristics.

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## Appendix A: Interview Protocol

Good morning/afternoon/evening. The goal of this study is to follow up with some of your responses concerning satisfaction with your online learning experience related to learner self-assessment, technology support, quality of course content, and interaction with instructor.

The information generated by this interview will be used in a research project that is designed to benefit both students and faculty with respect culture and online learning satisfaction. With your permission, I would like to record this interview which takes an average of 25 minutes of your time.

Before we begin, I would like to notify you of the following:

- Your participation is entirely voluntary. You may halt the interview at any time and/or choose not to answer certain questions.
- Your responses will remain anonymous. Complete confidentiality will be maintained. At no time will your identity be revealed either by the procedures of the study or during reporting of the results.
- No negative consequence will result for choosing not to participate.

Do you have any questions before we begin the interview?

1. Please, tell me a little about yourself and how you came to study at NAU?
2. Please describe how you like and dislike online learning.
3. What are the most satisfying and dissatisfying parts of your online learning experiences?
4. Does your culture influence your online learning satisfaction?
5. Do you feel your individual culture is important to your online learning?
6. Are you comfortable to disagree with online students and instructors?

7. Are you comfortable working online with less clear instructions?
8. Do you think male students perform better in online learning than their female counterpart?
9. How important is it to be accepted as an online group member?
10. That is all I have. Is there anything else you would like to add?

Thank you for your participation in this research.

## Appendix B: NAU Institutional Review Board Approval Letter

**Institutional Review Board for the Protection of Human Subjects in Research**

Northern Arizona University
PO Box 4087
Flagstaff, AZ 86011-4087

928-523-4340
928-523-1075 fax
www.research.nau.edu/vpr/IRB

**To:** Moussa Tankari and Dr. Chih-Hsiung Tu
**From:** Paula Garcia McAllister
**Approval Date:** October 20, 2011

**Project:** Online Learning Satisfaction: Does Culture Matter?
**Project Number:** 12.0051
**Review Category/ies:** 6) Recordings and 7) interviews
**Approval Expiration Date: October 20, 2012**

Your research protocol has been approved by the Institutional Review Board (IRB) at NAU under the category of EXPEDITED review. Your approval will expire on the date listed above. If you need to **extend** your research beyond the approval expiration date above, you must file an Application for Continuing Review at https://www.research.nau.edu/compliance/irb/forms.aspx.

If your project **changes** in any way, you must file a Research Amendment form (also available at website above) PRIOR TO implementing any changes. You may not implement the changes until you have written approval for the change from the IRB, unless the change is necessary to eliminate immediate hazards to participants. Failure to do so will result in noncompliance and possible suspension or termination of your research project.

Any unanticipated problems or unexpected **adverse events** must be reported to the IRB within 5 business days (within 24 hours for serious adverse events) of your becoming aware of the event by filling out an Adverse Reaction or Event Reporting form (also available at website above).

Two copies of your informed consent form, which has been approved and stamped by the IRB, must be given to each study participant – one for them to keep and one for them to sign and return to you.

As you conduct your research, please remember that:

1. Participants are volunteers or are involved in regular educational programs; they are free to withdraw from the research at any time without penalty.

2. Participants must be informed through written or oral explanation and must sign or approve electronically or verbally an informed consent form (for minors and children the parent or guardian must sign, and, in medically related cases, a physician must sign for consent).

3. Unless the participants agreed to an alternative arrangement, the participants' anonymity and confidentiality must be protected. They should not be able to be identified through the responses. The presentation of the data should not put them at risk of any negative consequences. Access to the data is specified and restricted by the researcher and the department.

Additional IRB information may be found at https://www.research.nau.edu/compliance/irb/index.aspx.

## Appendix C: Informed Consent Letter

Hello!
My name is Moussa Tankari and I am a doctoral candidate in Curriculum and Instruction with focus on Educational Technology at Northern Arizona University. I am conducting a research on culture and whether or not it affects student satisfaction with online learning experience. I am hoping that you could help me with my research by completing some quick and easy questionnaires that will take approximately 15 to 20 minutes of your time. The online questionnaires include a cultural orientation section, a section on student satisfaction with online learning, and a last demographic section.
To qualify to participate in this study you need to be at least 18 years of age and currently enrolled in a graduate study program at NAU. If you meet these criteria and you are interested in participating, please follow the link below to the website to complete the questionnaires. There is no more than risk encountered in everyday life in participating in this study. You are free to withdraw your participation at any time, and your responses are completely anonymous.

This research project has been approved by the NAU IRB. If you have any questions you can contact me at my email address: mt296@nau.edu. You may also contact my dissertation Chair, Chih-Hsiung Tu, Ph.D. at Chih-Hsiung.Tu@nau.edu.

By clicking "Next", you agree to enter the survey and give me consent to use the data in my study. By clicking "Quit", you will exit the survey.

Thank you very much for your time.
Sincerely,

Moussa Tankari
Graduate Teaching Assistant
Department of Educational Technology
Northern Arizona University
PO BOX 5774
Flagstaff, AZ 86011
Email: mt296@nau.edu
Phone: 928-523-8031

## Appendix D: Planning and Institutional Research Approval Letter

NORTHERN ARIZONA UNIVERSITY

Planning, Budget, and Institutional Research

Northern Arizona University
PO Box 4132
Flagstaff, AZ 86011-4132

928-523-5804
928-523-0332 fax
www.nau.edu/pair

February 22, 2012

Moussa Tankari
Graduate Teaching Assistant
Department of Educational Technology
Northern Arizona University
PO Box 5774
Flagstaff, AZ 86011

Dear Moussa,

The data on our website is public information, and is therefore available for you to use in your dissertation. The U.S. Department of Education requires institutions to provide fall enrollment data each year. Our quick facts are updated each fall to reflect the counts that were submitted to the U.S. Department of Education, so you are seeing the most current fall 2011 data. If you would like to see spring 2012 counts, you may access that from our website as well:

http://www4.nau.edu/pair/EnrollmentDegree/EnrollmentHighlights/EnrollmentHighlight.htm

If you have questions, please let me know. We wish you the best of luck with completion of your dissertation.

Sincerely,

Laura Jones

Laura Jones, Director
Planning and Institutional Research
Northern Arizona University
PO Box 4132
Flagstaff, AZ 86011

Cc: Dr. Chih-Hsiung Tu