

CHILD DEVELOPMENT INSTRUCTORS' AND UNDERGRADUATES'  
PERSPECTIVES AND EXPERIENCES IN ONLINE EDUCATION THROUGH  
SECOND CULTURE ACQUISITION AND COGNITIVE LOAD LENSES:  
A MIXED METHODS STUDY

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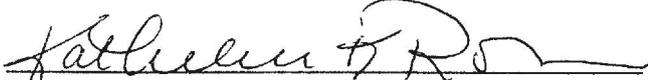
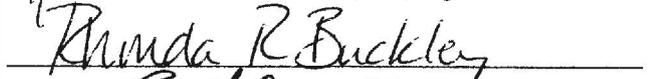
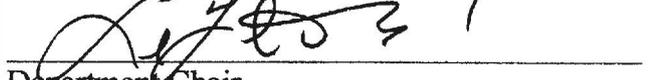
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To the Dean of the Graduate School:

I am submitting herewith a dissertation written by Jennifer Quong entitled "Child Development Instructors' and Undergraduates' Perspectives and Experiences in Online Education Through Second Culture Acquisition and Cognitive Load Lenses: A Mixed Methods Study." I have examined this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy with a major in Child Development.

  
Sharla L. Snider, PhD, Major Professor

We have read this dissertation and recommend its acceptance.

  
  
  
Department Chair

Accepted:

  
Dean of the Graduate School

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## DEDICATION

To my husband Daniel, who stood beside me, supported me, walked this journey with me, and believed me in even when I did not believe in myself

To my parents who instilled and modeled the importance of education and unconditional love  
Thanks for being my loudest cheerleaders

## ACKNOWLEDGEMENTS

This dissertation is the end of very long journey. This journey started as a response to a calling from the One from whom every perfect gift comes. Sometimes it was a run, sometimes a walk, and sometimes a crawl. But through this journey, I would like to acknowledge those who made this the phenomenal transformational process possible.

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My friend and coworker Dr. Keri Harvey who cheered along the way, was a sounding board, supported, and allowed me the time to focus on achieving my dream.

The new journey now begins . . .

## ABSTRACT

JENNIFER QUONG

### CHILD DEVELOPMENT INSTRUCTORS' AND UNDERGRADUATES' PERSPECTIVES AND EXPERIENCES IN ONLINE EDUCATION THROUGH SECOND CULTURE ACQUISITION AND COGNITIVE LOAD LENSES: A MIXED METHODS STUDY

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The educational landscape of higher education is shifting to include more online education courses. This shift has produced successes and struggles for instructors and undergraduates. The purpose of this study was to explore child development instructors' and undergraduates' perspectives and experiences in online education through the theoretical lenses of second culture acquisition and cognitive load, and the discipline of child development. These lenses were used to explain online teaching and learning as one acquiring a second culture and ways to decrease the negative experience of transition shock.

This research study employed an exploratory mixed methods design. Quantitative data, consisting of an online researcher-created questionnaire, were collected from 268 participants (12 instructors and 256 undergraduates). Qualitative data consisted of 15 instructor interviews, six undergraduate focus groups (n=14), and researcher's reflexive documents. The total number of participants was 297. Quantitative data were analyzed

for relationships, predictive value, and group differences. Qualitative data analysis was analyzed using a 4-level coding system.

Findings revealed strong relationships between transition shock reduction and (a) motivation to acculturate into the new environment and (b) confidence of educational technology skills. The current online teaching and learning culture can be viewed as a pidgin language and has emerged as the interlanguage of the traditional teaching and learning and technology cultures. This new culture is in the process of acquiring Discourse with a unique language, rules, roles, responsibilities, and customs. Instructors and undergraduates both experienced a transitional experience, which can resolve either positively or negatively. The data showed instructors were beginning to have more experiences and Discourse development than the undergraduates, which allowed them to emerge as expert users of the culture. Child development instructors incorporated a variety of child development strategies to provide an active learning environment and scaffold undergraduates' learning.

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## CHAPTER I

### INTRODUCTION

The world of higher education is in the midst of a paradigm shift as technology use leads to new platforms for learning, informs how people learn, and globalizes the world (Johnson, 2006). Since its inception centuries ago, academia has been a place of traditions and knowledge transmission from instructors to students, a traditional paradigm of teaching and learning (Shulman, 1986). Distance education, on the other hand, has had a relatively short history.

Distance education occurs when the instructor and student are separated by space and time using the current technologies to recreate the outcomes of the traditional methods of the classroom (Moore, 1989). Distance education has evolved from hand-written correspondence to television and synchronous communication, and into online education using computers, the Internet, and software applications to facilitate teaching and learning (Casey, 2008). This evolution has created an online paradigm of teaching and learning. With this relatively novel addition to academia, instructors and students enter a new, but vaguely familiar environment. Expectations for learning and how to learn are present, but the execution has changed (Schneckenberg, 2009). Some instructors and students may struggle in this new environment as they try to reconcile the two paradigms. Others are adaptable to this new type of learning environment and may prefer this type of modality. Using the theoretical lenses of second culture acquisition,

cognitive load, and the discipline of child development, this study explored the perspectives and experiences of instructors and undergraduates in online child development classrooms to better understand the inherent challenges and successes.

### **Statement of the Problem**

This study examined the online environment of teaching and learning from the perspectives and experiences of the instructors, the undergraduates, and their interactions with the content, each other, and the environment. With the globalization of the world (Horizon Report, 2010), technological advances (Desai, Hart, & Richards, 2009), and a shift in the demographics of the university students (Allen & Seaman, 2010), academia has to shift in order to keep pace with the evolving educational landscape. This shift needs to happen to continue to provide quality education and maintain relevance to the upcoming generations (Blin & Munro, 2008; Schneckenberg, 2009). In contrast, the public education system has created a culture of teaching and learning narrow in scope (Berlinger, 2009) and traditional method. This mindset tends to seep into higher academia. At the same time, this mindset of knowledge creation is being challenged to evolve into knowledge application (Pearson & Chatterjee, 2000). Students expect education to be relevant and applicable. Students want "convenient, relatively cheap, but high quality learning" (Pearson & Chatterjee, 2000, p. 63).

Technology, up to this point in education, has been a tool to facilitate learning (Blin & Munro, 2008). Now these tools are rapidly becoming a platform of learning. For example, instructors have moved from the use of presentation software in lectures to

instructing through electronic platforms. New pedagogical practices are being created as traditional forms of teaching and learning are changing to include online forms. How content was taught in the past is thought to be insufficient for how learners should be taught today in an online world (Hardy & Bower, 2004). Despite these strides, the transition to online learning and the incorporation of technology as a mode of learning has not been as smooth (Moody, 2004). Online education is not yet operating at its optimum potential. The questions presently researched related to why barriers exist, how to remove them, and how to facilitate more learning. Online teaching and learning is a relatively new field of research. Initial research has begun to investigate and treat the immediate symptoms of the problem. This study explored potential underlying causes for the barriers.

After reviewing the literature, four perspectives on how to improve online education emerged: (a) increased interaction, (b) student personality, (c) course design, and (d) professional development. Current studies looked at increasing student satisfaction and learning through interaction (Gosmire, Morrison, & Van Osdel, 2009; Lear, Ansoorge, Steckelberg, 2010), interaction through wikis (Davie & Berlach, 2010), social networking (Ophys & Abbit, 2009), instructor videos (Rose, 2009), multi-user virtual environment (MUVE) (Sanders & Melton, 2010), and an optimum range of interaction (Wolff & Dossdall, 2010). These interactions increase synthesis of content and facilitate the development and refinement of an online personality. By increasing social

interaction, students feel more connected which, in turn, leads to more perceived learning (Swan, 2002).

These interactions have evolved into theories that address the facilitation of learning such as the Community of Inquiry theory (CoI) (Garrison, 2007). Community of Inquiry has three foundational interaction components: (a) social presence, (b) cognitive presence, and (c) teaching presence. Social presence involves interactions with others. This includes a person's belief that their personality is being accurately translated in the online environment. Cognitive presence involves the personal interactions between learner and content and the learner's ability to make meaning. Teaching presence involves the instructor's interactions and the instructor's ability to facilitate the other two presences. Learning is only one layer of the teaching/learning process; it is increasingly important to understand the dynamics of increased social interactions and their impact on learning. For instance, increased instructor interactions suggest further increases in learning. The unanswered question still being explored is why do social interactions increase learning.

Additional studies look at how the technological knowledge of the learner and instructor influenced learning. Salajan, Schonwetter, and Cleghorn (2010) found undergraduates had higher self-perceptions of competency in regards to general technology skills than instructors, but the same level of competency in regards to educational technology skills. Over the course of a semester in an online course, undergraduates' perceptions of their educational technology increased while instructors'

perceptions of educational technology skills decreased. However, the instructors' negative perceptions of skills impacted the degree of undergraduates' increased perceptions. The teaching presence did not allow for the maximum feeling of technology competency in the learner.

Hung, Chou, Chen, and Own (2010) looked at learner readiness for online learning and what qualitative skills are needed for success. They developed a scale to evaluate the learner's readiness for online courses. In a review of their online deaf education program, Smith and Allman (2010) demonstrated how they incorporate Web 2.0 tools into an online deaf education classroom in order to build a community of learners and have opportunities for reflection. Asynchronous methods allowed for a time delay for students to compose their thoughts, and synchronous methods allowed for real-time interactions as well as video teaching vignettes and reflecting on ways to improve the lesson.

In addition, there is a body of research related to the instructor's perspective in online education and professional development. Some faculty may be resistant to the new technology and struggle with how to effectively incorporate technology tools and distance learning modalities in teaching and learning (DeGange & Walters, 2009; Keengwe, Kidd, & Kyei-Blankson, 2009). Placing lecture notes online is not a sufficient design for delivery and implementation of teaching and learning in the online environment (Courtney, 2001). Professional development for instructors in technology skills, course design, and online pedagogy are needed to improve the quality of online

teaching and learning (Eliason & Holmes, 2010). All these findings and strategies help to fine tune *how* to conduct online teaching and add to the body of literature on online learning.

Marc Prensky, a popular press expert theorizing about the digital divide and digital wisdom, has made a significant contribution into the academic field on the thinking about the roles of how different groups of learners use technology. Prensky (2001a) began to delve into the why of these problems by examining the generations and technology. He looked at qualitative differences of those born prior to the ubiquity of technology who are known as Digital Immigrants, and those who have grown up in a digital age and are known as Digital Natives. He investigated how technology shapes the minds of the learners, socializes this generation, and modifies the education for the student (Prensky, 2001b). Yet Prensky (2001a, 2001b) did not answer the question of why some students struggle regardless of age in online classrooms. This research study tried to situate online education in a grand paradigm in order to investigate the underlying causes.

In order to understand why some students and instructors struggle and some do not, online education needed to be deconstructed into components and examined. The phrase online education lends itself to two main constructs, online and education. The education component involved the constructs in a teaching and learning paradigm. The second component involved online or more specifically technology. Technology and related components had a unique paradigm that is critical for understanding this topic.

Moreover, the culture of technology has its own language. Terms exist for devices (e. g., smart phone, laptop, PDA) and actions (e.g., blog, tweet, googled). These two cultures come together in a new educational landscape and begin to interact. In order to examine the paradigm of why barriers exist in online education, theoretical frameworks have been provided as a lens to view the phenomenon.

### **Theoretical Frameworks**

Three lenses guided this study's framework: (a) a lens of what transpired when a second culture was being obtained including how a second language was acquired, (b) how the mind processed these transitional experiences, and (c) child development constructs. These lenses will be discussed in depth in the next chapter.

### **Second Culture Acquisition**

**Transition shock and experience.** The first lens used in this study was transition shock and experience. Adler (1975) theorized when a person is exposed to a second culture, an initial emotional experience, or shock, is felt as one navigates through foreign rules and boundaries. Increased emotions can overwhelm learning the new culture. Adler explained a five-stage transitional experience occurs as one continues to engage in the second culture: (a) contact, (b) disintegration, (c) reintegration, (d) autonomy, and (e) independence. As a person moves through each stage, different emotions, expectations, and second culture incorporation occurs moving a person to competency and confidence in the second culture. The experience begins with excitement about the new culture, but emotion quickly turns negative as one struggles in the new environment. As a person

continues to work and begins to navigate and incorporate the new second culture, emotions turn positive again. A person can enter or exit the five stages at any point.

**Second language acquisition.** In the acculturation process, an individual acquires a second language. Three theories were used. The three theories were Krashen's Five Hypotheses, Schumann's theory of acculturation, and Cummins' Basic Interpersonal Communication Skills and Cognitive Academic Language Proficiency. Krashen (1982) posited five hypotheses to explain second language acquisition: (a) the acquisition-learning distinction, (b) natural order, (c) the monitor hypothesis, (d) the input hypothesis, and (e) the affective filter. In learning a language there is a difference between naturally acquiring and being taught a language, and, in that acquisition, there is a developmental path learners follow. The monitor allows a language learner to self-correct based on the rules of the new language. The input hypothesis involves the best scaffold of language from the model to the learner. Finally, the affective filter involves the learner's emotions and how they help or hinder acquiring the second language.

Cummins (1982) developed a separate and yet complementary model of second language acquisition. Part of his model includes two types of language. They are Basic Interpersonal Communication Skills (BICS) and Cognitive Academic Language Proficiency (CALP). BICS is the unconscious acquisition of language used for communication and interaction purposes while CALP is the conscious learning of language for academic purposes. Students raised in a digital world where they have played video games and used cell phones have developed a BICS related to that type of

interaction, but a language model related to the digital world may not be developed enough to be used for academic purposes. Another aspect of Cummins' theory involves the cognitive structure involved in learning two languages. Cummins theorized that the two languages share one underlying proficiency. The second language learner does not begin at the beginning if a first language is known. These theories offer partial insight into "why" as well as "what" may be occurring in online environments. How a person acculturates into a second culture finishes this second theoretical lens.

Schumann (1986) explained two types of acculturation. In type one acculturation the learner is socially involved with the second language and culture and has sufficient contact with the target language group to master the target language. In type two acculturation, the learner has all of the type one characteristics but consciously chooses whether to be involved in the target language and socialization "and the degree to which a learner acculturates to the target language group will control the degree to which one acquires the second language" (p. 384).

Schumann (1986) expanded his ideas of acculturation with social and affective factors involved in this process. Social dominance patterns and the power relationship of the learner with the culture impact the quality and quantity of acculturation. If the learner is socially dominant or has feelings of superiority, for example if the instructor is learning the technology language and skills, then more impediments exist in second language acquisition. Conversely, if the students are forced to take an online class due to scheduling options, impediments exist. However, the Digital Native students or ones

who want to take online courses may feel confident and have reduced barriers to learning. In order to further develop the theoretical framework, Sweller's (1988) Cognitive Load Theory is included as a second lens.

### **Cognitive Load Theory**

Cognitive Load Theory offers insight into what may be occurring in the students' minds in the midst of acquiring a second culture and second language while learning content as well. How the brain processes in the midst of learning content and a second language is not only a cultural adjustment, but a cognitive adjustment as well. Cognitive Load Theory looks at the interactions of the working memory, types of cognitive loads and instructional design (Sweller, 1988). Working memory is finite, and the three types of loads interact within this space. Intrinsic load refers to internal complexity of the information. Germane and extraneous loads refer to external influences that either aid or detract from learning. Instructional design impacts the cognitive load, which in turn affects working memory. There is an optimum range for learning to occur. A task or content must be challenging enough to avoid an underload while avoiding being too challenging before enacting an overload that shuts learning down. The two theoretical lenses discussed in this section will be layered over each other in order to sharpen the images of what occurs in online education and may offer key insights into why instructors and students may struggle in this environment.

## **Child Development**

The third lens used in this study was the discipline of child development. This discipline is a relatively new field of study (Sears, 1975). The field of child development has been developed through organized theories, paradigms, and research methodologies in order to understand human development from conception to adulthood in developmental domains (Thomas, 2005). Child development guides practice to improve learning outcomes and optimize development by understanding how children develop. These guidelines and understandings help to inform policy and practice (Seigler, DeLoache, & Eisenberg, 2011). This discipline's theories and practices were used in the study to examine online education and to inform better practices in online teaching and learning.

### **Purpose**

The purpose of this study was to explore instructors' and undergraduate students' perspectives and experiences of the online educational environment through the theoretical lens of second culture acquisition, cognitive load, and discipline of child development.

### **Research Questions**

This mixed methods study explored both quantitative and qualitative research questions. The quantitative research question and hypotheses provided clarification and support for the qualitative research questions.

## **Quantitative Research Question**

Research Question 1: What factors impact transition shock?

H1: It was hypothesized that there would be a negative relationship between Prior Online Experience, Length of Time in Program, General Technology Skills, and Educational Technology Skills, and (a) Second Language Acquisition, (b) Transition Shock, and (c) Online Behaviors.

H2: : It was hypothesized that there is a negative relationship between Motivation for Acculturation and (a) Transition Shock, (b) Online Behaviors, and (c) Second Language Acquisition.

H3: It was hypothesized there is a predictive relationship between the Tools of Teaching and Learning and (a) Transition Shock and (b) Online Behaviors.

H4: It was hypothesized that an increase in Social Presence and Learning Style will be associated with a decrease in (a) Transition Shock and (b) Motivation to Acculturate.

H5: It was hypothesized there is a positive association between the Number of Tools Used in Class and (a) Transition Shock and (b) Online Behaviors.

H6: It was hypothesized that there is a statistically significant group differences between Digital Generations, Student Type, Role in Course, and Face-to-Face Classroom Behavior with (a) Transition Shock and (b) Motivation to Acculturate.

## **Qualitative Research Questions**

Research Question 2: What are instructors'/undergraduates' paradigms for teaching and learning?

Research Question 3: What role does technology play in teaching/learning?

Research Question 4: How does the transition shock manifest in the online classroom when the two cultures meet?

Research Question 5: How do instructors and undergraduates manage the filters for learning?

The qualitative questions aimed to explore in-depth personal experiences in the online environment, and how instructors and students created their own perspectives on online teaching and learning. These experiences and perspectives began to offer insight into the causes of barriers in the online environment.

### **Significance of the Study**

Current research related to online education investigates strategies and explores perspectives on pragmatic ways to improve learning (Bradford, 2011). This information gathered from research began to explore reasons for barriers in online teaching and learning. This study explored alternative theoretical paradigms in online education to aid understanding of the barriers to instructors and students. Online education is in a pre-paradigm stage of scientific revolution (Kuhn, 1962). This study helped to identify the boundaries of the paradigm puzzle and bring depth to the pre-paradigm.

## Definition of Terms

*Culture* was a foundational construct in this study. Teaching and learning and technology are cultures. They are not merely part of life but deeply engrained in how an individual perceives themselves and part of who they are. There is no consensus on a definition of culture in the research field. For the purposes of this study, culture was operationalized by Hargreaves (1995)'s definition. Culture is "knowledge, beliefs, values, customs, morals, rituals, symbols and language of a group" (p. 25).

*Digital Native* is a term coined by Prensky in 2001. A Digital Native is a person who was born when technology began to enter into the home and became ubiquitous. Therefore some people have always grown up with technology. For this study, people born in 1980 and after are Digital Natives.

*Digital Immigrant* is the other term coined by Prensky in 2001. These individuals were born prior to 1980 and saw the integration of technology into life rather than growing up with digital technology in the home.

*Technology*, in its basic form, is a tool used by a human as an extension of self (Barnet, 2006). In this study, technology will be digital technology. Electronic devices (e.g., computers, Internet, smart phones) are examples.

*Online Education* is a form of distance education using technology to formally teach students enrolled in an institution of higher learning (Keengwe & Kidd, 2010).

*Cognitive Load* is the interaction of information input and working memory. There is a finite amount of working memory, and as information is processed, the space

is occupied. The more information processed, the more load and less working memory available (VanMerriënboer & Sweller, 2005).

*Cognitive Load Theory* is Sweller's (1988) theory designed to align instructional design to human cognitive architecture. The theory has three constructs of memory, types of cognitive load, and instructional design. Various internal and external components impact the efficiency of information processing in the brain and in turn affect the degree of learning.

*Second Culture Acquisition* in this study was the overarching term used to unite the processes of acculturation and second language acquisition as one theoretical construct. While second language acquisition is embedded in acculturation, it will be extracted and analyzed under its own merits.

*Acculturation* is the process of learning the rules and models of another culture.

### **Researcher's Relationship to the Research**

The researcher's relationship to online education is both personal and professional. During the researcher's master-level course work in child development at Texas Woman's University starting in 2002, a wide variety of online courses were completed. The researcher had a conflicted relationship with the classes, both enjoying having the classroom at home while yearning for more face-to-face components.

Professionally, the researcher is a teacher, having taught in the public school setting for over a decade. In addition, the researcher is a professor at two community colleges, having taught online classes for the last three years. The researcher is

constantly looking for strategies to engage the learner while providing quality learning experiences for her students.

Since 2009, the researcher has been investigating technology looking at children's perspectives of technology and college students' experiences of the use of social networking in an online class. The combination of personal and professional background has made this topic of particular interest in a field of study that is continuing to grow.

The researcher's main course of study involves cognitive and language development of children. With an interest in American Sign Language as a second language for hearing children to support language learning, the researcher has an increased passion for bilingualism, second language acquisition, and brain development. Prior to this study the foci of the researcher's inquiry shifted from language organization in the brain to overall cognitive processing. The researcher has focused on cognitive load theory as she searches for instructional strategies that will align with and optimizing cognitive processing.

More specifically, the researcher's interest revolves around language, particularly how a person acquires language. Language is innate. The brain is prewired for language. Pinker (2007) theorized that language is the window into all the domains of cognition. People use language to organize and express cognitive thinking. Language is used as part of Discourse. Discourse includes the language, social practices, beliefs, identities, and customs of a culture (Gee, 1992). With these lenses, the online learning environment can

be viewed as a different language and even more so how an individual uses language may reveal what is occurring cognitively.

### **Delimitations**

Participants were limited to three higher education institutions in North Texas: (a) Texas Woman's University, (b) Collin College, and (c) Grayson County College. Instructors had to have taught at least one child development course online since spring 2011. Undergraduates included were students enrolled in 100% online sections of child development courses during the spring, summer, and fall 2011 semesters.

### **Assumptions**

The researcher held the following assumptions during the course of the research study.

- Online education is a viable platform for education.
- Language is a fundamental component in understanding the social practices and paradigm shifts in online teaching and learning.
- The discipline of child development can offer insight into strategies to support undergraduates in online education.
- Instructors trained in a child development perspective would use this lens to create and interact in the online environment

### **Summary**

The purpose of this study was to explore child development instructors' and undergraduates' perspectives and experiences of online education through the lenses of

second culture acquisition, cognitive load, and the discipline of child development. A breadth of knowledge of skills and qualities that help or hinder learning in the online environment is accumulating in the literature. From this landscape, this study investigated the reasons behind the barriers in online learning in order to more fully understand this complex concept involving the culture of teaching and learning and the technology culture against the current changing higher academia backdrop. This study used three theoretical lenses to bring a new perspective to online education.

## CHAPTER II

### REVIEW OF LITERATURE

This chapter presents an examination of online education and the components necessary for understanding the crux of the struggle of integrating technology as a pedagogical platform in an educational environment. As online education grows in size and numbers, more energy and resources are being used to understand how learning works in this environment. Online teaching learning continues to become a viable, equivalent educational platform. The complexities of online education are revealed through a deconstruction of the underlying constructs of paradigms and theories. This review of literature begins with an exploration of two cultures: the culture of teaching/learning and the culture of technology. The review then presents the current educational landscape in higher education. A discussion of two theoretical lenses, second culture acquisition and an investigation of Cognitive Load Theory, and the literature review then ends with an exploration of child development as undergirding theoretical lenses to guide the study.

#### **The Culture of Teaching and Learning**

A paradigm exists in the world of education regarding how teaching and learning occurs. This paradigm is continually co-created by teachers and students (Courtney, 2001). Implicit rules guide educators on how to conduct a classroom and expectations of students (Bruner, 1996; Cazden, 2001; Westby, 1997). These implicit rules have been

created by the instructors' own educational experience. These similar experiences create the traditional teaching/learning culture. The traditional and current model of teaching/learning transmits knowledge from teacher to student (Prensky, 2008b; Vintere & Majinovska, 2009). In higher academia, its label is the "sage on the stage" (Skiba & Barton, 2006). Teachers are viewed as knowledge possessors with unidirectional dissemination of information to students who are passive recipients.

Courtney (2001) explained that the culture of teaching and learning is situated in time and space with definite boundaries of the classroom. There is a symbiotic relationship between teacher and students. Teachers have defined identities, roles, and responsibilities towards the content and students while the students have roles and responsibilities towards the teacher, the work, and other classmates. In the traditional model of the classroom, the teacher stands at the front of the classroom and lectures while students take notes and listen. This paradigm is not only physical but also psychological. When the walls of the classroom are removed, the pedagogy stays (Courtney, 2001).

School is a reflection (McLoughlin, Wang, & Beasley, 2008; Ryan & Cooper, 2010) and extension (Bruner, 1996) of the current society and culture. Bruner posited culture as a man-made construction to guide meaning-making and to shape the mind. Gee (1996) added that culture gives each person an identity. The mind and identity are created from shared symbols passed from one person to another. "Learning and thinking are always *situated* in a cultural setting" (p.4) and, with school, the ultimate transmission of knowledge is a hub of cultural transmission.

This teaching/learning paradigm is more than transmission of culture; it is also a culture within a culture. Hargreaves (1995) defined culture as "knowledge, beliefs, values, customs, morals, rituals, symbols and language of a group" (p. 25). School culture has languages, customs, and traditions. Academic languages fill traditional schooling (Gee, 2004). Subjects each have their own vernacular and are foundational tools for success. These academic languages emerge from a child's conversational language or primary discourse and social identity acquired prior to school entry. The child learns secondary discourse and identity upon school entry (Gee, 1996). Students are not only there to learn content and languages but to be acculturated into expectations of how to learn, the teachers' roles, and their roles as students.

### **School Culture**

School culture is a culture of organizations (Psunder, 2009) based on hierarchy (Ertmer & Ottenbreit-Leftwich, 2010) and power-based relationships (Vintere & Majinovska, 2009). Educators are gatekeepers of content and pedagogy (Schneckenberg, 2009). Teachers have the power and keep the power through methods of teaching and learning like the lecture format. "The teacher speaks, and students listen" (Vintere & Majinovska, p. 127). Teachers and students mediate these scripts, and when the scripts do not complement each other, the student does not learn, and the teacher forms a negative impression of the student (Westby, 1997). In the new online environment, the teacher and the student are currently creating scripts for the first time individually as well as jointly. In higher education, a new negotiation of scripts and power balance occurs

against the backdrop of ingrained student and teacher expectations of the teaching/learning culture, and breakdowns in the scripts may be occurring. No prior experience guides this mediation. Classroom discourse and assignments must be adapted to a classroom without walls and defined time constraints (Courtney, 2001).

Through the paradigm of teaching/learning, educators tend to ask students to seek one answer rather than to take on different perspectives and explore the topic creatively (Robinson, 2001). Students learn how “to do” school in order to be successful learners (Matuga, 2007). With the commission report of *A Nation at Risk* (National Commission on Excellence in Education, 1983) and laws like *No Child Left Behind* legislation (2007) a dramatic increase in high-stakes standardized testing has been mandated (Ertmer & Ottenbreit-Leftwich, 2010). With the focus on high-stakes testing, the school curriculum is narrowing (Berlinger, 2009), and critical thinking skills are not the focus of instruction. Traditional schooling tends not to provide instruction on how to self-direct learning (Matuga, 2007). However this seems to be the main component of online learning. Students without walls, time constraints and a physical model must manage time, assignments, and deadlines. The asynchronous environment moves students into a greater role of knowledge construction (Courtney, 2001) as students must access prior knowledge, explore the contents of online environments, and reflect on the experience.

In addition, this school culture tends to be closed, which allows for little change or adaptation into the environment (Vintere & Majinovska, 2009). There seems to be a pedagogical blueprint on how lessons are taught and how students demonstrate

knowledge. This may be a reason it is harder to introduce change into this culture and technology integration may be caught in this closed culture as it slowly adapts.

Technology has been incorporated as a tool of instruction, but not as a method of instruction (Courtney, 2001; Ertmer & Ottenbreit-Leftwich, 2010; Schneckenberg, 2009). In other words, technology provides support for the teacher, but is not the main vehicle used in instruction. The current model of technology as a tool to present slideshows or videos still allows the teacher to be in power in the classroom. Using technology as a method changes these social dynamics and places the power more in the hands of the learners. Once again being contrary to the current school culture, this might be met with resistance. “[T]he underlying problem for the eLearning adoption of faculty and the wider educational innovation in universities in general are structural peculiarities of universities and cultural barriers, which are deeply rooted in the academic community” (Schneckenberg, 2009, p. 414). A pedagogical shift has yet to occur and even those who feel ready to incorporate technology into the classroom cannot, due to the current perspectives of technology in the classroom (Vintere & Majinovska, 2009). This becomes an issue when these students enter into higher educational settings, and more specifically, online education. The online environment is different in how it is organized, how pedagogy is used, and how to mediate the environment. Instructors and students trained in one pedagogy may struggle when trying to use a new one. This traditional school culture has been evolving for centuries while digital technology is a relatively new culture.

## Technology Culture

Technology is a growing and advancing culture in today's society. Digital technology is a culture with its own language and behaviors. There are new devices developed every day (e.g., cell phones, computers and gaming equipment) with faster processing speeds and increased capacities. Prensky (2001a, 2001b) used an analogy of Natives and Immigrants to demonstrate the existence of a cultural paradigm.

Technology has been a tool man has used to extend himself since the beginning of time. During the 20th century, technology began to evolve at a faster pace than the human species and is beginning to shape the development of the human (Barnet, 2006). Prensky (2009) expanded on this idea of technology as an invaluable extension of a person in his concept of digital wisdom. Digital wisdom is one's ability to use technology to enhance and extend beyond the finite human cognitive architecture. For instance, research can extend to include all cases in a database search beyond one person's abilities at one location. Prensky argued that technology allows a person to let go of the mundane in order to focus on the novel.

These technological extensions are what Engelbart describes as artifacts in an interview with Barnet (2006). "Artefacts (sic) are 'physical objects designed to provide for human comfort, the manipulation of things or materials and the manipulation of symbols'" (p. 514). These artifacts allow a person to create and preserve the culture. Technology allows for the evolution of preservation of memory and history.

For example, students used to memorize facts because it was the better alternative to time spent looking up information at the library (Prensky, 2008a). However with the access of computers, multitudes of facts can be instantaneous obtained. Moreover, the lecture model with explanations was preferable to students learning by themselves straight from textbooks (Prensky, 2008b). Self-engagement with the presentation of information through digital technology seems to align more with the way adults learn (Tomei, 2005) by providing multiple modalities of inputting new information. Digital technology in the 20<sup>th</sup> century evolved in response to the evolution of society (Barnett, 2006).

### **Paradigms**

Clegg (2008) created a mural illustrating the evolution of society. Within this evolution are shifting paradigms connecting historical events, inventions, business trends, popular music, and literature. Part of the interconnectedness of the paradigm shifts involves the co-evolution of technology and humans. Since 1925, society has undergone 5 paradigms shifts or “ages.” Ages started with the agricultural age, into the industrial age in the 1930s, into the information age in the 1960s with the first large wave of digital technology (e.g., invention of the mouse, e-mails), to the knowledge age in the 1980s, into the current conceptual age since the turn of this century. The current conceptual age encompasses globalization, Web 2.0 tools, and social networking. Since school is a reflection and extension of society, education needs to seek ways to effectively incorporate these tools.

Technology is evolving alongside society. The current environment, including technology, shapes perspectives and beliefs and defines generational characteristics. Oblinger and Oblinger (2005) have divided the current population into four distinct generational types: Matures (1900-1946), Baby Boomers (1946-1964), Generation X (1965-1982), and Net Generation or Millennials (1982-1991). On the other hand, Prensky (2001a; 2001b) has created a two-category system: Digital Natives (those born after 1980) and Digital Immigrants. Digital Natives have grown up immersed with computers and technology and are perceived to be innately savvy when it comes to technology, but are being taught by Immigrants who have learned this technology language after the critical period of language development of youth, giving these instructors accents (Prensky 2001a).

### **Digital Natives**

This new generation of learners possesses qualitative differences from previous generations due in part to digital technologies. Turkle (2004) explained that in addition to learning content, students have been learning new ways of thinking. As a person engages with content through technology (e.g., computer), the technology and its processes begins to influence how information is received and understood. Turkle gave the example of privacy. Handwritten mail and content are private, however information on a screen in e-mails, blogs, and instant messages is not considered private. Students who use more electronic communication seem less concerned with providing personal information. Prensky (2001b) posited that the brain reorganizes neural pathways and

thinking patterns in this new technology culture. One characteristic of Digital Natives or Millennials is immediacy. Millennials want instant feedback, information, and gratification (Prensky 2001a & 2001b) as well as always being connected and mobile (Oblinger & Oblinger, 2005).

The Net Generation socializes using a combination of physical and virtual interactions to stay connected even when in the same room with a person (Oblinger & Oblinger, 2005). Digital Natives use the Internet for communication purposes even more so than Immigrants (NetDay, 2004). Lenhart, Rainie, and Lewis (2001) reported results from the national Pew Internet & American Life Project survey. The Princeton Survey Research Associates conducted 754 phone interviews of parents and children ages 12-17 who went online November through December, 2000. The researchers found that over half of students preferred using the Internet over the phone for communication purposes. “Many of their exchanges on the Internet are emotionally open, sharing very personal information about themselves. The Net Gen has developed a mechanism of inclusiveness that does not necessarily involve personally knowing someone admitted to their group” (Oblinger & Oblinger, 2005, p. 2.6).

Digital Natives also prefer graphics to text (Prensky, 2001a), have better developed visual-spatial skills, and digital literacy (Hall, 2000). The human brain prefers information visually (Berson, 2003). Digital Natives prefer games and learning through this media. These preferences relate to nonlinear brain reorganization based on the current technological culture (Prensky, 2001b) not like the linear course design on online

courses. Continued exposure to Web-surfing and video games and other nonlinear technology has caused the brain to be wired differently. In addition, Digital Natives learn through discovery, the process of doing and constructing (McNeely, 2005).

“[Digital Natives] don’t think in terms of technology; they think in terms of the activity technology enables” (Oblinger & Oblinger, 2005; 2.10). Turkle (1995) explained this phenomenon as “users”. “A user is involved with the machine in a hands-on way, but is not interested in the mechanics of the technology except as it enables an application” (p. 32). Millennials know how to use technology. They have a surface knowledge of how technology works instead of a deep understanding of the mechanics behind how it works. Turkle (1995) gave the example of watching a child playing SimsLife when a message came on the screen. When Turkle asked the boy what it meant, he did not know, but it did not affect the game so it wasn’t important to fix the problem.

Kolikant & Ben-Ari (2008) conducted a 2-phase study of 150 high school students enrolled in six computer science classes in three schools. A pre-test of how to solve synchronization problems was given to establish prior knowledge. The students were taught a computer programming construct in order to diagnose and solve synchronization problems. After two months of instruction the students were tested for understanding. On the first test, Test A, 43% of the students incorrectly diagnoses and solved the problem. After intense feedback was given to students, Test B was administered and 35% still provided incorrect troubleshooting. In order to investigate the

matter deeper several students were videotaped trying to solve the problems. After analysis, the language being used and the relevancy of the problems seemed to be the contributing factors to the lack of learning. It took active teaching of computer language to bridge the students' gap into professional thought processes to analyze the underlying processes in order to solve the problems. In online learning, the barriers maybe present with Digital Natives because they do not have the language to overcome the barriers. In addition, the students may not have been taught the online skills needed to surpass the barriers. These barriers add additional load on working memory while trying to learn content. This additional load while learning might impede learning.

Due to Natives' need for immediacy of information and the nonlinear thought process, "the Net Gen may need to be encouraged to stop experiencing and spend time reflecting" (Oblinger & Oblinger, p. 2.7). In a world of information overload, the Digital Native is a passive consumer and needs deep reflection in order to process information. Having students actively construct and reflect on their thinking will facilitate their learning (Brown, 2005).

As society crosses over into the new era of personal computers, students are coming into contact with digital technologies at younger ages. Garland and Noyes (2004) conducted a 5-year longitudinal study of expectations and experiences with computer and computer-based technologies of 235 first-year undergraduates enrolled in a psychology course in the United Kingdom. Students completed a questionnaire about computer experience and confidence in using the computer. Findings showed an increase of

positive expectations and confidence of computers and technologies for first-year undergraduates over the years, but the only increase of computer use was in years of exposure rather than in daily use. Students are involved in technologies at earlier and earlier ages, but the quantity of time a 6-year old actually uses technologies has stayed the same. In other words, a person's technology identity is ingrained earlier. These two cultures of teaching and learning and technology are situated in today's higher education landscape.

### **Current Landscape of Higher Education**

In the midst of the culture of teaching/learning and the culture of technology, higher education has begun to reassess its role and execution. As society enters the second decade of the 21<sup>st</sup> century, higher education is undergoing transformations on two major fronts: student demographics and educational platforms.

#### **Student Demographics**

The traditional college student is a Digital Native straight from high school. This student is dependent, attends full time, and may work a part-time job (National Center for Education Statistics, 2002). Related to enrollment, the traditional student is being surpassed by the non-traditional student. Seventy-three percent of students enrolled in higher education had at least one of the following nontraditional characteristics (National Center for Education Statistics, 2002):

- Delayed enrollment
- Attended part time for at least part of the academic year

- Worked full time (35 hours or more per week) while enrolled
- Was considered financially independent for purposes of determining eligibility for financial aid
- Had dependents other than a spouse (usually children, but sometimes others)
- Was a single parent
- Did not have a high school diploma (completed high school with a GED or other high school completion certificate or did not finish high school) (Horn, 1996)

With an increase in nontraditional students and a deeper integration of technology into the curriculum through use of computers and content management systems, distance education in the form of online education has risen in the number of programs, classes offered, formats, and student enrollment. For the fall 2009 semester, 5.6 million students were enrolled in at least one online class. This was 29.3% of the total student population and a 21.1% increase from the previous year with the largest demographic being undergraduates (Allen & Seaman, 2010). This number is expected to continue to rise as the demand for online learning continues to increase. As the percentages of nontraditional students and students enrolled in online classes rise, more and more Digital Natives are included in these two groups. These characteristics and expectations interplay with each other.

Factors for the increase in online education include its convenience (Linardopoulos, 2010), flexible scheduling (Gossmire, Morrison, & Van Osdel, 2009; Holly, 2009), and the ability to overcome distance (Davie & Berlach, 2010; Smith &

Allman, 2010). Nontraditional students tend to have full-time jobs with families and may not have the time to come to a campus for class but can continue their education from their homes. For example, Holly (2009) explained in the current nursing shortage, the demographic of a nursing student has changed to an older student returning to school or coming from another county. Full-day programs cannot meet these needs, and programs need to tailor to these students in order to supply more nurses.

In the world of teacher education, Davie and Berlach (2010) used wikis as support with students who had practicum in remote or rural sites as a way to help at-risk students improve skill development and stay connected. Smith & Allman (2010) explained there are a limited number of deaf education programs to service large geographical areas, therefore synchronous and asynchronous interactions in the online environment were incorporated as effective methods for providing student support and a strong education.

### **Educational Platforms**

Sloan-C: A Consortium of Individuals, Institutions and Organizations Committed to Quality Online Education (2012) publishes an annual report of the status of online education. Sloan-C delineates four main course delivery methods currently employed in use in higher education: face-to face, Web-facilitated, hybrid, and online. These delivery methods extend from limited technology interactions to 100% online interactions. The face-to-face class is the traditional model of education with no use of technology outside of the classroom. If a teacher in a face-to-face class uses a content management system

minimally (1-29%) to submit assignments, discussion boards, assessments, or Web 2.0 tools outside of the classroom, the course is considered Web-facilitated.

Hybrid or blended learning is a 30-79% mixture of face-to-face learning and online learning (Allen & Seaman, 2010). Hybrid classes allow for a continual learning process rather than in an isolated class time. Lloyd-Smith (2010) found blended classes can offer more choices of content presentation while allowing hesitant students to join and participate in online discussion. More time for social interaction occurs between students and instructors in blended classes. Nontraditional students have more flexibility. The school benefits from the ability to maximize room use and from decreased parking problems. Of all the teaching models, face-to-face, blended and online, research has shown that blended offers the best perceptions of learning and achievements of learning (Horspool & Yang, 2010; Lloyd & Smith, 2009).

The fully online format is 80 to 100% online (Allen & Seamen, 2010). Online learning allows for flexibility and convenience to the students to complete assignments and discussion at an individual pace and offers education to students who might live too far away to drive to the campus. On the other hand, the lack of teaching presence may cause feelings of isolation and the need to teach oneself (Sheridan & Kelly, 2010).

In the realm of teaching and learning, technology allows for faster access and more individualized in-depth topical study, but technology alone is not the answer. Human discussion and interaction are still needed (Oblinger & Oblinger, 2005). Younger Millennials prefer a mix of both online and face-to-face. Hodge, Richardson, and York

(2009) conducted a quantitative study looking at the use of an online homework tool on students' perceptions of learning and motivation in college algebra classes. The web-based tool contained algebra problems with immediate answers. No additional information detailing how to work the problem was included. Surveys with 2 subscales from the Motivated Strategies for Learning Questionnaire were used to collect data of 1,333 students with 95.8% being between the ages of 18-22 years old. The results found that students in math classes wanted both a web-based homework tool with immediate feedback and the traditional method of turning in assignments with teacher feedback.

York, Stumbo, and Nordengren (2009) conducted a study to compare two types of online media presentations of evidence-based practice, interactive and static, in a doctorate of physical therapy program. Fifty participants were divided into two groups ( $n=25$  per group) with one group receiving interactive then static presentations and one group starting with static and then interactive presentations. An electronic survey found that students wanted access to both types of modules rather than one or the other. Throughout these studies, a theme of face-to-face and online seems to maximize the learning and satisfy the learners' expectations. This may be a blend of the culture of teaching and learning and the culture of technology. Students' expectations to learn may require a face-to-face component.

### **Barriers in Online Education**

On the other hand, several barriers exist to online learning. For students, both traditional and nontraditional, Digital Native or Immigrant, the new environment void of

non-verbal cues with new technology to learn may present an initial wall to learning. Zach and Agosto (2009) conducted a qualitative study looking at the development of three sequential online courses' use of real-life collaborations and knowledge sharing in a Master's library and informational science program. Thirty-eight students took one course, four took two courses, and three completed all three courses. In the three classes, four online teaching tools were used: (a) blogs, (b) wikis, (c) Blackboard (a content management system), and (d) Jing (a screenshot and screencast software). Student course evaluations were analyzed. Using a constructivist lens, course evaluations revealed the three broad themes: keys to success, educational benefits, and drawbacks. Keys to success included participation, interaction, and personalization of the course. Educational benefits included connection to class work with practice, increased peer-to-peer learning, and critical thinking. The blog was the ideal platform for facilitation, collaboration, and knowledge sharing. Drawbacks included a technology overload, large learning curve, and overall student resistance. These drawbacks may increase cognitive load slowing process and learning (Kalyguga, 2009).

Moreover, the brain is not working to optimum capacity by stripping away non-verbal and verbal information that can be used to compare to prior experience (Berson, 2003). Sargeant, Curran, Allen, Jarvis-Sellinger, and Ho (2006) surveyed physicians working on continuing education credits about their online experience and the effectiveness of the course. Physicians with less technological knowledge reported more negative opinions of the online experience. Guo, Dobson, and Petrina (2008) stated that

“[t]he pseudoanonymity of cyberspace, which ‘facilitates interactions without regard to age, gender, or other physical characteristics’ (Berson, 2003, p. 3), may disable an individual’s innate ability to take cues from visual information respecting whether something poses a threat or is benign” (p. 237). The lack of real connection perceived learning in the online environment (Richardson & Swan, 2003).

Secondly, online learning requires self-directed learning. Self-directed learning is “a form of study in which learners have the *primary* responsibility for planning, carrying out and evaluating their own learning experiences” (Merriam & Caffarella, 1991, p. 41). Major motivators in self-directed learning are freedom, flexibility, and control; however, these are not the skills developed in traditional schooling as stated earlier. If traditional schooling models the teacher as the source of knowledge, then when these youth are placed in the online environment and asked to pace themselves and take control of their learning, students may struggle and tend to not be successful.

Deepwell and Malik (2008) conducted a cross-sectional study of 237 undergraduates and graduates to assess how students chose to spend self-directed learning time and why. Surveys were given in classes and followed up by semi-structured interviews. Preliminary findings showed approximately 80% of the sample agreed that technology is important to learning and approximately 70% agreed that they do not experience difficulties using them. Sixty-four percent agreed that learning technology has positive effects on their attitudes towards learning independently.

Further analysis showed almost half of the students spent 11-20 hours a week in self-directed learning with the most common activities being accessing information, course management, and communication. Students' expectations of technology for learning were increased interactions through online discussions and group work, interactive exercises, games, and simulations. However 45% of respondents still placed great value in face-to-face interaction. Students appeared to need traditional aspects of the teaching and learning culture. Students also wanted support on how to facilitate learning through technology, instant feedback, and more information online to guide readings. "Students need help in adapting to university life and becoming autonomous learners" (Deepwell & Malik, 2008, p.13). In the online environment, this is even more critical as the online learner moves from the classroom with an instructor who controls learning to self-regulated learning from home and navigating oneself in the online environment (Matuga, 2007). In addition to dealing with various levels of self-regulation in students (Westby, 1997), there are other inconsistent characteristics in the Digital Natives population that may help better understand reasons why barriers may exist in online learning.

### **Digital Native Variations**

There are inconsistencies in the Digital Natives population due to the availability and access to technology at home (Hargittai, 2010) and at school. Students entering higher academia begin with a range of exposure to digital technologies. Digital Natives who have grown up with computers and technology are perceived to be innately

knowledgeable when it comes to technology use and may be perceived as technologically prepared for school. However, Ratliff (2009) conducted a survey during a new student orientation of 182 incoming freshman about computers skills faculty found necessary for success at the community college. The students' average score was 77.07% with 41% of the students falling below the 75<sup>th</sup> percentile. The students' technology skills were not the repertoire needed for college success.

Karsten and Roth (1998) examined two relationships: the relationship between prior computer experience and student perceptions of computer literacy with computer-dependent course performance of 98 undergraduates in an introductory computer science class. A questionnaire was given the first day of class with the final questionnaire given the last day of class. The results suggested that the relevance of prior computer experience seems to matter more than its quantity. Though experiences with computers will increase over time as the Net Generation increases in age and number, this does not guarantee skills appropriate for college success (Ratliff, 2009).

Jones, Ramanau, Cross, and Healing (2010) surveyed 534 first-year students across disciplines in England about initial encounters with e-learning. The researchers found that within the Digital Natives population (75.8% of the participants) there is a variety of skill sets and interactions with technology, so it is a misnomer to characterize Digital Natives as a homogeneous population.

The next section discusses two theoretical frameworks in which to situate this interplay of the cultures of education and technology: Transition Shock and Experience and Second Language Acquisition.

### **Transition Shock and Experience**

In the world of higher education and more specifically an online classroom, the cultures of teaching/learning and the culture of technology meet. When these two cultures meet, a type of culture shock known as transition shock occurs.

Transition shock is an emotional experience resulting from the loss of support, guidance and boundaries of the first and known culture into “new cultural stimuli” (Adler, 1975, p. 13) with little understanding of rules and how to interpret the experience. Feelings can include helplessness, fear, anxiety, and isolation (Adler, 1975; Schumann, 1980) while learning to navigate the new culture.

In the online teaching and learning paradigm, the learning environment can produce culture shock or “ecoshock” (San Jose & Kelleher, 2009). At first glance, it may appear as though there is no culture in teaching/learning, but once in online education the traditional paradigm is challenged with the technology culture, and transition shock is experienced. To a certain degree, the shock is beneficial to students and allows for deeper learning. However, too much shock has a negative impact on learning and the ability to feel positively about the content. San Jose and Kelleher (2009) conducted a study with 80 college students enrolled in a communication program. The students were randomly assigned to two groups. One group experienced the class online first (self-

paced and self-taught) and then experienced the face-to-face portion (had the professor's lecture and notes) and the other group vice versa. The online group experienced more transition shock, which San Jose and Kelleher label "ecoshock," while the face-to-face experienced more affective learning. San Jose and Kelleher (2009) found an inverse relationship between the online experience and affective learning. This finding supports the premise that learners have expectations of teaching and learning and when immersed in a new mode of learning contrary to the expectations, mental energy increased, and negative emotions present into ecoshock and inhibit learning.

Current education's integration of technology is superficial and not "deep as into student's personal lives" (Oblinger & Oblinger, 2005, p. 2.11). There is a general expectation that personal lives and school lives stay distinctly separate. People tend to compartmentalize. School and personal lives are separate, so the use of technology in the classroom may increase disorientation and raise emotions, also known as an affective filter, and begin to make explicit the rules of the two clashing cultures. Tools used in one sphere of influence should not and cannot be used in the other. Making rules explicit causes the person to think and process the experience. This process may decrease the working memory space for learning. For instance, some students have separate e-mail accounts for school and personal use while some use one account (Jones & Lea, 2008). Social networking is another domain zoned for personal life. Using social networking as a teaching and learning tool in higher academia may cause confusion for some students. Students think they would benefit from using social networks for learning but are

skeptical about how this would work. Online courses and “doing school” in one’s home may be a blurring of the two spheres.

Orphys and Abbit (2009) conducted a study of 110 students enrolled in a survey of biology course at a Midwestern university. Student demographics consisted of 107 females and 100 aged 18-19. Eighty-two students identified themselves in their first year of college, 23 in their second year and seven were upperclassmen. The survey found that over 95% of the students used Facebook at least once a day and the majority of students were amenable to online activities like social networking, accessing notes online, viewing course schedules, communicating with others in the class and participating in group work. Orphys and Abbit (2009) found mixed results when incorporating social networking in an online class. Social networking provided convenience and communication but distracted students from on-task behaviors and created privacy concerns. Social networking and its interaction may be a tool to provide multiple access points to learning increase the facilitation of transition once initial concerns are soothed (The Horizon Report, 2007).

There are degrees of cultural integrations, and the purposes and motivations of the acculturating person determine the success of the transition into the second culture (Schumann, 1978). One of Schumann’s qualitative research studies in the 1970s followed Alberto, an immigrant, as he lived and worked in a second culture. Alberto never fully integrated into the language or the culture because of resistance to the new culture. In class scheduling, sometimes the class a student needs is only offered online,

and the student reluctantly enrolls. This lack of desire for this format of learning may offer resistance and may decrease the success of the transition to online learning (Kim & Frick, 2011).

“The transitional experience is a movement from a state of low-self and cultural awareness to a state of high self- and cultural awareness” (Adler, 1975, p.15). The ultimate outcome of the transitional experience is an evolution of self. Some will evolve and profit from the transitional experience and others will not (Schumann, 1980). With this experience there is no set entry point. Entry into the transitional experience is dependent on the motivations, personality, and experiences of the person such as how age determines the starting point on a diagnostics test.

Adler (1975) theorized there were five phases in the transitional experience. The Contact phase involves the person’s initial interactions with the new culture and is viewed from being ensconced in the first culture. New experiences are viewed from the perspective of similarities rather than differences and feelings of “excitement and euphoria” (Adler, p. 16).

During the Disintegration stage, more and more differences between the two cultures become clearer as the person begins to explore and navigate in the new culture. Perspectives can become distorted and negative feelings like confusion and disorientation begin to arise. In this stage the implicit rules of the first culture are becoming explicit. In the face-to-face or the brick-and-mortar education, there is a culture of teaching and learning, and the technology of the online environment “makes explicit the teaching,

learning and assessment aspects that normally remain implicit and unarticulated” (Deepwell & Malik, 2008, p. 7).

In the third phase, Reintegration, the new culture is rejected. A person blames the second culture and retreats back into the known culture. A decision is made to regress or progress in the second culture. The fourth state, Autonomy, marks the beginning of skills acquisition and understanding of the second culture. Negative emotions fade away as the ability to navigate in the second culture with “appropriate coping skills” (Adler, 1975, p. 17) emerges. In the final stage, Independence, the individual begins to navigate the second culture with confidence, and a new identity and integration of self materializes. This new identity with an “intercultural frame of reference” (Adler, 1975, p. 20) is established.

### **Mitigating Transition Shock**

Alder (1975) theorized one way to mitigate the transitional experience was the use of tools of the first culture in the second culture. Tools from the teaching and learning culture used in the online environment may include textbooks, hard copies of electronic resources, turning in hard copies of assignments, coming to a professor’s physical office, or interactions online. Traphagan et al. (2010) compared the use of text-chat versus multi-user virtual environment (MUVE) in facilitating group work of 12 online graduate students enrolled in the course Computer Supported Collaborative Learning using the Community of Inquiry Model. Data was collected by content analysis, interview, and survey. Traphagan et al. found that students preferred text chat over the MUVE

SecondLife. This was due, in part, from prior experiences with text chat technology which increased the student's comfort level with this tool. Although interactive in nature, text chat does not include visual information present in the newer more socially involved environment of the MUVE. This alignment would appear to support new ways of learning. Students wanted to use the familiar older technology rather than the newer, more interactive one. However, both technologies use interaction as the base of learning. Interaction is a tool of the first culture brought into the second culture.

Interactions are foundational for learning, especially in the online environment (Wegmann & McCauley, 2006). The Community of Inquiry Model is a model of interaction and learning currently guiding research in online education.

### **Community of Inquiry Model**

The Community of Inquiry Model is based on interaction (Garrison, 2007). This interaction occurs between social presence, teaching presence, and cognitive presence. Social presence involves a person's ability to feel one's true self is translated into the technology domain. Teaching presence involves the student's perceptions of the interaction and facilitation of instruction by the professor. Cognitive presence is the ability of the student to make meaning of the content (Garrison, Anderson, & Archer, 2010).

All three presences are interrelated and must be present for critical thinking to emerge (Traphagan et al.; 2010). Ke (2010) conducted a study of ten online classes from undergraduates to doctoral-level courses from multiple disciplines. Ke used "pre- and

post-course interviews with the instructor, midterm and end-of-course interviews with selected students, end-of-course student surveys, virtual observation of online discussions, and course documents” (p. 809). Findings showed the deeper the social presence; the deeper the learning with teaching presence was the overall catalyst for learning. Interaction allowed the facilitation of self-reflection in a cyclic pattern of discussion and learning. The student determined personal thoughts on a subject, expressed them, and viewed others’ opinions in order to reflect and synthesize into new thought patterns (Garrison, 2007; Wegmann & McCauley, 2006).

Mykota and Duncan (2007) conducted a study of students enrolled in four online courses in special education at the University of Saskatchewan. Participants completed the Computer Mediated Communication Questionnaire to discover if there were any learner characteristics that predicted increased social presence. Findings suggest that the greater number of online classes taken and the higher ratings of computer-mediated proficiencies predicted higher social presence. Mykota and Duncan elucidate “the genesis of social presences lies in the conceptualization from social psychology of immediacy and intimacy” (p. 159). Immediacy and creating a sense of self facilitates face-to-face interactions which naturally occur in the classroom.

In the online environment, these qualities are necessary too. This coincides with the Millennials’ need for immediacy. Mykota & Duncan (2007) go on to explain that the affective filter, or emotions, is embedded in the social presence. When looking at the online teaching and learning environment, lowering the affective filter and engaging

students by validating their presence in the online classroom facilitates their learning. If students feel confident, understood, and make connections to their understanding of how education works, students will mitigate the transition shock and have the incentive and tools to learn the coursework and the new culture. This study began to explore social presence and emotions of instructors and students as they tie into the online learning environment through three theoretical lenses.

### **Second Culture Acquisition**

As higher education continues to incorporate the online teaching and learning paradigm, the two cultures of traditional education and technology begin to interact. Instructors and undergraduates are faced with acquiring a second culture. The components of second culture acquisition consist of second language acquisition and acculturation. In online education, two languages are used: the first language of education and the second language of technology. Three underlying constructs of second language acquisition will be discussed: Krashen's (1982) Five Hypotheses, the role of acculturation, and Cummins' (1982, 1999) ideas of Basic Interpersonal Communication Skills (BICS) and Cognitive Academic Language Proficiency (CALP).

#### **Krashen's Five Hypotheses**

Krashen (1982) developed five hypotheses about acquiring a second language. His five hypotheses provide insight into the internal processing of students coming from a traditional paradigm of education into an online environment. In addition, these

constructs delineate the foundation of how personal acquisition of technology in daily life occurs as opposed to learning a technology in an educational setting.

**The acquisition-learning distinction.** There are qualitative differences in acquiring a language and learning a language. Acquisition is a subconscious process used in communication without explicitly knowing the rules of the language or an implicit way of learning (Krashen, 1982). Learning a language is a conscious act requiring learning the rules of a language and using metacognition to think about the language or the explicit way of learning language (Krashen, 1982). This parallel can be applied to technology learned for personal use versus technology used for educational use. A young child sees a cell phone and sees an adult use a cell phone. When the child picks up the cell phone, she puts it to her ear and starts talking. This is a natural acquisition. On the contrary, in the classroom, an electronic slideshow assignment is given, but how to create one has never been modeled for the student, and the student then must learn the skills.

**The monitor hypothesis.** The Monitor hypothesis is an extension of the acquisition-learning distinction. In second language acquisition the monitor, acting like an editor, only works in the learning component (Krashen, 1982). This monitor is a conscious thinking and applying of learned rules to speech in order to correct what has already been produced. In the online environment, instructors and students may develop a way to self-correct in order to use the technology language.

**Natural order hypothesis.** There is a progression or an innate order of learning grammar structures in any language, and there is a natural progression of rules and errors and corrections (Krashen, 1982). An example is irregular past tense verbs. Very young children first begin using irregular past tense, “I went,” but after learning the past tense rule will say, “I goed,” and then revert back to the correct form of “I went” after learning the irregular past tense rule. When learning a second language, a few variations in the predictable order exist due to the environment of the learner and speed in which the second language is learned.

A parallel may be drawn between (a) a child using oral language before developing formal reading skills and (b) the use of technology language for personal interactions transformed into use in the academic domain. In the continuum from language to literacy, learning to talk is a natural acquisition process with no direct instruction required, but learning to read tends to be explicitly taught, and some children struggle with acquiring these skills. Technology in the personal domain of surfing the Internet and social networks are intrinsically motivating to some people and acquired in natural settings. Skills needed to complete assignments in an online course, on the other hand, may need to be explicitly taught.

**The input hypothesis.** The input hypothesis explains how language is acquired. The learner requires comprehensible input. A person learning a language can only learn what is “a little beyond” (Krashen, 1982, p.21) where the person is at in language acquisition. It is “ $i + 1$ ” with  $i$  being the current input and  $+1$  being the little beyond. A

person can only learn a skill or knowledge just beyond his reach with support from an experienced user of the skill. This learning happens at its own pace. “Speaking fluency cannot be taught directly. Rather, it ‘emerges’ over time, on its own” (Krashen, p.22).

Part of the comprehensible input involves “caretaker speech” (Krashen, 1982, p.22) and how a person modifies language for early learners. It is a simpler form that is on level with the listener’s level and talks about the here and now. In a classroom not all the students will be at the same level of development.

In online education, if learners need “*i + 1*” in order to acquire this technology language, they need instructors who know the language and speak it fluently in order to provide the comprehensible input. However, instructors may be at the same level as learners and cannot provide the model or the caretaker speech needed for learning to occur in this new environment.

Another component of the input hypothesis is the silent period. As a child learns a second language in a natural environment, there is a period of time where the child says little to nothing. During this period, the child is listening and learning the rules and vocabulary of the language.

Adults acquiring a second language are not generally allowed a silent period and are forced to use the language during acquisition. To compensate, the adult learner will use pieces of the first language to fill in holes of missing information in the second language. However the rules in L1 may not be the same as in L2 and may impede the learning of L2. This phenomenon is known as interference. In online teaching and

learning, strategies of the face-to-face classroom may be used as instructors and students learn the technology language and how to navigate the online environment (Grant & Thornton, 2007).

**Affective filter.** Second language learning goes through an affective filter before it begins to process, and though the message may be heard, the brain cannot process through the strong emotions. Three components make up the filter: motivation, self-confidence, and anxiety (Krashen, 1982). The more motivated a person is to learn the language, the lower the filter. The more self-confidence and/or self-image, the lower the filter and finally, the lower the anxiety, the lower the filter.

There are several exposure variables that play into second language learning:

- Length of residence in the second language environment the longer in the environment, the better on learning the second language
- Reported use of the second language the more use the higher the proficiency
- Age the younger the age of introduction, the more proficient the younger learner receives simpler input, but the older learner is better at regulating the quantity and quality of input, and this may be related the affective filter.

The filter may present extraneous information for the working memory to process in addition to content and may decrease the mind's ability to learn.

### **Acculturation**

Second language acquisition is more than learning another language. It is learning another culture. Macnab (1979) wrote "to learn a second language is a

commitment to a second culture and people who learn to speak two languages are therefore very likely to be quite different from those who stay unilingual” (p.243). In the acculturation process, new cultural models are learned (Gee, 1996). There are social and psychological /affective factors that can encourage or impede second language acquisition (Schumann, 1978, 1986; Stauble, 1980).

Schumann (1986) explained there are two types of acculturation. In type I acculturation the learner is socially involved with the second language and culture and has sufficient contact with the target language group to master the target language. In type II acculturation the learner has all the type I characteristics but consciously chooses whether to be involved in the target language and socialization “and the degree to which a learner acculturates to the target language group will control the degree to which one acquires the second language” (p. 384). Expectations for Digital Natives, with continued contact with digital technologies, would assume they would experience type one acculturation in a collegiate environment.

Schumann (1986) expanded on the social and affective factors involved in second language acquisition. Social factors involved include social dominance and integration strategies. Social dominance patterns and the power relationship of the learner with the culture impact the quality and quantity of acculturation. If the learner is socially dominant or has feelings of superiority (e.g., instructors learning the technology language), more impediments may exist in second language acquisition. In the same token, if the learner is subordinate (e.g., students forced to take an online class due to

scheduling options), learning impediments may exist as well. Undergraduates or instructors who want to take online courses may feel confident and have reduced barriers to learning (DiBaise & Kidwai, 2010) and a “positive impact” on learning (Caruso & Salaway, 2007, pg. 12).

Integration strategies, or how accepting one is of the value and lifestyle of a new culture, influence the quality of assimilation in the culture in a positive relationship. If the instructor or student sees the value of online education, the more willing the person will be to acculturating (Kim & Frick, 2011).

Affective factors impact learning. For example, the degree of fear of sounding incompetent holds the learner back. Cheng and Fox (2008) examined academic acculturation of second language (L2) students at three Canadian universities. Fifty-six students participated in semi-structured interviews asking questions about “the role of language (L1 or L2), social connections, study strategies, . . . and academic support” (p. 313). Findings showed L2 students felt shy and highly anxious when asking for help from professors and peers because of language barriers. McGhie’s (2007) qualitative study found similar results when examining 18 first-year L2 speaking students. These students completed questionnaires about their experiences and their perceptions of learning in a second language. In an online environment, the inability to understand terms or navigate content may cause students to not participate or complete assignments while a person’s motivation for learning materials and format may increase or inhibit wanting to learn and explore (Kim & Frick, 2011)

Furthermore, motivation or lack of motivation affects Krashen's (1982) Five Hypotheses. For example while the comprehensible input " $i + 1$ " may initially be sufficient for language acquisition, Schumann (1986) explained that there is a positive correlation between second language acquisition and level of acculturation and also a negative relationship between social distance and second language acquisition. In other words, the higher the motivation to acculturation the more the second language is acquired, and the greater the distance from learner and culture, the less the second language is acquired. In online education, if the instructors and students do not want to be in this learning environment, they will place greater distance between themselves and the online course, which would be reflect on time spent in the course the less contact with the course, the less exposure and learning the second language of technology. When greater social distance and resistance leads to reduced contact in second language acquisition, the more a pidgin language emerges (Schumann, 1978).

Pidginization is a reduced and simplified version of the interlanguage, the evolving target language (Schumann, 1978). Pidgin languages are created when two different languages meet in a common environment and the users of each language mediate communication and understanding (Holm, 2000). Words from each language are used and over time a unique grammatical structure emerges as more consistent use of the language (Pinker, 1994). In the online learning environment, where there are students who take the class because it is the only section offered or the only one that fits into schedule, the acculturation and second language acquisition becomes pidginized and

learning of the technology language and culture are reduced as well as the quality of learning. These factors may reduce the amount of cognitive load available for learning.

Gee (1992) theorized that the mind, memory, and soul are socially constructed constructs for interactions within a culture. Each culture, a “socioculturally defined group of people” (p. 108), has Discourse. Discourse involves members with roles, interactions and props to facilitate “ words, acts, values, beliefs, attitudes, social identities, as well as gestures, glances, body positions and clothes” (p. 108). Language is a component of Discourse. Within each Discourse, folk theories emerge. Folk theories are the culture’s accepted and conscious “cultural models” (p. 21) of beliefs and explanations. The culture of teaching and learning has a set Discourse with roles of teachers and students, social identities, and languages (Gee, 1996; Cazden, 2001). The technology culture has Discourse, however, there does not appear to be Discourse for online education.

A culture can be acquired but not learned. As Krashen (1982) differentiated acquiring as an implicit act while immersed in the culture, while learning is overt teaching on a culture. Within cultural acquisition, new members are apprenticed into the culture. Students are acculturated into the teaching and learning “through scaffolded and supported interactions with people who have already mastered the Discourse” (Gee, 1992). The degree an apprentice is acculturated to a Discourse or cultural model is based on the openness and having experiences in the cultural (Gee, 1996).

Gee (1992) also posited that each person is a member of multiple Discourses. An instructor may be involved in the Discourse of a teacher, a mother, a political candidate, and an artist. For each person there is a primary Discourse and multiple secondary Discourses. Primary Discourses are “apprenticed early in life during their primary socialization as members of particular families within their sociocultural settings” (p. 108). Secondary Discourses are apprenticed after the primary Discourses. Primary and secondary Discourses can corroborate or contradict each other. Gee explained school is a secondary Discourse and, as stated early, a place of multiple discourses.

Acculturation has been used to describe the interplay between academic achievement and cultural adaptation. As stated earlier, Cheng and Fox (2008) conducted a study of ESL undergraduate students to “explore factors that contribute to or impede the successful academic acculturation of L2 students within context of university study and the role of EAP [ESL] courses with differing programs emphasis in supporting the acculturation process” (p.312). Findings indicate ESL students felt inhibited by language barriers in the face-to-face classrooms. In addition, the researchers found coping strategies were conscious and encompassed both content and second language acquisition. Learning in a second language increased time on work, but the students were too shy to ask for help from both peers and professor. Cheng and Fox found a “relationship between self-perceived language proficiency and group participation” (p. 317).

Some L2 students actively found interactions outside of class with the target language group and spoke L2 consistently throughout the day while other L2 learners avoided any more interaction with L2 than necessary in class. These two groups of L2 learners demonstrate Schumann's social factors of acculturation and types of acculturation. In the online classroom, there is a mixture of students who are excited, self-motivated, and have chosen to be enrolled (Student A) and students who are required, externally motivated, and nervous in the environment (Student B). These profiles may play out similarly to Cheng and Fox's study in the online environment. Struggling students may be nervous to use online to communicate and may spend more time on assignments. In addition, student A learning L2 explores and attempts new hurdles, and actively engages in the course while Student B struggles and maintains the minimum requirements of the course.

Another main finding in the study was L2 students sought to find the course expectations and worked on those specific skills rather than general L2 learning. Moreover, in the ESL classes, the students "typically cared less about actually learning English and more about passing a language proficiency test that would allow them access to the university" (Cheng & Fox, 2008, p.325). In online environments, this would correlate to knowing just enough information and skills to fulfill the requirements of the course rather than really learning how to learn in the new platform.

## **Cummins' Model of Second Language Acquisition**

In second language acquisition, the end goal is language proficiency. Cummins (1982, 1999) developed two conceptual constructs in regards to language proficiency: Basic Interpersonal Communication Skills (BICS) and Cognitive Academic Language Proficiency (CALP). BICS are language skills developed for interpersonal interactions and are “cognitively undemanding” (Cummins, 1982, p. 23). CALP are language skills required for academic learning and are “strongly related to literacy skills” (Cummins, p. 23). BICS meaning is constructed in social situations while CALP “is usually language in its primary and written form, and it is not, for example, possible to obtain additional information from non-verbal clues” (McGhie, 2007, p. 36).

Everyone (except extreme cases) learns an L1 BICS; however, there is great variety in learning CALP (Gee & Hayes, 2011). A second language BICS tends to be acquired in a shorter time duration than CALP (Cummins, 1982). A student may appear proficient in a second language during a conversation highlighting a well-developed BICS, but this is a linguistic façade, disguising the lack of skills needed in an academic setting (CALP). In the online environment, assumptions of how well Digital Natives will do in an online class are based on their BICS skills of text messaging and computer gaming, however the technology language and skills for academic use, the CALP, may not be proficient and the student struggles (Ratliff, 2009).

The BICS/CALP distinction emerges when different types of computers and technology skills are needed in an online classroom as opposed to one's personal life

(Salajan, Schonwetter & Cleghorn, 2010). Higher academics require skills like word processing, spreadsheets, and content management systems instead of texting, social networking, and video games.

As stated earlier, the Digital Native may not have the necessary technology skills in their repertoire for immediate success in the online classroom and require direct instruction (Ratliff, 2009; Kennedy et al., 2008). If students do not have the skills of the technology culture needed in the online environment, this creates a deficit in academic language needed. Part of the academic language in the online environment involves the technology language needed to know how to navigate and understand instruction (Gee & Hayes, 2011). Caruso and Salaway (2007) reported seniors rated their academic technology skill like online library skills higher than their freshman counterparts.

Students may initially feel they will be successful in class because of personal use of technology but may quickly become frustrated and have to work on confidence as well as coursework, hindering learning. When skills are not sufficient enough, there are strategies to mitigate shock and the transition experience. Instructors as Immigrants who may not have strong feelings of success in personal use of technology may struggle even more as the BICS foundation is not adequately established.

Cummins' (1979) second theory is the interdependence hypothesis. Cummins posited that academic skills have common schemas in the brain that support L1 and L2 and skills can be transferred between the two languages. Therefore, CALP skills in the first language aid and support acquisition of CALP in the second language. There is a

common underlying proficiency (CUP) that is used by both languages for continual CALP development. Because of the CUP, Digital Natives may learn the academic technology language faster because technology is an L1, but for the Immigrants, it is a L2. The difficulty comes when natives use the L1 for express academic purposes and causes the two world to meet where as Immigrants are starting only with their education language (L1) and no BICS development in L2.

Salajan, Schonwetter, and Cleghorn (2010) looked at self-perceptions of general technology skills and content management systems of students (Digital Natives) and instructors (Digital Immigrants) at the beginning and end of the semester. Thirty-two students and twenty faculty participated in a beginning and end-of-semester survey assessing confidence levels in the use of technology and expectations of Blackboard, a content management system. Students rated themselves higher than instructors on general technology skills but showed equal confidence in terms of the content management system. However, “feeling confident and knowing that one can use technology expertly is one matter, actually being able to do so is another” (Salajan et al, p. 1400). Students seemed to have based their assessments of success on their BICS technology skills, but the CALP of the content management system was a new domain of technology language to acquire.

Part of the dissatisfaction with the content management system was indicated in extraneous issues for both student, and faculty, including technical issues like reduced bandwidth and additional workloads. Faculty workloads increased leading to

dissatisfaction, which then led to inconsistent teaching presence, ultimately leading to student dissatisfaction (Salajan et. al. 2010). Instructors' perspectives and experiences of both cultures, teaching/learning and technology, are critical for facilitating and supporting students' perspectives and experiences. How teachers perceive these paradigms are paramount, and while some may struggle transitioning to the new culture and have feelings of superiority over the technology culture, they need to provide an environment that will help mitigate the second culture acquisition for optimum learning.

An additional finding to McGhie's (2007) qualitative study was that negative outcomes were experienced in listening, speaking, reading, thinking and writing skills when learning the second language and learning academics in that second language. Students could not ask questions for clarification due to the lack of language knowledge. The students were hesitant and lacked confidence in the class. They attended class but did not understand the content and did not have enough language to affect change. Incomprehensible input may add extraneous load on an already hard-working memory. Writing was the most challenging aspect of the course. In the online classroom, writing is the main vehicle for communication. If this is the most impaired of all language domains, students may not be able to effectively navigate the online learning environment.

In listening and speaking, a person has the support of nonverbal cues. In environment void situations an inability to think critically and to conceptualize information, concepts, and ideas in a mainly visual environment will affect one's

academic progress severely. McGhie's (2007) study also found second language learning negatively impacted socio-emotional development to the point where students did not feel safe and promoted feelings of low self-confidence. In an Internet class, students may not ask for help or participate because of the lack of knowledge in the technology language and culture. This promotes lack of confidence, causing the student to struggle. Second culture acquisition is an excellent lens for examining online education; and, to bring the topic further into focus, a cognitive load lens will be layered over the first lens.

### **Cognitive Load Theory**

Cognitive Load Theory emerged as John Sweller's (1988) organized response to findings from problem-solving experiments conducted in the late 70s and early 80s (Sweller, 1978, 1982). In novel problem solving, participants focused on solving the immediate puzzle rather than learning an underlying rule to apply to future puzzles (Sweller, 1988) like the students in Cheng and Fox's (2008) study. Sweller (1988) deduced that interplay between memory, previous experience, and the current problem must exist. Cognitive Load Theory's three main theoretical frameworks are memory, types of cognitive load, and instructional design.

### **Memory**

Memory is separated into two components of working memory and long-term memory (Gerjets, Scheiter, & Cierniak, 2009). Working memory is limited in scope and capacity while long-term memory is limitless (Pass et al., 2004). Processing new materials can become ineffective and sluggish when the narrow working memory

becomes overloaded. In the online environment, the incorporation of learning a second culture increases the amount of information the small working memory has to manage. For example, the affective filter or learning new technology terms will consume necessary space needed for learning content, so either more time is needed to learn the content or content learning is diminished.

As individuals learn, they build cognitive structures called schema (Sweller, 1988). With increased exposure, schemas increase in quantity and complexity, becoming automated into long-term memory (Van Merriënboer & Sweller, 2005). Automation consolidates information and reduces stress on working memory allowing for processing of additional information (Paas et al., 2004; Valcke, 2002). Sweller's review of research on novices and experts revealed experts' ability to chunk information together. For example, in chess, novices may think of one move at a time (surface structures) whereas experts can see several moves and countermoves ahead (deep structures) (Sweller; Van Merriënboer & Sweller). In the online environment, routines of how to submit assignments are individual steps instead of a complete whole. The individual steps consume working memory, decreasing learning potential until the script is learned.

### **Types of Cognitive Load**

Cognitive load has been teased out into three types of loads: intrinsic load (ICL), extrinsic load (ECL) and germane load (GCL) (DeLeeuw & Mayer, 2008). Intrinsic load involves the complexity of the content (Tuovinen & Sweller, 1999), internal difficulty,

and familiarity (Bannert, 2002) of the topic to the learner. The more complex, the more difficult, or the less known, ICL increases.

Extraneous and germane loads both address the external domain of information presentation. If the presentation of information inhibits the learner and causes cognitive load to be taken away from the topic, the load becomes extraneous. However if the presentation of information aids learning, the load is germane and optimizes cognitive load (DeLeeuw & Mayer, 2008). These loads are additive on the finite capacity of working memory (Van Merriënboer & Sweller, 2005). If one increases ICL, then the others (ECL or GML) must decrease in order to compensate for learning to occur. Paas et al. (2004) writes about a general assumption that learning ceases to occur with an underload (low load) or overload on working memory.

Learning a second culture in the online environment creates multiple opportunities for extraneous loads. Several examples include negative emotions, unlearned routines, lack of motivation, and explicit rules. The more an instructor or undergraduate struggles with multiple extraneous loads, the less the instructor will be able to create a conducive learning environment, and the less the student is learning. If a new term like assignment drop box is used, the student may struggle with what an assignment drop box is, where it is, and how to use it for submission of assignment. These extraneous loads detract from the completion of the assignment and learning.

## **Cognitive Load and Transitions**

With a cognitive load lens, Transition Shock and Transitional Experience can be examined. An increase in emotions, also known as the affective filter, during the second language acquisition process decreases the amount of information processed by either occupying space in working memory or eliminating the space all together. The affective aspect can be either extraneous or germane load. If emotions are overwhelming and negative, the load could be extraneous and not aid and even detract from learning. If emotions are motivating and positive, the load is germane and aids the learning process. Bradford (2011) found 25% of student satisfaction was based in cognitive load. In other words, positive emotions were experienced when an overload was not experienced.

Another application of cognitive load theory involves how the transitional experience makes implicit rules about the first culture explicit. These thought processes occur in working memory, decreasing processing space. Moreover, more cognitive space is required when learning the rules of this new culture until the rules become automated. Initially, Instructors and undergraduates are novices in the online environment the rules are perceived as separate bits of information and monopolize precious working memory until they become automated (Sweller, 1988). Coping strategies of how to navigate the online classroom are explicit. These strategies may involve using tools of the first culture like printing the syllabus and handwriting due dates in a calendar or looking at someone else's posting online, lurking, for guidance. Additional coping strategies may include either consistently asking for help or not asking for help.

Berson (2003) discusses how the multiple pathways in digital media and technology may overload the working memory of the adolescent and actually draw a response from the limbic system since the frontal lobe and rational thought do not fully develop until the early 20s. In an effort to provide a “Digital Native” environment, instructors may fill the online course full of visuals, Web 2.0 tools, and self-directed activities, thinking students will instantly be able to navigate and prefer these resources. However, these are counterintuitive to the traditional educational model, and students are thrown into a new environment with overwhelmed emotions. The brain is not mature enough to break the information down and seek a strategy on how to approach the environment.

As mentioned prior, Traphagan et al. (2010) found three critical factors affecting the three presences of the Community of Inquiry Model. These are tools, task, and group collaboration. The tools used in this study of a text chat and Second Life with the preferences for the text chat instead of a tool with avatars is explained by a cognitive overload of too many visuals in Second Life as compared to the automated rules of the text chat used in an educational setting.

Tasks involved familiarity and nature of task. Instructors need to evaluate the experience of the students and match tools to that experience to optimize cognitive load. Furthermore, instructors must think of amount the types of load and the interaction of the newness of the task (with an increase in load) along with the requirements of the task, too much of either rather than a balance will create an overload and impede learning. Group

collaboration, the third factor, causes an interplay of teaching, cognitive, and social presences. Students are able to interact with other students and the text as they process the task, what they know, and learn new information from others. This external processing of information may lower the cognitive load and facilitates learning.

### **Cognitive Load and Second Language Acquisition**

Applying the cognitive load lens to second language acquisition, and using the language of technology as the language of instruction may overwhelm the working memory and facilitate a sluggish, inefficient use of cognitive resources. Technological Pedagogical and Content Knowledge (TPACK) is a framework which explains technology pedagogy is another layer an instructor must engage with in the online environment for effective teaching (Koehler & Mishra; 2009). Technology is another layer, or language to be mastered which can divert working memory.

Language is not merely a tool for learning, but an underlying construct. The lack of involvement or lurking, checking others' posts and assignments as examples prior to doing their own work, may constitute the silent period of learning a second language. Schumann (1980) labels this period "eavesdropping." This is a strategy of a second language learner to listen to other people, watch television, or listen to the radio in order to hear the new language without having to speak. A reserved person rather than an active explorer may be more prone to this motivational quality.

The goal of cognitive load theory is to align instructional design with human cognitive architecture in order to optimize cognitive load and, in turn, learning. When

looking at online instructional design, items from the first culture are integrated. Interactions through asynchronous and synchronous activities increase a sense of connection to peers and instructor as in a face-to-face classroom and allows for deeper reflection and learning in alignment with brain organization (Prensky, 2001b). Discussions facilitate the learning process. Students must make their thoughts explicit, take in new perspectives and information, and internalize making assimilations or accommodations. Discussion boards allow students to contemplate and formulate thoughts and opinions supported by research. Writing may give additional processing space to working memory for increased chances of learning (Gee, 1996). Goldin-Meadows, Nusbaum, Kelly, and Wagner (2001) found gesturing helped to decrease cognitive load in students who were asked to recall words after trying to explain math problems. Handwriting may offer this additional space. On the other hand, asynchronous nature of the discussions does not allow for immediate feedback (Wegmann & McCauley, 2006).

Social networking also increases social presence and a free-flow of dialogue on academic and personal topics (Quong & Snider, 2012). The researcher theorizes with such pervasive use of social networking in the college population, using known skills will keep the tool use automated, decreasing extraneous load, and allow for focus on intrinsic load and optimizing cognitive load for learning.

Pictures may aid in creation of social presence because they are visuals from a student's first culture. In a face-to-face classroom, one sees and talks with others about

personal aspects of life, including families and vacation outside of the classroom.

Pictures may act as a stand-in for that component.

Videos may also allow the students to have “face-to-face” time with the professor and strengthen the student instructor relationship, increasing teaching presence.

DeVaney (2009) investigated the impact of video tutorials during two semesters of an online master-level statistics course. At the end of each semester, surveys collected demographic, quantitative, and qualitative data on 65 students who had viewed at least one video. The researcher analyzed the data with descriptive data and t-tests (group difference between semesters). No significant gains in learning were found with the use of videos, however most students did view the videos and found them a strong supplement or introduction to the topics. The videos also enhanced the human factor which highlights that videos can be one component in an effective course design.

Rose (2009) suggested that videos facilitated a deeper connection with the instructor. This mixed methods study compared online and face-to-face graduate and undergraduate students enrolled in Family Science courses. Instructor-made videos were used throughout the semester to explain both content and methods for the classes. An author-made questionnaire was used to collect descriptive data and supportive statements were used in the analysis. Twenty-seven students (12 undergraduate and 15 graduates) participated in study. One hundred percent of participants watched the videos and felt positively about them. Many students watched the videos multiple times, allowing for

clarification and focusing of information from class. For the online students, it seemed to develop a deeper teaching presence.

Cognitive load theory explains a person's working memory has a capacity and an underload or overload on these cognitive structures prohibits learning. A person's optimal learning falls in between the two. The younger the person, the smaller the cognitive load. There are strategies to help reduce cognitive load and aid learning: gesturing, as mentioned before, averting eye gaze and talking to oneself. In the online environment, emotions and new experiences that have yet to be automated increase cognitive load and inhibit learning.

### **Child Development**

The final theoretical perspective utilized the discipline of child development to analyze and inform the online teaching and learning paradigm. Grant and Thornton (2007) have applied Chickering and Ehrmann's "Seven Principles of Good Practice in Undergraduate Education for the online environments" (pg. 346). The discipline has a variety of theories and practices to examine how learners develop and strategies to optimizing learning outcomes. This lens was used to confirm and offer insights from a developmentally appropriate perspective.

Piaget posits four factors influencing child development: (a) biological maturation, (b) activity, (c) social experiences, and (d) equilibration (Woolfolk & Perry, 2012). Biological maturation involves the physical development of the child and its impact on development. For undergraduates and instructors, they have reached their

physical maturation. The other three factors are influences that appear in the college classroom. First, Piaget has explained children are active learners and children construct their own knowledge via schema (Jalongo & Isenberg, 2012). Second, social interaction involves the child learning from the others in their environment and actively processing it into the child's schema. The last factor is equilibration. Humans search for balance. New information and input that upsets the cognitive balance places the person in a state of disequilibrium. The person seeks to reinstate balance by processing and synthesizing the new information. The information is either assimilated into existing schema or accommodated into a new scheme. The linchpin in these three factors is the environment. The environment is where the child interacts with the objects and people in order to learn by doing. The environment brings opportunities of disequilibrium.

Applying Piaget's theory in early childhood education and in the online classroom, the environment should be prepared in such a way to allow for the student to be the active learning and explore and discover. Opportunities for practice are available, and knowing child development allows the instructor to provide the most appropriate environment (Jalongo & Isenberg, 2012). For online courses, knowing stages of second culture acquisition and cognitive load theory allows an instructor to create an environment most appropriate for undergraduates to be active constructors of content knowledge and technology language.

“Routines are the regular and predictable activities that form the basis of the daily schedule and ensure effective use of time and space” (Jalongo & Isenberg, 2012, p. 181).

Routines allow rules and procedures to become chunked together so multiple steps in a process are consolidated from five items to one item (Sweller, 1988). For example every Monday, a student must upload a document or contribute to a discussion board. The steps dissolve into the background. In addition routines automate the procedures in order to reduce cognitive load to focus on the novel, which in this environment, is the content. Cazden (2001) describes how routines benefit the learner by automated the procedures in order to focus on the content.

### **Language**

Gee (1996) theorizes that cognition is created through language. Within meaningful contexts, language is learned. Once language is learned then a person has access into that world. In school rather than have subjects, Gee (2004) theorized there are languages (e.g., the math language, the science language). Learning a new language is based on previous knowledge and experiences. Gee (2004) termed this situated language.

In addition, Vygotsky (1962) theorized language is a two-sided coin: the symbolic representation of personal thoughts and schemas as well as a tool to create shared meaning, or joint construction, to facilitate ideas. Experienced users of a language and, more broadly, culture pass on their knowledge and provide experiences for the less indoctrinated child. Children learn through social interactions and build their cognitive process through these experiences (Vygotsky, 1978). In the online environment, how individuals decide to communicate offers insights into their thinking. As joint meaning is being created in this online environment, the question arises who is the experienced user

of this culture. The Digital Native may at first appear to have more technology language, but the instructors, mostly Immigrants, have the language of academic discourse. How is the space mediated?

Vygotsky posited learning occurs through social and cultural interactions with more experienced users of the culture. Children learn through language and, more specifically, dialogue (Jalongo & Isenberg, 2012; Wood, 1998). Learners have a zone of proximal development. Vygotsky (1978) explained,

The zone of proximal development . . . is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers. (p.86)

Scaffolding is when the adult or more capable peers lend support to the learner through the zone of proximal development until the new skill has become actual development. This concept parallels Krashen's (1982) concept of comprehensible input. There is an ability the learner has on his own, the actual development or input ( $i$ ). The learner is able to reach the potential level or the  $i + 1$ . The potential is not five steps ahead but is the next logical step in the developmental or language sequence. In online education, instructors need to be aware of the learners' actual abilities and provide activities and language a little beyond. Advanced skills beyond the learner's abilities could cause frustration and increase the affective filter. Instructors may need to break the task into achievable parts for several successful steps rather than one large unsuccessful step.

Bruner (1981) combined the ideas of Chomsky and Vygotsky. Children are wired for language, but adults provide support and modeling through the Language Acquisition Support System (LASS). The parent holds up a cookie and says “cookie?” in place of “do you want a cookie?” The parent has created a placeholder for this longer structure to come later when his cognitive architecture has matured as he exposes the child to his first glimpse of the grammar of the question format.

Though language and culture are shared mediums between people, no two people experience the same event. No two minds can organize information in the same way because the brain is not a blank slate but is colored with temperament. Thomas and Chess (1977) and Kagan (Ellis & Robbins, 1990) posited that temperament is biological and directly affects the way one interacts with the environment and, in turn, cognitive and language development. For example, when a child is quickly stimulated and overwhelmed by an environment, one child may withdraw from the experience, whereas another child with a higher threshold of sensitivity may stay and interact, experience, and learn. In the same way, temperament also affects language development, the shyer and more withdrawn the child, the smaller the vocabulary and experiences with language. In the new environment of online learning, face-to-face behaviors may manifest differently. Shyer students may not ask questions in a group or contribute to a discussion, but with a discussion void of time, shyer students have time to collect and articulate thoughts and arguments. The online environment may equalize students and their contributions.

## **Play**

Children explore their world through play. Piaget (1962) posited play is pure assimilation and the way for external information to be internalized and added to a child schema. Conversely, Bruner (1983) theorized play is the antithesis of learning. Play reveals internal thought processes, and learning is the internalization of external knowledge. Play “bridges the gap between concrete experience and abstract thought,” (Landreth, 2002, p. 529) and allows children to organize and be “in control of life experiences in ways that are not possible in the world of reality outside of play” (Landreth, 2002, p. 529). Bruner added that play allows a child to create an environment where there is a feeling of safety and control, which a child can explore (Bruner, 1983). In online education, activities that allow children to play may let instructors and undergraduates take control of their learning in a low-stake environment. The products of play may show where undergraduates are in the acculturation process.

Piaget (1962) explained that children engage in play for the “mere pleasure of mastering [the activities] and acquiring thereby a feeling of virtuosity or power” (p. 89). This power to create or explore may allow the children to have the efficacy to try new language and new ideas. Play gives power to the learners to engage and practice the discourse of the online teaching and learning culture.

Along a similar vein, Vygotsky (2004) hypothesized “A child’s play is not simply a reproduction of what he has experienced, but a creative reworking of the impressions he has acquired. He combines them and uses them to construct a new reality, one that

conforms to her own needs and desires” (p. 11). Play allows the instructors and undergraduates to create their identities and situate themselves in the new Discourse.

When symbols are created there are two levels of symbolism, a primary, conscious layer and a deeper secondary, unconscious symbolism (Piaget, 1962). The children are not aware of the deeper meaning of symbols. The unconscious symbolism satisfies an affective need (Piaget, 1962). Piaget (1962) gave the example of an older child who has recently had a baby join the family. In his play, he uses a big and small doll and the big doll bosses around the little doll. He subconsciously is trying to control and work out his feeling towards his younger sibling. Play in the online environment may allow a vehicle for processing positive and negative emotions.

### **Summary**

This chapter presents a literature review on online education. Higher education is incorporating technology as an education platform and opening its doors wider to welcome a more diversified population. The face of education is changing and unforeseen resistance and barriers have emerged along with perspectives on how they can be removed to improve the quality of education. Several components of this paradigm have been examined in this effort to apply a new perspective to this conundrum. First the existing paradigm of teaching/learning as a culture was examined to reveal roles and pedagogy steeped in tradition. The technology culture was inspected next to reveal a technology culture in which the global, high-tech, quickly-evolving society where higher

education is situated. The third construct presented the current landscape of education as it is today.

The literature review detailed the theoretical lens employed to view the shifting paradigms of second culture acquisition to apply to online education. Online education can be viewed as a clash of the aforementioned cultures resulting in transition shock and sets an individual on a transitional experience and the meeting of the two cultures as an acculturation process and acquiring a second language. The next theoretical lens examined how Cognitive Load Theory was applied over the theories of Transition Shock and Experience and Second Culture Acquisition to sharpen the view of the internal processes occurring during the Second Culture Acquisition process. The last theoretical perspective of child development highlighted theories and practices in optimizing learning outcomes for children that may apply to phenomena occurring in online teaching and learning.

## CHAPTER III

### DESIGN AND METHODOLOGY

#### **Introduction**

This mixed methods study explored the perspectives and experiences of instructors and undergraduate students in online child development courses through second cultural acquisition, cognitive load, and child development lenses. Since alternative paradigms in viewing online education were used, the research study was exploratory in nature. First, this chapter discusses the research design, participants, sampling procedures, instrumentation, and operationalization of the variables. Next, data collection procedures are presented. Finally, the chapter ends with a discussion of validity, trustworthiness, and data analysis procedures.

#### **Research Design**

A mixed methods research design was chosen due to the exploratory nature of the study. Mixed methods design incorporates both quantitative and qualitative research methods to collect data. A mixture of the two designs allows for the strengths of one method to compensate for the inherent weakness of the other (Creswell, Clark, Gutmann & Hanson, 2003). Quantitative measures quantify the data and make “observations more explicit” (Babbie, 2004, p. 26) while qualitative measures provide rich detailed information (Babbie, 2004). Mixed methods “provide a better understanding of research

problems than either approach alone” (Creswell & Clark, 2007, p. 5). Using both methodologies offers two looks at the same experience. The initial exploration of this topic, through these theoretical lenses, warranted a broad methodology in order to provide a more complete picture of the complex working of cultural influences for successful learning in an online environment. Quantitative measures included an online questionnaire and qualitative measures included open-ended questions in the online questionnaire, undergraduate focus groups, instructor process interviews, and principal investigator’s post hoc field notes and reflexive journals.

### **Problem and Purpose Overview**

The number and variety of online classes are steadily increasing as the demographics of the undergraduate population begin to diversify (Allen & Seaman, 2008). As higher education continues to expand its educational reach into the technology environment, barriers and issues of how to effectively translate learning from a traditional face-to-face classroom into the online classroom arise for both students and instructors. Research is investigating undergraduates’ and instructors’ perceptions as well as strategies to improve learning and course satisfaction in the online environment. This study explored instructors’ and undergraduate students’ perspectives and experiences of the online educational environment through the alternative theoretical lenses of second culture acquisition, cognitive load, and the principles inherent in the discipline of child development.

## **Participants**

Participants were recruited from three higher education institutions in North Texas: (a) Texas Woman's University (TWU), (b) Collin College, and (c) Grayson County College.

### **Texas Woman's University**

Texas Woman's University's main campus is located in Denton, Texas. According to the 2011-2012 general catalog, Texas Woman's University offers 49 degrees at the bachelor's level. Undergraduate enrollment during the spring 2011 semester was 8,124 students, and during the summer 2011 semester undergraduate enrollment was 3,454 students. The fall 2011 undergraduate enrollment was 9,010 (TWU Fact Sheet, 2011). Texas Woman's University's fall 2011 breakdown of undergraduates by age consisted of 2,067 students (23%) under 20 years old, 3,609 students (40%) between 20-24 years old, 1,373 students (15%) between 25-29 years old, 724 students (8%) between 30-34 years old, 471 students (5%) 35-39 years old, and 766 students (9%) over 39 years old. As viewed through the Digital Native/Digital Immigrant lens, 7,049 students (78%) were classified as Digital Natives and 1,961 students (22%) were classified as Digital Immigrants.

A bachelor's of science in Child Development is one degree offered at the University. For the spring 2011, 221 were declared child development majors, and in summer 2011, 97 students were declared child development majors. In the fall 2010 semester, 243 students were declared child development majors. Child Development

courses can and are taken by undergraduates in other disciplines to meet core requirements and electives. For example, FS3523 *The Care and Education of Children: A Global Perspective* course fulfills a core requirement for the University.

### **Collin College**

Collin College is a community college in North Texas offering 37 academic degrees, 46 workforce and technical degrees, 71 certificates and 23 marketable skills awards (Collin College, 2010). Summer I enrollment was 11,258. Summer II enrollment was 6,743 and fall 2011 enrollment was 27,593. Collin College's fall 2011 age demographics were 9% ages 13-17, 47% ages 18-22, 20% ages 23-29, 9% as ages 30-35, 5% ages 36-40, 8% ages 41-54, and 1% ages 55 and older. As viewed through the Digital Native/Digital Immigrant lens, 76% of students are classified as Digital Natives and 24% are classified as Digital Immigrants.

Collin College (2010) offers an Associate of Science in Child Development, with certificates in Child Development: (a) Child Development Associate, (b) Early Childhood Administrator, (c) Early Childhood Special Educator, (d) Infant and Toddler Education, (e) School-age Educator, and (f) Teacher Assistant. Collin College also offers Marketable Skills Achievement Awards in Child Development Administration of Programs for Children and Child Development Associate Training. In Spring 2011, three students graduated with an Associates of Applied Science in Child Development, 30 students graduates with a Child Development Certificate, and eight students graduated with the Child Development Associate's Marketable Skills Achievement Award.

In summer I 2011, 64 students were enrolled in Child Development courses. In summer II 45 students were enrolled in Child Development courses. During the fall 2011 semester, 579 undergraduates were enrolled in Child Development courses.

### **Grayson County College**

Grayson County College is a community college located in far North Texas and offers 26 associate's degrees, 23 workforce and technical degrees, 49 certificates, and 1 marketable skills award (Grayson County College website, 2011). Undergraduate enrollment summer I was 3,115 students. Summer II enrollment was 1,482 students. Fall 2011 undergraduate enrollment was 5,351 students. Grayson offers an Applied Associate's of Science in Child Development, a Child Development Certificate, and a Child Development Associate's marketable skills award. At Grayson County College, 13 students were pursuing an Associates of Applied Science in Child Development, and four were pursuing a Child Development Certificate. In 2011, 20 students received a CDA marketable skills award. In summer I 2011, 41 students were enrolled in Child Development courses. In summer II 20 students were enrolled in Child Development courses. During the fall 2011 semester, 157 undergraduates were enrolled in Child Development Courses. One course, TECA1354 *Child Growth and Development* is a core option for multiple disciplines.

### **Recruitment**

Undergraduate participants were recruited from online undergraduate courses in Child Development during the spring, summer, and fall 2011 semesters. Instructors and

teaching assistants who had taught at least one Child Development course online since spring 2010 were recruited. Texas Woman's University was invited to participate during the spring, summer, and fall 2011 semesters. Grayson and Collin College were invited to participate in the summer and fall 2011 semesters. Texas Woman's University's and Grayson County College's student population have a high demographic of nontraditional students allowing for the focus of the increasing nontraditional student demographics in higher education. The National Center for Educational Statistics (2002) defines nontraditional students as having at least one of the following characteristics:

- Delays enrollment
- Attends part time for at least part of the academic year
- Works full time (35 hours or more per week) while enrolled
- Is considered financially independent for purposes of determining eligibility for financial aid
- Has dependents other than a spouse (usually children, but sometimes others)
- Is a single parent
- Does not have a high school diploma (completed high school with a GED or other high school completion certificate or did not finish high school) (Horn, 1996)

The researcher selected the undergraduate population due to an assumption that more Digital Natives would be enrolled in these classes due to a natural progression of students from high school into associate and baccalaureate degrees. However, the undergraduate population is a combination of Digital Natives and nontraditional students,

allowing for an exploration of the group and individual nuances of the different populations. A power analysis conducted for statistical significance indicated a sample size of 210 participants necessary for adequate power with a 95% confidence level and a confidence interval of 5.

### **Sampling Procedures**

A purposive sampling was used in the study. A purposive sampling allowed for selection of individuals that could provide the most information-rich data for answering the research questions (Kemper, Stringfield, & Teddlie, 2003). There was a convenience aspect to the sample related to students and professors who fit the demographic within close proximity. Texas Woman's University's Office of Lifelong Learning defined a fully online course as 85-100% online. Grayson County College defined online courses as 100% online. Collin delineated Web classes as fully online. Since the institutions' definitions of online classes were more restrictive than Allen and Seaman's (2008) definition of 80%, all fully online courses were included in the study. A search of the institution's class schedules yielded instructors who were currently teaching child development courses online and instructors who had previously taught online.

Child Development instructors and courses examined in this study. This selection was chosen to an assumption that the field of child development examines development trajectories along with internal and external influences. Moreover, instructors trained in child development theory and effective strategies to promote optimal developmental

paths for children may offer specific strategies to incorporate in online teaching and learning at the collegiate level for increased learning and affective outcomes.

Instructors were contacted by school e-mail during the spring, summer, and fall 2011 semesters to recruit individual and/or class participation in the study (Appendix A). Undergraduates, enrolled in these online sections of the child development courses, were recruited through instructors posting an announcement, a recruitment flyer (Appendix B), or e-mailing students in their content management course shells an invitation to participate in this online survey. These content management systems helped organize and facilitate assignments, assessments, discussion, and interactions. All potential participants were informed that participation was voluntary, and there was no penalty for nonparticipation. Any incentives to participate were at the discretion of the instructors. At the conclusion of the anonymous student questionnaire, a link to a recruitment survey for the focus groups was provided where students could leave contact information and selection of focus group times. Students were e-mailed additional information about the focus groups along with the date and time for their participation.

### **Data Collection Procedures**

A sequential transformative design (Creswell, Clark, Gutmann & Hanson, 2003) was used to collect data. The design had sequential data collection points of quantitative then qualitative measures. Both methods were given equal priority (Creswell & Clark, 2011). The design advantages allowed for multiple data points in order triangulate and provided robust validation of the findings as well as quantitative results supportive of the

qualitative data. A sequential design allowed for collection of data at asynchronous times but was combined in the interpretation stage. The benefit to this design lay in its “theoretical perspective present to guide the study” (Creswell et. al., p. 228).

During the first phase of data collection, instructors and students took a one-time anonymous online questionnaire. The questionnaire contained a mixture of quantitative and qualitative items (Creswell, Clark, Gutmann & Hanson, 2003). Students and instructors were provided a link to a PsychData online questionnaire via e-mail. Informed consent was obtained as the first step prior to access to the questionnaire (Instructor questionnaire-Appendix C, Undergraduate questionnaire-Appendix D). No identifiable data was obtained from the participants during the questionnaire. An online certificate of completion was provided as documentation of participation at the end of the questionnaire. At the end of the questionnaire, the undergraduates were asked if they would like to participate in focus groups at a later time. A link to another PsychData survey was provided for students in order to keep confidentiality of the first survey. Participants gave a name, e-mail address, and ranked three dates with times of the potential focus groups from most available to participate to least available to participate. Phase one was concurrent with Phase two.

During the second phase of data collection instructor interviews and undergraduate focus groups were conducted. Interviewing is the most flexible way to collect data (deLeeuw, 2008). The interviewer interacts with one participant while guiding and focusing the interview. Face-to-face interviews optimize the advantage of

both nonverbal and verbal communication (deLeeuw, 2008). A semi-structured interview protocol (Appendix F) was used. Protocols allowed for focus on a topic but also allowed the interview to be flexible in the rewording of questions and order of delivery (Johnson & Turner, 2003). At the beginning of the interview, informed consent was obtained (Appendix E). The interview procedure and the option to stop the interview due to fatigue or the participant's desire to not complete the interview were explained at the beginning of the interview. The interviews were conducted in a location most convenient and comfortable for the instructor. The instructor determined the location. The majority of interviews occurred in the instructor's office on their respective campuses. Interviews were audio recorded with a digital recorder and later transcribed. The principal investigator took field notes and completed post hoc contact summary reflections after each interview. The summary reflections contained initial impressions and connection to current research and theory. Interviews lasted from 14 to 42 minutes.

In order to collect the second phase qualitative data from the undergraduates, focus groups were used. A focus group tends to be a group interview of 6 to 12 people from a homogenous population on a particular topic usually 1-2 hours in length (Johnson & Turner, 2003). Focus groups can provide a large quantity of interaction in a relative short amount of time and provide a depth of dialogue (Smithson, 2008). These collective dialogues, though not natural conversation, can mitigate the presence of the interviewer (Smithson, 2008). Focus groups can be used as an exploratory tool to delve into group thinking and after previous data collection as a "poststudy feedback or discussion

session” (Johnson & Turner, 2003, p. 209). The collaboration of the group brings forth “priorities and perspectives,” (Smithson, 2008, p. 359) “in the actual experience and language of” (Du Bois, 1983, p. 108) the participants. On the other hand, a focus group is compiled of those participants who are available rather than a representative sample (Smithson, 2008).

Six undergraduate focus groups were conducted near the end of the spring and summer semesters. One focus group was conducted in April, one focus group was conducted in May, and four focus groups were conducted at the end of July. Students who completed the focus group questionnaire were contacted by the e-mail provided for participation in their assigned focus group. A meal was provided prior to the start of the focus groups. Informed consent for participation and demographics of participants were collected at the start of the session (Appendix G). In addition, participants were given the option to select a pseudonym to use during the focus group for anonymity. The focus group started with a welcome and introduction of the principal investigator, research assistant if present, and research questions. The procedures for the focus group were discussed. Focus groups lasted between 24 and 52 minutes.

Fourteen questions were initially developed for group discussion (Appendix H). These questions were guides, and additional questions for clarification were asked. The sessions were audio taped with a digital recorder and later transcribed. A research assistant was present at four of the six focus groups. Her purpose was to take notes and

document speakers by their chosen name. Students needing documentation were given a certificate upon completion of the focus group.

### **Data Sources**

Four types of data sources will be included in this study: (1) questionnaire, (2) documents, (3) interviews, and (4) focus groups.

**Questionnaire.** The online questionnaire collected both quantitative and qualitative data. These data were collected from both instructors and undergraduates. The instructor questionnaire (Appendix C) consisted of 49 quantitative questions and 14 qualitative open-ended questions. The undergraduate questionnaire (Appendix D) consisted of 97 quantitative questions and 14 qualitative, open-ended questions. The instructor questionnaire was adapted from the undergraduate in order to maintain a parallel construction. The purpose of the qualitative questions was to collect initial impressions from a later data pool and begin to collect qualitative data for the research questions. This allowed for individual responses without the collaboration or influence of peers.

**Documents.** The researcher used documents to organize the data collection and analysis process. The documents included reflexive research journals, contact summary sheets and memos.

***Reflexive research journal.*** This data source was used to frame the principal investigator as part of the research instruments. The journal was used to document the progress of the study, needs, general impressions, insights, questions, and biases that

arose during data collection and analysis. The principal investigator journaled 53 times from April 2011 to February 2012.

**Contact summary sheets.** After each interview and focus group, the principal investigator sat down with field notes and completed a debriefing. Debriefings included a brief description of the contact event, specific focus or interest from the contact, theoretical notes or concerns, a reflective statement, and points to consider for the next observation.

**Memos.** Memos are the conceptual and theoretical connections the principal researcher makes during data analysis (Miles & Huberman, 1994). As the principal researcher reflected on the research questions during data collection, data analysis, and continued research on the online teaching and learning phenomena, memos were created to capture the real-time thoughts and connections made between the data and theory. Memos were written or transcribed audio reflections.

**Interviews.** Interview discourse was collected as a data source. Fifteen recruited instructors participated in the interviews. Interviewed instructors consisted of instructors of record and teaching assistants for online child development courses. Interviews were scheduled through e-mail. The day prior to individual interviews, the principal investigator confirmed the interview appointment and link to the questionnaire through an e-mail. Interviews were conducted from June through August.

The interviews were conducted at a location determined by the instructor. Thirteen of the fifteen chose instructors' offices on their respective campuses. This

location is familiar and comfortable to the instructors. The other two interviews were conducted at an instructor's house and a local coffee shop. The principal investigator conducted and recorded the interviews with a digital recorder while taking field notes. The interview guide of 14 open-ended questions (Appendix F) guided the interview, and additional questions were asked to clarify answers and develop the instructor's concepts further. The interview was deemed completed when all the information based on the questions was asked. The questions were asked in a differing order based on the individual participant and the flow of the conversation. The interviews lasted from 14 to 42 minutes. The principal investigator did not use any names in order to ensure a higher degree of confidentiality. If the respondents mentioned names, they were substituted with a pseudonym during the transcription.

**Focus Groups.** Focus group data were also collected as a data source. At the end of the online questionnaire, students were recruited through a link to an optional questionnaire requesting name, e-mail, and a ranking of three to four focus group times. After review of the ranking, the top two to four times were selected for the focus groups. A confirmation e-mail (Appendix J) was sent to the provided e-mail informing each participant of the date and time of the assigned focus group.

Four of the six focus groups were held in rooms in the Human Development Building on the Texas Woman's University-Denton campus. The other two focus groups were conducted in a conference room at Collin College. These settings are familiar and centrally located for students to easily access. The principal investigator facilitated the

focus groups while the research assistant took field notes. The research assistant was trained by the principal investigator prior to focus groups on taking credible field notes, including coding of participants in order to maintain confidentiality, clarification of focus group dialogue, and inclusion of important topics of discussion. All focus groups were recorded with a digital recorder and later transcribed by the principal investigator.

The principal investigator used a focus group protocol (Appendix H) to facilitate the discussion. Fourteen broad and specific questions were designed to elicit personal perspectives and experiences to inform the five research questions. The questions asked for personal experiences in order to create a discussion and flow among participants. Not all questions were asked based on the fatigue and interest of the focus group. The focus groups lasted between 24 to 52 minutes. A focus group was deemed complete when the answers began to repeat or all the topics had been exhausted. Focus group members were given the opportunity to leave for a break or withdraw from the group based on personal needs during the sessions. The selection of pseudonyms was offered to the participants at the beginning of the focus group to ensure a higher degree of confidentiality.

Table 1

*Timeline*

Item	Dates	Frequency	Population	Researcher Collecting Data
Questionnaire	April- December	Ongoing	Instructors Undergraduates	Principal Investigator
Interviews	June-August	One time per instructor for a total of 15	Instructors	Principal Investigator
Focus Groups	April, May and July	6 focus groups	Undergraduates	Principal Investigator Research assistant
Contact Summary Sheets	June-August	One after each interview and focus group	Instructors Undergraduates	Principal Investigator
Memos	June- February	Ongoing	Principal Investigator	Principal Investigator
Reflexive research journal	April- February	Ongoing	Principal Investigator	Principal Investigator

**Instrumentation**

A self-administered, anonymous online questionnaire was used to collect the data. A questionnaire is a type of survey “specifically designed to elicit information that will be useful for analysis” (Babbie, 2004, p. 244). Questionnaire surveys are useful when describing something too difficult to observe or for measuring attitudes. A questionnaire can contain a variety of question-styles (e.g., open and closed questions, statements, and questions) and methods (e.g., qualitative and quantitative). This allowed the researcher to

provide equal emphasis to the different methods and use one instrument to obtain multiple data points.

An online questionnaire survey presents both advantages and disadvantages. In an online questionnaire, the respondent sees the questions rather than hear it. Visual layout is important for clarification of directions and obtaining valid data (de Leeuw, 2008). Furthermore, the respondent is devoid of the interviewer online, and the interviewer has a lack of control. This may offer more privacy and remove pressure from the respondent to look for a correct answer or provide willingness to answer sensitive topics in order to provide more accurate reflections. However, the interviewer does not know if the respondent is the person answering the questions (Alasuutari et. al, 2003).

For this study, an online questionnaire to evaluate participants about online teaching and learning was appropriate. The courses were online and an online questionnaire was an appropriate match. Respondents had unlimited time to answer questions or provide instant reactions to the questions.

This study utilized two questionnaires, one for instructors (Appendix C) and one for undergraduates (Appendix D). Both questionnaires, with parallel test construction, collect similar data tailored to collect specific experiential data to the populations.

**Student questionnaire.** The student questionnaire started with demographic questions. Demographic data collected included the “institution”, “age in years”, “characteristics of behaviors in the face-to-face classroom”, “hours completed towards degree”. The next set of demographic questions inquired about “reasons for taking the

class”, “number of previous online classes”, “preferred educational platform”, and “nontraditional status”. This information was used to assign participants into groups in order to explore group differences.

The second quantitative section of the questionnaire included questions that gathered data on “technology confidence”, “the online course currently enrolled in”, “self-perspectives”, and “their current experiences in the online class”. The technology questions asked for confidence about the use of 15 general technologies and six educational technologies on a 7-point Likert scale adapted from Salajan, Schonwetter, and Cleghorn’s (2010) questionnaire of respondents’ knowledge and use of personal technologies (e.g., Facebook, laptop, Ipod) and extant literature (Lenhart, Rainie, & Lewis, 2001; Ophus & Abbit, 2009; Zach & Agosto, 2009). Educational technology questions (e.g. Blackboard, online library) were researcher-created based on findings gleaned from the literature (Davie & Berlach, 2010; Huang, 2010; Lenhart, Rainie, & Lewis, 2001; Ophus & Abbit, 2009; Ratliff, 2009; Salajan, Schonwetter & Cleghorn; 2010; Zach & Agosto, 2009).

The next section involved four questions about the online class experience. The first question asked which 16 tools and perceptions were in use in the current online course with a selection of “present”, “not present”, or “don’t know”. Tools and perceptions came from Salajan, Schonwetter, and Cleghorn’s (2010) questionnaire on Blackboard expectations (e.g., course material available online and multimedia in the online classroom) and from the review of literature focused on current tools use in online

learning. Due to the anonymous nature of the questionnaire, the researcher was unable to verify the accuracy of this question and relied on the participant's understandings of the online environment. In future questionnaires, defining terms like synchronous interactions may help clarify and lead to more reliable data.

The second question in this online class section asked students to report how often they participated in eleven online behaviors (e.g., log into the class, write in a discussion, and e-mail professor) on a 6-point Likert scale ranging from never to every day. The third question asked how the participant sought answers to questions in the online course via eight strategies. Students responded to a 4-point Likert scale with categories ranging from "no, not considered" to "yes, all the time". The last question asked participants to evaluate ten feelings they may have experienced during the online class on a 5-point Likert scale from "never" to "all the time". These questions were asked to assess transition shock based on Adler's (1975) theoretical model of the transitional experience.

The next quantitative section involved learning styles to investigate the learner's perceptions of self-directed learning. Hung, Chou, Chen, and Own (2010) created an 18-question learner readiness scale for online learning looking at self-directed learning and motivation for learning. Undergraduates responded on a 5-point Likert scale with responses ranging from "not true" to "very true". All 18 items were incorporated in the questionnaire for this study, as well as four additional statements researcher-created to evaluate a participant's feelings of social presence in the online classroom.

The last quantitative section explored two phenomena: social presence and second language acquisition. Three items on the questionnaire explored social presence based on the Community of Inquiry model using a 5-point Likert scale with responses ranging from “not true” to “very true”. The final question asks the respondents to compare their experiences to learning a second language using a 5-point Likert scale with responses ranging from “not true” to “very true”. In future questionnaires, the construct of second language acquisition needs to be more robust by incorporating more questions about second language acquisition to create a more accurate picture.

The qualitative component of the questionnaire focused on exploring respondents’ perspectives of the culture of teaching/learning, technology, and areas where they feel success and/or struggle with education online. This section of the questionnaire was open-ended and allowed the respondents to type their answers. Some of the questions included the following:

1. What are the teacher’s roles in the classroom?
2. What are the student’s roles in the classroom?
3. Are the roles different in a face-to-face classroom and an online classroom? If yes, how are the roles different in an online classroom?
4. How should technology be used in education?
5. How is the online course different from a face-to-face course?

**Instructor survey.** The instructor survey started with demographic questions. Demographic data collected included the “institution”, and “age in years”. Additional

questions asked about “characteristics of behaviors in the face-to-face classroom”, “reasons for teaching the class”, “number of previous online classes”, and “preferred educational platform”. This information was used to assign participants into groups in order to explore group differences.

The second section of the quantitative questionnaire had questions exploring the perceptions of “technology confidence”, “the online course currently teaching”, “self-perspectives”, and their “current experiences in the online class”. The technology questions asked for confidence regarding the use of 15 general technologies and six educational technologies on a 7-point Likert scale adapted from Salajan, Schonwetter, and Cleghorn’s (2010) questionnaire of respondents’ knowledge and use of personal technologies (e.g., Facebook, laptop, Ipod) and extant literature (Lenhart, Rainie, & Lewis, 2001; Ophus & Abbit, 2009; Zach & Agosto, 2009). Educational technology questions (e.g., Blackboard, online library) were researcher-created based on findings gleaned from the literature (Davie & Berlach, 2010; Huang, 2010; Lenhart, Rainie, & Lewis, 2001; Ophus & Abbit, 2009; Ratliff, 2009; Salajan, Schonwetter & Cleghorn; 2010; Zach & Agosto, 2009).

The third quantitative section involved four questions about the online class experience. The first question asked which of 16 tools and perceptions were in use in the current online course with a selection of “present”, “not present”, or “don’t know”. The 16 tools and perceptions were selected from Salajan, Schonwetter, and Cleghorn’s (2010) questionnaire on Blackboard expectations (e.g., course material available online and

multimedia in the online classroom) and from the current literature. Due to the anonymous nature of the questionnaire, the researcher was unable to verify the accuracy of this question and relied on the participant's understandings of the online environment.

The second question asked instructors to report how often they participated in eleven online behaviors (e.g., log into the class, write in a discussion, and e-mail students) on a 6-point Likert scale ranging from "never" to "every day". The last question asked participants to evaluate ten feelings they may have experienced during the online class to assess transition shock based on Adler's (1975) transitional experience on a 5-point Likert scale from "never" to "all the time". The construct of social presence was not collected for instructors. In future research, this construct should be collected for exploration and group comparisons.

The qualitative component of the questionnaire focused on exploring respondents' perspectives of the culture of teaching and learning, technology, and areas where they feel success and/or struggle with education online. This section of the questionnaire was open-ended and allowed the respondents to type their answers. A sample of the questions included the following:

1. What is the least challenging aspect of online teaching?
2. What is the most difficult part of the online class?
3. What were your expectations of the class?
4. Are they being met? Why or why not?

## Validity of Instrument

In order to establish validity and trustworthiness for the instrument, several techniques were used. First, face validity was obtained by submitting the questionnaires and research questions to two external experts. One expert teaches online, and the other expert is the director of E-learning at a community college. If either expert deemed a question or statement inappropriate or could not be answered by a student or instructor in an online classroom, suggestions on how to improve the items for clarity were requested for improvement in future questionnaires. The instructor agreed with the appropriateness of questionnaires to answer the research questions. The director clarified the question ‘The course is easy to use and figure out?’ was more of a design question and not one of technology use.”

In regards to construct validity and reliability, two sections of the questionnaire came from established instruments. The first instrument was Salajan, Schonwetter, and Cleghorn’s (2010) questionnaire of respondents’ knowledge and use of personal technologies and educational technologies. Salajan et al. do not report validity results but used pre- and post-implementation questionnaire items to test for internal consistency producing a Cronbach’s alpha in excess of .70.

The second questionnaire used was Hung, Chou, Chen, and Own’s (2010) Online Learner Readiness Scale (OLRS). A confirmatory factor analysis was conducted and indicator factor loadings exceeded a .50 threshold value. Cronbach’s alpha for the subscales were reported as follows: Computer/Internet self-efficacy  $\alpha = .736$ ; Self-

directed learning  $\alpha = .871$ ; Learner control  $\alpha = .727$ ; Motivation for learning  $\alpha = .843$  and online communication self-efficacy  $\alpha = .867$

### **Independent Variables**

The independent variables used in the study were (a) Learning Style, (b) Social Presence, (c) Motivation to Acculturate, (d) General Technology Skills, (e) Educational Technology Skills, (f) Prior Online Experience, (g) Length of Time in Program, (h) Face-to-Face Classroom Behaviors, (i) Number of Tools in Class, (j) Digital Generation, (k) Student Type, (l) Tools of Teaching and Learning, (m) Institution, and (n) role in Course.

### **Learning Style**

Interval level data was gathered by computing a mean score from the 18 questionnaire items about personal learning from Hung, Chou, Chen, and Own's (2010) learner readiness scale for online learning. Students rated the 18 statements on a 5-point Likert scale with one being "not true" and five being "very true". The five components of computer/Internet self-efficacy, self-directed learning, learner control (in an online context), motivation for learning (in an online context), and online communication self-efficacy were averaged to provide a mean score for learning style (See student questionnaire items 76-93). Higher scores indicated higher levels of self-direction in learning style. The mean score was used as a continuous variable for analyses requiring interval level data. Categories were created and assigned by the researcher in the following manner for analyses requiring this type of data: "Self-directed"=1-2.5, "externally directed"=2.6-5". This continuous variable was used to explore relationships

with transition shock and motivation to acculturate. A Cronbach's alpha computed for learning style was .91.

### **Social Presence**

Social presence was derived by participants' responses to student questionnaire items 94-96. These questions asked for their perspectives of how well they felt known as a person and knew others in the online class. An example of a statement was "I feel my classmates and professor know me well." Participants rated these questions on a 5-point Likert scale with 1 "not true" to 5 "very true". A mean score was computed. This continuous variable was used to explore relationships, and group differences with transition shock and motivation to acculturate. When categorical information was required for analyses, categories were created in the following manner: little sense of social presence = 1-2.5, a moderate sense of social presence = 2.6-3.5 and a great sense of social presence 3.6-5. These groups were researcher-created. A Cronbach's alpha computed was .90.

### **Motivation to Acculturate**

Information was gathered regarding the willingness of students to be in the online class from student questionnaire items 13, 14, and 17. The questionnaire item 13 asked if the class was required for the degree sought. A required class was scored 0 and a non-required class was assigned a 1. Item 14 asked for reasons for taking the online class. Respondents selected the most appropriate choice, and values assigned. "It's the only section of the course" received one point; "It's the section that best fits into my schedule"

received two points; and “I prefer online classes” received three points. The rationale for questionnaire items 13 and 14 was a student’s lack of ability to choose due to course availability versus wanting to enroll in online courses contributes to motivation. Item 17 asked for class format preferences. Respondents selected their number one choice. Values were assigned. “Face-to-face classes” received one point; “no preference” received two points; “hybrid classes (a mix of online and face-to-face)” received three points; and “online classes” received four points.

The corresponding items on the instructor questionnaire were items 3 and 6. Respondents selected the most appropriate response, and values were assigned. For question 3 the response “I was assigned this course” received one point; “It’s the only section of the course, and I am the only one who teaches it” received two points; “It’s the section that best fits into my schedule” received three points; and “I prefer online classes” received four points. Item 6 asked for class format preferences. Respondents selected their number one choice. Values were assigned. “Face-to-face classes” received one point; “no preference” received two points; “hybrid classes (a mix of online and face-to-face)” received three points; and “online classes” received four points.

Mean scores on items 13, 14, and 17 on the undergraduate survey and 3 and 6 on the instructor questionnaire were computed to make a continuous variable. The higher value indicated the more motivation to acculturate. This continuous variable was used to explore group differences as well as relationships with transition shock, online behaviors and second language acquisition. Based on the literature, the following categories were

created. Scores of 0-1.6 indicated little desire to acculturate, 1.7-3.4 indicated a moderate desire to acculturate, and 3.5-5.0 indicated a strong desire to acculturate. The researcher determined the groups. A Cronbach's alpha computed for motivation to acculturate was .41.

### **General Technology Skills**

Interval level data was gathered on the confidence level of respondents' knowledge of current general digital technologies. Fifteen items from the questionnaire were used to compute this variable (Items 25-39 on the student questionnaire and 7-21 on the instructor questionnaire). The technology questions asked for confidence about the use of personal technology adapted from Salajan, Schonwetter, and Cleghorn's (2010) questionnaire of respondents' knowledge and use of personal technologies (e.g., Facebook, laptop, Ipod) and extant literature (Lenhart, Rainie, & Lewis, 2001; Ophus & Abbit, 2009; Zach & Agosto, 2009). Eleven items from personal technologies were from Salajan et al. and the additional four general technology prompts were from the extant literature. Respondents answered using a 7-point Likert scale to indicate their confidence level with using personal technologies with scores ranging from 1 "not confident at all" to 7 "extremely confident". A mean score was computed to provide a continuous general technology skills variable. This continuous variable was used to explore relationships with transition shock, second language acquisition, and online behaviors. General technology skills were categorized by the researcher as follows: weak general technology skills = 1.0-2.9, moderate general technology skills, 3.0-4.9, and

strong general technology skills 5.0-7. A Cronbach's alpha computed for general technology skills was .92.

### **Educational Technology Skills**

Interval level data was computed for the confidence level of respondents' knowledge of current educational digital technologies. The six educational technology questions (e.g., Blackboard, online library) were researcher-created based on the literature (Davie & Berlach, 2010; Huang, 2010; Lenhart, Rainie, & Lewis, 2001; Ophus & Abbit, 2009; Ratliff, 2009; Salajan, Schonwetter, & Cleghorn, 2010; Zach & Agosto, 2009). The six items were items 40-45 on the student questionnaire and items 22-27 on the instructor questionnaire. Participants answered using a 7-point Likert scale to indicate their confidence level with using educational technologies with scores ranging from 1 "not confident at all" to 7 "extremely confident".

A mean score was computed to provide the educational technology skills variable for use in this study. This continuous variable was used to explore relationships with transition shock, second language acquisition, and online behaviors. Educational technology skills were categorized by the researcher as follows: weak educational technology skills = 1.0-2.9, moderate educational technology skills, 3.0-4.9, and strong educational technology skills 5.0-7. A Cronbach's alpha computed for general technology skills was .86.

### **Prior Online Experience**

Respondents indicated if this was their first online class and if not, respondents indicated the number of online classes participated in including the current class (See student questionnaire items 15 & 16 and 4 & 5 on instructor questionnaire). The number of online courses was used as ratio-level data for analyses. Prior online experience was categorized as follows based on researcher perceptions: little experience = 1-2 classes, moderate experience= 3-4 classes, and much experience= 5 or more classes. This continuous variable was used to explore group differences as well as a correlation variable with transition shock, online behaviors, and second language acquisition.

### **Length of Time in Program**

Undergraduate respondents indicated the total number of hours completed in their degree (See questionnaire item 12). This continuous variable was used to explore group differences and as a correlation variable with second language acquisition, transition shock, and online behaviors. Responses were also coded into a categorical variable as student classification groups: (a) freshman (0-29 hours), (b) sophomore (30-59 hours), (c) junior (60-89 hours), and (d) senior (90+ hours).

### **Face-to-Face Classroom Behaviors**

Undergraduate respondents were asked a series of nine statements in regards to behaviors in the face-to face classroom demonstrating introvert and extrovert qualities (See student questionnaire items 3-11). An example of a statement was “I tend to not make comments during class discussions”. Students rated the statements on a 5-point

Likert scale with 1 “not true” to “5 “very true”. The introverted qualities were reverse scored to provide a mean for face-to-face classroom behaviors score. Higher scores indicated higher levels of extroverted behaviors in the classroom. Categories were assigned in the following manner for analyses: introverted face-to-face behaviors = 1-3.0; extroverted face-to-face behaviors = 3.1-5. These groups were created due to the dichotomy of the construct. This continuous variable was used to explore group differences. A Cronbach’s alpha computed for face-to-face behavior was .91.

### **Digital Generation**

Respondents indicated their chronological age at the time of the questionnaire (see questionnaire item 2). This ratio-level variable was used to explore group differences. A categorical variable was also assigned. Age responses of 30 and younger were classified as Digital Native (born in 1980 or after as defined by Prensky (2001a; 2001b) and age responses 31 and older were classified as Digital Immigrant. This categorical variable was used in descriptives. This dichotomous variable was used to explore group differences.

### **Number of Tools in Class**

Information was gathered about which of 16 specific tools were incorporated into the individual classes and how they were used (See questionnaire item 46 on student survey and item 28 on the instructor survey). Respondents checked whether each tool was “present”, “not present” or “did not know” in the class to provide information about their perceptions of the tools available in the online class. Five of these items on the

questionnaire were chosen from Salajan, Schonwetter, and Cleghorn's (2010) questionnaire on Blackboard expectations, such as course material available online and multimedia in the online classroom. The other 11 tools were selected from the review of literature of current tools in use in online learning. Present received one point while not present and don't know were assigned a value of 0. Don't know was assigned a 0 due to the reasoning if a learner did not know a tool was present then it could not be used. A sum of the total number of tools used in a class was used to investigate the relationship with transition shock and online behaviors.

### **Student Type**

Undergraduate questionnaire items 18-24 asked the students if each of the seven characteristics of nontraditional students from the National Center for Educational Statistics were true or false. Any true statement was categorized by the student as nontraditional for purposes of these analyses. This dichotomous categorical variable was used to explore group differences and descriptives.

### **Tools of Teaching and Learning**

Respondents were asked a series of eight strategies for obtaining help in the online classroom (See student questionnaire items 58-65). An example of a statement was "I post on the discussion board". Students rated the strategies on a 4-point Likert scale with 1 – No, and not considered; 2 – No, but considered; 3 – Yes, a couple of times; 4- Yes, all the time. The statements go to the teacher's office, call the professor, ask a friend not in the class, were classified as face-to-face classroom strategies. Look at

someone's post for clarification, email friend, e-mail professor and post on a discussion board were classified as a technology strategy. Try and figure it out on your own was its own strategy since was present in both paradigms.

The technology strategies were reverse scored. Interval level data was gathered by computing a mean score. Higher scores indicated higher levels of face-to-face behaviors in the online classroom. A confirmatory factor analysis revealed three factors. After further analysis this construct was separated into three variables: (a) Tools of Teaching and Learning-“Class,” (b) Tools of Teaching and Learning-“Others,” and (c) Lurking. The Cronbach's alpha for “Class” was .55 and the Cronbach's alpha for “Others” was .39. This continuous variable was used to explore the predictive relationship with transition shock and online behaviors.

### **Institution**

Questionnaire item 1 on the instructor and undergraduate questionnaires asked the participant for institution affiliation. A frequency count was tabulated for a distribution of participants by institution for descriptive information about the sample. The categorical variable was used to categorize the participant population by institution.

### **Role in Class**

Respondents indicate whether there were instructors or undergraduates by the questionnaire completed. This dichotomous categorical variable was used to explore group differences.

## **Dependent Variables**

This study examined the relationship between the preceding independent variables with the following dependent variables. The dependent variables were (a) second language acquisition, (b) transition shock, and (c) online behaviors.

### **Second Language Acquisition**

Student questionnaire item 97 gathered information on how the participants perceive the online learning environment as learning a new language on a 5-point Likert scale from 1 not true to 5 very true. A higher score indicated increased perceptions of the online learning experience as comparable to learning a second language in the online classroom.

### **Transition Shock**

Transition shock was operationalized as Alder's (1975) emotions experienced during the transitional experience. Five positive emotions (e.g. excited and confident) and five negative (e.g. frustrated and overwhelmed) for a total of ten emotions were rated on a 5-point Likert scale with 1 "never" to 5 "all the time" (See student questionnaire items 66-75 and instructor questionnaire items 40-49). The positive emotions (See student questionnaire items 66-70 and instructor questionnaire items 40-44) were reverse scored to accurately reflect the direction of the emotional response in the analyses and discussion of results. A mean score was computed. A higher score indicated higher negativity and a higher level of transition shock. The rationale for this relationship of negative emotions and transition shock was based in the literature. Adler (1975)

explained transition shock, “may encompass feelings of helplessness, irritability; (sic) and feelings of being cheated, contaminated, injured or disregarded” (p. 13) and is “a form of alienation” (p. 14). The transitional experience itself is an evolution of emotions from feelings of helplessness to confidence. More positive emotions would lend support of higher stages of integrating the newer culture. In addition, Bennett (1977) describes transition shock as “a state of loss and disorientation” (p. 46) while San Jose and Kelleher (2009) explained a person experiences stress and feelings of being threatened when normalcy is changed and coping strategies are required. Students with more negative emotions would indicate deeper levels of transition shock.

The mean score was used as a continuous variable for analyses requiring interval level data. Categories were assigned in the following manner for analyses requiring this type of data: slight transition shock=1-2; transition shock = 2.1-4; and extreme transition shock 4.1-5. The researcher created the groups. A Cronbach’s alpha computed for general technology skills was .85.

### **Online Behaviors**

Information was collected on the frequency of instructors’ and undergraduates’ online behaviors in a classroom environment (See student questionnaire 46-56 and instructor questionnaire items 29-39). Respondents categorized 11 behaviors (e.g., “How often do you read discussions?”) on a 6-point Likert scale with the following categories: 1 never; 2 only when assignments are due; 3; once every 2 weeks only, 4 once a week; 5

every 2-3 days; 6 every day. An overall mean score was computed for each respondent. A Cronbach's alpha computed for general technology skills was .81.

### **Human Subjects Protection**

In accordance with the Institutional Review Board, measures must be taken to ensure no harm is done to participants. Informed consent was obtained online prior to the start of the questionnaire. Participants were able to read the consent on the screen, and by entering the study the participants gave consent. In this questionnaire, no identifiable data was given including the current course. A separate link was provided for a student who agreed to participate in the focus groups. Instructors were not asked to identify the class they were teaching.

To further ensure confidentiality, the researcher downloaded survey data onto her home computer, removed the IP addresses after identifying duplicate survey respondents, and replaced them with a participant numbers. The data was then stored and used from password-protected files on a thumb drive. When the thumb drive was not in use for data analysis, it was kept in a locked file cabinet in the principal investigator's home. All identifiable data on electronic items will be deleted from the online sources and thumb drive on Jan 1, 2015.

Informed consent for the instructor interviews and student focus groups were obtained prior to the start of the events. A digital audio recorder was used in all situations and the audio files were immediately downloaded on to the researcher's password-protected computer and then erased from the recorder. Audio files were stored on the

researcher's laptop. Researchers' notes were kept in a locked file cabinet at the principal investigator's home. Pseudonyms were used to identify participants in all transcriptions of interviews and focus group transcriptions.

### **Data Analysis Procedures**

Sequential transformative data analysis occurs in two stages (Creswell & Clark, 2011). In mixed methods analysis two undergirding rationales exist: legitimation and representation (Onwuegbuzie & Teddlie, 2003). Legitimation involves rigor and validity of interpretation of data while representation involves obtaining sufficient information from the data. With the integration of qualitative and quantitative methods, cross-checking and corroboration boost validity results (Onwuegbuzie & Teddlie, 2003). In addition to collecting data in the different methodological strands, qualitative data could be quantified, and quantitative data qualified to provide effect sizes and robust findings. The multiple data points allowed for triangulation of data. This mixed methods study explored both quantitative and qualitative research questions. The quantitative research question and hypotheses provided clarification and support for the qualitative research questions, and qualitative questions offered insight into quantitative responses.

### **Quantitative Data Analysis**

In preparing the quantitative data, the questionnaire data was coded and entered into SPSS software (IBM, 2010). Data were initially reviewed, and participants removed for failure to complete all or parts of the questionnaire, or multiple attempts at the questionnaire. Data was then explored for assumptions and normalcy. Outliers were

removed. Independent and dependent variables were then created from the questionnaire responses. Confirmatory factor analysis and Cronbach's alpha were computed for each variable. Depending on the results, variables were redesigned or refined based on these results.

In the preliminary analysis, descriptive statistics were computed for groups, population distributions, and online behaviors. These descriptive statistics informed group sizes of Digital Generation, Student Type, Role in Course, and Face-to-Face Behaviors.

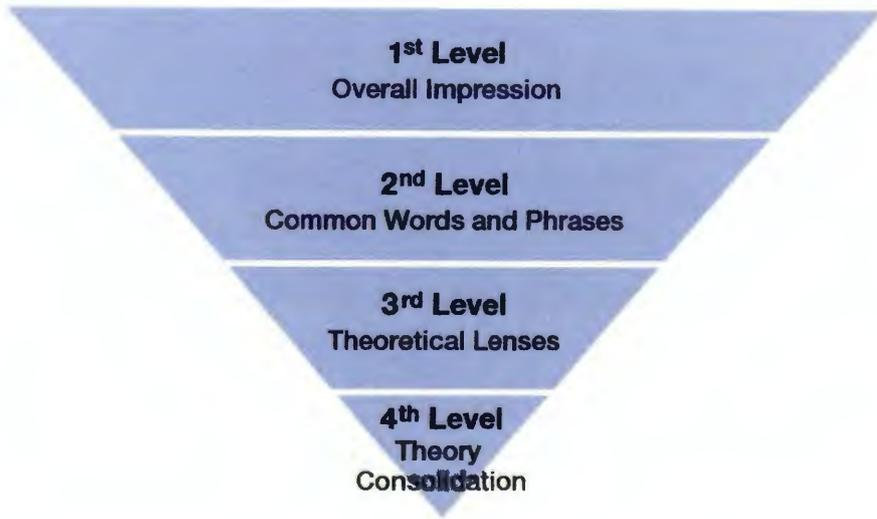
A correlation matrix was computed for the continuous independent variables to determine if any were too highly correlated with one another. For example, length of time in program and prior online experience was thought to be highly related. After data exploration, the hypotheses testing was computed and explored.

### **Qualitative Data Analysis**

Qualitative data analysis began with initial impression and reflections after the interviews and focus groups captured by contact summary sheets. Initial impressions and reflections included any repetitive statements and any overt connections to theory or practice. Interviews and focus groups were transcribed verbatim. During transcribing, columns for notes and themes were created to capture thoughts, impressions, and connections to theory or research questions. Questionnaire results, interviews, and focus groups were entered and organized into Nvivo 9. Nvivo 9 software is a qualitative data analysis program (QRS International, 2011). The program enables transcripts and other

artifacts to be organized in a systematic way in order to categorize, sort, and synthesize the research data. Demographic data and parameters were entered during coding. Demographic groups included the institution, Digital Native/Immigrant groups, number of online courses, preferred method, and student and instructor. These categories allowed for deeper analysis during and after themes coding.

Data analysis occurred in four levels with each level narrowing in scope (Figure 1). The first level of analysis was an overview of all the data. Transcripts, contact summaries, reflexive journals, memos, and questionnaire results were reviewed for broad overall impressions of the data and how the data fit together. The second level of analysis looked for common words or phrases among the questionnaire results and transcripts and were grouped together. For example, word frequency tables were created. The third level of analysis further focused on the data through the theoretical lenses of cognitive load and acculturation and the domain of the principles of child development. The final and fourth level sought to consolidate the theories and practices into cohesive explanation for online teaching and learning phenomena and practice.



*Figure 1.* Qualitative coding levels

### **Ensuring Reliability, Validity, and Trustworthiness**

**Triangulation.** Triangulation of sources involves the use of multiple data points. The multiple data points allow for reduction of bias inherent in any one methodology (Green, Caracelli, & Graham, 1989), improving the validity of the findings. This exploratory study has a triangulation purpose by use of the multiple data points of questionnaire, reflexive journals, contact summary sheets, memos, interviews, and focus groups.

One of the main advantages of mixed methods is the ability to compare and use the two methods in tandem. Patton (2002) posited four types of triangulation: method triangulation, triangulation of sources, analyst triangulation, and theory/perspective triangulation. Method triangulation involves the use of qualitative and quantitative

methods to explore the phenomena which is met in this mixed methods study. The use of different methods “constitutes a form of comparative analysis (Patton, p. 558).

Analyst triangulation involves the use of multiple observers on the phenomena. Analysts can be both outside observers as well as the participants.

Intercoder reliability uses outside observers to assist in the data analysis. The principal researcher initially coded themes. Two selections of questionnaire data were sent to two research assistants for their review and coding. One research assistant returned the coding. The principal researcher and research assistant discussed coding for verification until intercoder agreement (Creswell & Clark, 2011) of 90% was reached.

**Respondent validation.** Respondent validation (Silverman, 2006) is when the participants review the interview transcripts along with the researchers’ notes and themes and verifies the accuracy of the researchers’ interpretations of the participant’s comments and perspectives of the subject matter (Patton, 2002). After the principal researcher transcribed the instructor interviews and completed level one and two of coding, the coded interviews were sent back to the instructors for respondent validation along with a few questions to clarify themes that had emerged across all the instructors’ interviews. Twelve of the 15 coded transcripts were returned for a 75% response rate. Any clarification or misinterpretation of an interview was changed in the transcript and in the Nvivo software.

## **Summary**

This chapter presented a detailed description of the design and methodology for conducting the mixed methods study of online child development courses through a second culture acquisition, cognitive load lenses, and child development. Participants were obtained through purposive sampling at three North Texas institutions. Data was collected by a one-time self-paced online questionnaire, interviews, focus groups, and researcher documents providing multiple data points for triangulation for validity and trustworthiness. The construction of variables was also discussed. The theories of second culture acquisition, cognitive load, and the discipline of child development guided the questionnaire and variable creation.

## CHAPTER IV

### ANALYSIS OF DATA AND FINDINGS

#### **Introduction**

The purpose of this mixed methods study was to explore the child development instructors' and undergraduates' enrolled in child development courses perspectives and experiences of online teaching and learning through the lenses of second culture acculturation, cognitive load, and the discipline of child development. Child development instructors and undergraduates from three higher education institutions participated in an online questionnaire about their experiences and perceptions of online teaching and learning. Instructors were interviewed and undergraduates participated in focus groups. This chapter describes the data analysis procedures and results.

#### **Theoretical Lenses**

Three theoretical lenses guided this study. The first lens was second culture acquisition. This lens allowed the researcher to look at the data of the traditional teaching/learning paradigm and the online teaching/learning paradigms as cultures. This lens allowed the phenomena to be deconstructed into language, social practices, roles, responsibilities, and motivations.

Cognitive load was the second lens used to view the perspectives and experiences of instructors and undergraduates. This lens allowed the researcher to situate the transitional phenomena within a cognitive framework. The researcher was able to view

learning and success in coursework in terms of working memory, load types, and their interactions to impact learning. The impact of the interactions among affective filters, content, and language learning on respondents in the online course highlighted why problems may exist in the online paradigm.

The discipline of child development was the third lens utilized in this study. This lens allowed the researcher to examine common practices of child development and its application in the online environment. Instructors trained and grounded in developmentally appropriate practices and theories to optimize students' learning and development may have used specific strategies to support the adult learner that may not be present in other disciplines.

### **Descriptive Characteristics of Respondents**

#### **Instructor Questionnaire Descriptives**

Twelve instructors participated in the online questionnaire. The instructor questionnaire was available from April to August 2011. Demographic data are listed in Table 2. Three institutions participated in this research study: (a) Texas Woman's University (TWU), (b) Collin College, and (c) Grayson County College. Nine instructors taught at the Texas Woman's University, three instructors taught at Collin College, and the other instructor taught at Grayson County College. Instructor participants' ages ranged from 29 to 59 with a mean age of 44 ( $SD=11.442$ ). One instructor who taught at TWU was a digital native, and 11 instructors were digital immigrants. For one instructor, this was the first online course taught, while others had taught from a range of 3 to 45

courses taught online with a mean number of 14 classes ( $SD=16.231$ ). The researcher divided the instructors by into three groups by expertise: (a) little experience with one respondent, (b) moderate experience with three respondents, and (c) much experience with ten participants.

Table 2

*Instructor Demographics for Questionnaire*

	M	SD	Min.	Max.	N	%
<b>Institution</b>						
TWU					9	66.7
Collin					3	25
Grayson					1	8.3
<b>Age</b>						
Digital Native	44	11.442	29	59	1	8.3
Digital Immigrant					11	91.7
<b>Prior Experience</b>						
	14	16.231	1	45	12	
<b>Skills</b>						
General Technology Skills	5.77	.985	3.8	7	12	
Educational Technology Skills	5.65	.638	4.3	6.7	12	
<b>Theoretical Lenses</b>						
Motivation to Acculturate	2.4	.821	1.5	4	12	
Transition Shock	1.77	.287	1.1	2.1	12	

Instructors rated their confidence on general technology skills on a researcher-created questionnaire (e.g., computer, Internet) on a scale from 1 to 7 with 7 being “very confident”. Instructor scores ranged from 3.8 to 7 with a mean of 5.77 ( $SD=.985$ ). The researcher assigned instructors into groups: (a) weak general technology skills with 0 participants, (b) moderate technology skills with two respondents (16.7%), and (c) strong general technology skills with 10 respondents (83.3%). Instructors also rated their

confidence on educational technology skills (e.g., Blackboard, online library resources) on a scale from 1 to 7 with 7 being “very confident”. Instructor scores ranged from 4.3 to 6.7 with a mean of 5.6 ( $SD=.638$ ). The researcher assigned instructors into groups. No instructors were categorized into the weak educational skills group, 1 instructor was categorized with the moderate educational technology skills groups and 11 instructors were categorized as having the strong educational technology skills.

The next set of demographic data related to the theoretical lens variables. On a researcher-created questionnaire instructors answered 2 questions about their motivation to acculturate (e.g., What is your reason for teaching this class) and asked to select the most appropriate answer with a possible range of 1-4 with 4 the highest level of motivation to acculturate. Instructors’ motivation to acculturate yielded a mean score of 2.41 ( $SD=.821$ ) with a range between 1.5 and 4.0. The researcher assigned instructors into three groups: (a) little desire to acculturate with 1 respondent (8.3%), (b) moderate desire to acculturate with 9 respondents (75%), and (c) strong desire to acculturate with 2 respondents (16.7%).

With the theoretical lens of transition shock, instructors were asked to rate how often they experienced 10 emotions on a scale from 1-5 with 1 “never experienced” to 5 “all the time”. Positive emotions were reverse scored. Instructors rated their transition shock with mean score of 1.77 ( $SD=.287$ ) and a ranging between 1.1 and 2.1. The researcher assigned instructors into three groups: (a) slight transition shock with 11

respondents (91.7%), (b) transition shock with 1 member (8.3%), and (c) extreme transition shock with 0 respondents.

### **Undergraduate Questionnaire Descriptives**

The undergraduate online questionnaire was open from April to August 2011 and October to December 2011. Undergraduate demographic data are listed in Table 3.

Two hundred eighty-six respondents agreed to participate in the survey. One respondent was removed because of age ( $n=17$ ). Fourteen undergraduates were removed because they did not start the questionnaire. In order to look for duplicate survey responses, the researcher compared IP addresses. When duplicates were found, the age of participant and number of hours of completed were compared. When exact matches were found, the more complete survey results were used, and the other data removed. Seven participants were excluded because the survey was taken twice. The data set was then searched for missing data. Participants who skipped or did not answer 20 or more items on the questionnaire were removed from the sample. During this procedure five respondents were excluded. During data exploration for normalcy and testing assumptions, three outliers were removed. The final sample size was 256 participants.

One hundred sixty-three undergraduates were from the Texas Woman's University (63.7%). Thirty-four were from Collin College (13.3%), and 59 were from Grayson County College (23.0%). One hundred seventy-four students were Digital Natives (68.0%), and 82 were Digital Immigrants (32.0%). Thirty undergraduates were traditional students (11.7%), and 226 undergraduates were nontraditional students

(88.3%). In regards to classification, 59 undergraduates were freshman (23.0%), 59 sophomores (23.0%), 79 juniors (30.9%), and 58 seniors (22.7%), and one was not reported (.04%).

Two hundred and six undergraduates reported the child development course was required for the degree (80.5%) while 49 undergraduates reported the course was not required (19.5%).

Forty-six undergraduates reported this was their first online class (18.0%). The range of number of online classes taken was 1-30 with a mean of 5.4 classes ( $SD=5.2$ ). The researcher assigned the undergraduates into three groups: (a) little experience (1-2 classes) with 88 respondents (34.4%), (b) moderate experience (3-4 classes) with 50 respondents (19.5%), and (c) much experience (5 or more classes) with 118 participants (46.1%).

On a researcher-created questionnaire undergraduates rated their confidence on general technology skills (e.g., computer, Internet) on a scale from 1 to 7 with 7 being “very confident”. Undergraduates’ scores ranged from 1.86 to 7 with a mean score of 5.3 ( $SD=1.049$ ). The undergraduates were divided into three groups by the researcher: (a) weak general technology skills with 5 participants (2%), (b) moderate general technology skills with 90 respondents (35.2%), and (c) strong general technology skills with 161 reporting (62.9%). Undergraduates also rated their confidence on educational technology skills (e.g., Blackboard, online library resources) on a scale from 1 to 7 with 7 being “very confident”. Undergraduate educational technology skills ranged from 1.86 to

7 with an average of 4.99. The researcher assigned undergraduates into groups. Twelve students were categorized as having weak educational skills (4.7%), 107 students were described as having moderate educational technology skills (41.8%), and 137 (53.5%) students possessed strong educational technology skills.

When considering the face-to-face behaviors variable, undergraduates rated 9 statements (e.g., I tend to not make comments during class discussions) on a 5-point Likert scale with 1 “not true” to 5 “very true”. One hundred forty-nine students responses were categorized as introvert (58.2%), and 108 were categorized as extrovert (41.8%). For learning styles, undergraduates rated 18 statements (e.g., I carry out my own study plan) on 5-point Likert scales with 1 “not true” to 5 “very true”. One hundred percent of the students reported that they self-directed their own learning in the online environment.

The next set of demographic data relates to the theoretical lens variables motivation to acculturate, social presence, and transition shock. On a researcher-created questionnaire undergraduates answered three questions about their “motivation to acculturate” (e.g., What is your reason for taking this class) and asked to select the most appropriate answer with a possible range of 1-5 with 5 the highest level of motivation to acculturate. Undergraduates rated their motivation to acculturate with a range between 1.0 and 5.0 and mean score of 2.77 ( $SD=.974$ ). The researcher assigned undergraduates into three groups: (a) little desire to acculturate with 48 respondents (18.8%), (b)

moderate desire to acculturate with 114 respondents (44.5%), and (c) strong desire to acculturate with 94 respondents (36.7%).

With the Community of Inquiry construct, social presence, undergraduates were asked to rate 3 statements (e.g., I feel my classmates and professor know me well) of “how well they felt known” on a scale from 1-5 with 1 “not true” to 5 “very true”. Undergraduates rated social presence with a range between 1.0 to 5.0 and a mean score of 2.43 ( $SD=1.028$ ). Social presence also assigned into three groups by the researcher: (a) little sense of presence with 132 undergraduates (51.6%), (b) moderate sense of presence with 81 (31.6%), and (c) great sense of presence 43 (16.8%).

With the theoretical lens of transition shock, undergraduates were asked to rate how often they experience 10 emotions on a scale from 1-5 with 1 “never experienced” to 5 “all the time”. Positive emotions were reverse scored. The last theoretical lens of transition shock had a range 1-4.6 with a mean score of 2.43 ( $SD=.626$ ). Transition shock groups between broke into slight transition shock with 69 respondents (27.0%), transition shock with 182 members (71.1%) and 5 with extreme shock (2.0%).

Table 3

*Undergraduate Questionnaire Demographics*

		M	SD	Min.	Max.	N	%
Institution							
	TWU					163	63.7
	Collin					34	13.3
	Grayson					59	23.0
Age		28.33	9.182	18	56	256	
	Digital Native					174	68.0
	Digital Immigrant					82	32.0
Student Type							
	Traditional					30	11.7
	Nontraditional					226	88.3
Classification							
	Freshman					59	23.0
	Sophomore					59	23.0
	Junior					79	30.9
	Senior					58	22.7
Face-to-Face Behaviors							
	Introvert					149	58.2
	Extrovert					108	41.8
Class Required							
	Yes					206	80.5
	No					49	19.1
Prior Experience		5.35	5.196	1	30	256	
Skills							
	General Technology Skills	5.29	1.049	1.86	7	256	
	Educational Technology Skills	4.99	1.134	1.86	7	256	
Theoretical Lenses							
	Motivation to Acculturate	2.77	.974	1.0	5	256	
	Social Presence	2.43	1.028	1.0	5	256	
	Transition Shock	2.43	0.626	1.0	4.6	256	

## Interviews

Fifteen instructors participated in the interviews. Interviews were conducted from June to August 2011. Interviews were conducted in locations most comfortable to the instructor. Nine interviews were conducted in instructors' offices, four in offices on the university campus, one at an instructor's home and one at a local coffee shop. Eleven instructors taught at the university-level and four at the community college-level. Three instructors were from Collin College and one instructor from Grayson County College. Nine instructors were instructors of record, and six were teaching assistants. The number of years teaching online ranged from one semester to 16 years with an average of five years experience teaching online. Table 4 shows instructor demographics for interviews.

Table 4  
*Instructor Demographics for Interviews*

Instructor	Institution	Number of years teaching online	Instructor/Teaching Assistant
1	TWU	-	Instructor
2	TWU	1.5	Teaching Assistant
3	Collin College	5	Teaching Assistant
4	TWU	8	Instructor
5	Collin College	2	Instructor
6	TWU	4	Instructor
7	Collin College	8	Instructor
8	TWU	4	Instructor
9	Grayson County College	11	Instructor
10	TWU	0.5	Teaching Assistant
11	TWU	5	Instructor
12	TWU	1.5	Teaching Assistant
13	TWU	4	Teaching Assistant
14	TWU	2.5	Teaching Assistant
15	TWU	16	Instructor

## Focus Groups

Six focus groups were conducted from April to July 2011. Four were conducted at Texas Woman’s University, and two were conducted at Collin College. Fourteen students participated in the focus groups. Experience with online classes ranged from one class to 12+ classes with an average of five online class experiences. Five students preferred face-to-face class experiences, two preferred hybrid, and six preferred online courses. One student was a traditional student, twelve students were nontraditional, and one student did not report. Table 5 shows the undergraduate demographics for the focus groups.

Table 5  
*Focus Group Demographics*

Focus group	Location	Number of participants	Students	Range of experience	Mean	Preference	Traditional
1	TWU	2	1	1	2-3	F2F	-
			2	several		online	nontraditional
2	TWU	1	3	12+	12+	online	nontraditional
3	TWU	1	4	5	5	hybrid	nontraditional
			5	3		F2F	traditional
			6	4		hybrid	nontraditional
			7	6		nontraditional	nontraditional
4	TWU	6	8	12+	5	online	nontraditional
			9	2		F2F	nontraditional
			10	4		online	nontraditional
5	Collin College	1	11	10	10	online	nontraditional
6	Collin College	3	12	1	2.3	F2F	nontraditional
			13	2+		F2F	nontraditional
			14	4		online	nontraditional
			overall	1-12+	5		

## Preliminary Analysis of Data

After demographic data was analyzed, preliminary analysis of variable creation and descriptives were conducted. First, the independent and dependent variables from the questionnaire were computed. Following this, a confirmatory factor analysis and Cronbach's alpha were computed for each created variable. Table 6 shows the Cronbach's alphas on the computed variables.

Table 6

Variable	Cronbach's Alpha
Learning Style	0.91
Social Presence	0.90
Motivation to Acculturate	0.41
General Technology Skills	0.92
Educational Technology Skills	0.86
Face-to-Face Classroom Behaviors	0.91
Tools of Teaching and Learning-Class	0.55
Tools of Teaching and Learning-Others	0.39
Transition Shock	0.85
Online Behaviors	0.81

The confirmatory factor analysis for two variables, online behaviors and general technology skills, revealed multiple factors. The general technology skills factor analysis with a Varimax rotation of the 15 general technology skills yielded three factors (Table 7). The first factor was labeled *General Technology Skills-“Common”*. This factor consisted of computer, laptop, Internet, e-mail, digital camera, and Web browser. This second factor was labeled *General Technology Skills-“BICS”*. This factor included social

networking, iPods, smart phones, downloading music, and uploading photos. The third factor was labeled *General Technology Skills-“New”*. This factor involved tablets, PDAs, and video games. The tool “Blogs” did not load on any General Technology Skills factor and was tested with the Educational Technology Skills. The tool “Blogs” loaded onto the Educational Technology Skills with a Cronbach’s alpha of .86. The tool “Blogs” was moved from General Technology Skills into Educational Technology Skills, and both new variables were recomputed for each participant.

Table 7

*Factor Analysis-General Technology Skills*

	General Technology Skills Loadings		
	Factor 1: Common	Factor 2: BICS	Factor 3: New
Computer	<b>0.836</b>	0.120	0.326
Laptop	<b>0.787</b>	0.206	0.358
Internet	<b>0.890</b>	0.214	0.169
E-mail	<b>0.869</b>	0.245	0.098
Digital Camera	<b>0.659</b>	0.382	0.116
Web Browser	<b>0.728</b>	0.448	0.089
Social Networking	0.411	<b>0.680</b>	-0.022
iPods/MP3 players	0.183	<b>0.828</b>	0.293
Smartphones	0.168	<b>0.666</b>	0.437
Downloading music	0.225	<b>0.748</b>	0.395
Uploading photos	0.465	<b>0.725</b>	0.154
Tablet	0.235	0.222	<b>0.845</b>
PDA	0.169	0.106	<b>0.855</b>
Video Games	0.133	0.291	<b>0.544</b>

The online behaviors variable yielded 3 factors with a high Cronbach’s alpha for reliability of .81 (Table 8). The first factor was labeled *Online Behaviors-“Class”*. This

factor included log in to the class, read discussions, write in a discussion, check assignments, and check grades. The second factor was labeled *Online Behaviors-“Print”*. This factor included print directions, print assignments, and print the calendar. The third factor was *Online Behaviors-“Help”*. This factor included e-mailing professor, e-mailing fellow students, and look at someone else’s work for clarification (lurking). These three factors emerged as distinct categories of behaviors the undergraduates engaged in the online environment.

Table 8

*Factor Analysis-Online Behaviors*

	Online Behaviors Loadings		
	Factor 1: Class	Factor 2: Print	Factor 3: Help
Log in to the class	<b>0.742</b>	-0.028	0.246
Read discussions	<b>0.666</b>	0.057	0.339
Write in discussions	<b>0.481</b>	0.165	0.475
Check assignments	<b>0.828</b>	0.135	-0.001
Check grades	<b>0.738</b>	0.272	-0.107
Print directions	0.247	<b>0.895</b>	0.123
Print assignments	0.231	<b>0.900</b>	0.135
Print the calendar	-0.073	<b>0.703</b>	0.357
Email professor	0.057	0.260	<b>0.683</b>
E-mail fellow students	0.079	0.121	<b>0.763</b>
Look at some else's work for clarification (Lurking)	0.123	0.073	<b>0.603</b>

The “Tools of Teaching and Learning” variable produced a low Cronbach’s alpha and was separated into three factors (Table 9). The first factor included E-mail Professor, Post on a Discussion Board, Go to the Teacher’s Office, and Call the Professor. This

factor was labeled *Tools of Teaching and Learning - "Class"*. The second factor consisted of E-mail Friend, Ask-a-Friend-Not-in-the-Class, and Lurking and was labeled *Tools of Teaching and Learning- "Others"*. The factor "*Try and Figure It Out on Your Own*" did not load high on either factor. This factor may not have loaded on the first two factors based on the underlying construct of the strategy. This variable was deconstructed into its three constructs for data analysis, Tools of Teaching and Learning- "Class", Tools of Teaching and Learning- "Other," and "Trying to Figure It Out on Your Own".

Table 9

*Factor Analysis-Tools of Teaching and Learning*

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Tools of Teaching and Learning Loadings

	Factor 1: Class	Factor 2: Other
Email professor	<b>.550</b>	.117
Post on discussion board	<b>.427</b>	-.058
Go to teacher's office	<b>.752</b>	.167
Call the professor	<b>.758</b>	.067
E-mail friends	.219	<b>.636</b>
Ask a friend not in class	.085	<b>.724</b>
Lurking	-.269	<b>.624</b>
Try and Figure It Out on Your Own	-.365	.062

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Next the data were then explored for assumptions of normality. Box plots were computed for each independent and dependent variable. Three outliers were found and removed from the data during this process. Box plots were re-computed and the

assumptions of normal distributions were within acceptable limits. Next P-plots were conducted on the independent and dependent variables and visually checked for normalcy. Data appeared within acceptable limits visually.

**Descriptives**

Descriptives were calculated on Online Behaviors and Tools of Teaching and Learning to capture a snapshot of what undergraduates and instructors were doing in the online environment and how often they are performing these behaviors. Table 10 shows the descriptives for the Tools of Teaching and Learning. Undergraduates' number one strategy for seeking help was within themselves. Undergraduates tried to figure it out on their own. Next learners e-mailed the instructor for help, and third strategy employed was looking at classmate's posts for answers to their questions. Calling or going by the instructors' office were strategies not used or considered by undergraduates.

Table 10  
*Descriptives for the Tools of Teaching and Learning*

	All the time	A couple of times	Considered	Not considered	Total (n)
E-mail professor	52	157	37	7	253
Go to the teacher's office	2	34	86	131	253
Call the professor	1	40	74	136	251
Post on a discussion board	70	112	51	19	252
Try and figure it out on your own	136	104	10	2	252
E-mail friend	15	107	63	68	253
Ask a friend not in the class	11	72	57	112	252
Look at someone's post for clarification	32	156	31	33	252

Table 11

*Frequencies of Online Behaviors*

	Every day	Every 2-3 days	Once a week	Every 2 weeks	Only when assignments are due	Never	Total (n)
<b><i>Undergraduates</i></b>							
Log into class	142	102	8	0	4	0	256
Read discussions	65	126	40	1	23	1	256
Write in a discussion	18	87	87	8	54	2	256
Check assignments	110	109	31	1	5	0	256
Check grades	80	104	61	3	6	2	256
Print directions	25	49	74	11	49	48	256
Print assignments	25	45	71	14	52	49	256
Print the calendar	10	14	51	28	60	93	256
E-mail professor	5	20	51	56	83	41	256
E-mail fellow students	5	25	36	30	53	107	256
Lurking	8	32	40	20	47	109	256
<b><i>Instructors</i></b>							
Log into class	9	3	0	0	0	0	12
Read discussions	5	4	2	0	0	1	12
Write in a discussion	2	6	1	0	1	2	12
Check assignments	4	2	4	0	2	0	12
Check grades	3	1	5	0	3	0	12
Print directions	1	1	2	0	0	7	11
Print assignments	1	1	3	0	2	5	11
Print the calendar	1	0	2	1	2	4	10
E-mail professor	1	3	4	0	0	2	10
E-mail students	1	5	5	1	0	0	12
Lurking	0	1	1	1	2	6	11

Table 11 shows the frequencies of Online Behaviors for undergraduates and instructors. The majority of instructors and undergraduates logged into the class every day or every two to three days. Undergraduates checked their assignments, checked their grades, and read discussions. Instructors read and wrote into the discussions.

In this research study, alpha scores of .05 or lower were denoted as significant because an alpha level of .05 “has emerged as a generally recognized indicator of a significant result in social science research” (Healy, 2012, p.198). Correlations were denoted as a weak correlation when  $r$  is between .0-.3, a moderate correlation when  $r$  is between .31-.6, and a strong correlation when  $r$  is greater than .6” (Healy, 2012).

A correlation matrix was computed for the variables to look for covariance. One strong statistically significant relationship was found between general technology skills and educational technology skills ( $r = .70, p < .001$ ). Table 12 shows the correlation matrix of independent variables.

The quantitative and qualitative research questions were arranged in a mind map (Figure 2) in order to provide an overview of the research study. The mind map lists the research questions, data sources, findings, discussions and the theoretical lenses.

Table 12

*Correlation matrix for independent variable covariates*

	Learning Style	Social Presence	Motivation	Gen Tech Skills	Ed Tech Skills	Prior Online Experience	Length of Time	Face-to-Face Behaviors	Number of Tools	Age	Student Type	Tools of Teaching & Learning	School	Role in Course
Learning Style	^1.00													
Social Presence	^79**	1.00												
Motivation	^-00	.02	1.00											
Gen Tech Skills	^26**	.16***	.05	1.00										
Ed Tech Skills	^32**	.23**	.05	.70**	1.00									
Prior Online Experience	.25**	.22**	.19*	.11	.13***	1.00								
Length of Time	-.24	^-24**	^00	^12	^15***	^10	1.00							
Face-to-face Behaviors	^74**	.66**	-.17	.12	^16*	.20****	-.15	1.00						
Number of Tools	^00	.10	.07	.08	.23**	.01	^09	-.04	1.00					
Age	.32**	^27**	.07	-.27**	-.16***	.19***	^-26**	.29**	.00	1.00				
Student Type	^87**	^80	^-11	^11	^14***	.22**	^-29**	^76**	^-07	^28**	1.00			
Tools of Teaching & Learning	.14***	.29**	^-02	^11	^16	^01	^04	^11	^20*	^-04	^-07	1.00		
School	^-06	^-02	.07	-.12***	-.14***	-.01	^-45**	-.12***	-.14***	.20****	^-09	^05	1.00	
Role in Course	-	-	-.07	.10	.12***	.25**	-	.78**	-.70	.33	-	-	-.05	1.00

Note: \*p<.01, \*\*p<.001, \*\*\*p<.05, \*\*\*\*p=.001 ^ undergraduate calculation only

	Research Question 1: What factors impact transition shock?	Research Question 2: What are instructors'/ undergraduates' paradigms for teaching and learning?	Research Question 3: What role does technology play in teaching/learning?		Research Question 4: How does the transition shock manifest in the online classroom when the two culture meet?	Research Question 5: How do instructors and undergraduates manage the filters for learning?	
Data Sources	-Instructor Questionnaire  Undergraduate Questionnaire	-Instructor Questionnaire - Undergraduate Questionnaire -Interviews -Focus Groups	-Instructor Questionnaire -Undergraduate Questionnaire -Interviews -Focus Groups		-Instructor Questionnaire -Undergraduate Questionnaire -Interviews -Focus Groups	-Instructor Questionnaire -Undergraduate Questionnaire -Interviews -Focus Groups	
Findings	Motivation to Acculturate Educational Technology Skills	Roles shift in an online environment Roles and social practices are less defined	Language and Interactions	Tool and Supplement	Transitional experience-large initially influx of negative emotions and there is a precipice to success or failure	<i>Instructor</i> Feedback Structure Instruction	<i>Student</i> Skills Support Motivation
Discussion	Language interdependence First culture tools as supports	Redefinition of roles and practices Territorialism	Redefinition of use		Application of Transitional Experience and Second Language Acquisition	Internal and external filters Length of time in culture	
Theoretical Lens	Transition Shock BICS/CALP	Second Culture Acquisition Community of Inquiry	BICS/CALP Second Language Acquisition		Cognitive Load Transitional Experience Transition Sock Acculturation Motivation to Acculturate	Cognitive Load Child Development Community of Inquiry	
Cognitive Load Theory							

Figure 2. Research questions mind map

## **Research Questions and Hypotheses**

This study investigated five research questions. The first quantitative question was explored by questionnaires. The last four qualitative questions were explored by the questionnaires, interviews, focus groups, and researcher's documents. This section explores their analysis and findings.

### **Research Question 1: What Factors Impact Transition Shock?**

#### **Hypothesis 1**

It was hypothesized that there would be a negative relationship between Prior Online Experience, Length of Time in Program, General Technology Skills, and Educational Technology Skills, and (a) Second Language Acquisition, (b) Transition Shock, and (c) Online Behaviors.

In order to investigate the relationship between the variables, Pearson's correlations were computed (Table 13). Four small but statistically significant correlations were found. First, second language acquisition negatively correlated with Length of Time in Program ( $r = -.137, p < .05$ ). The more hours completed by an undergraduate, the less the online environment felt like learning a second language.

Next, transition shock showed three small but statistically significant negative correlations with Prior Online Experience ( $r = -.140, p < .05$ ), general technology skills ( $r = -.200, p = .001$ ), and educational technology skills ( $r = -.241, p < .001$ ). The more online classes a respondent had completed, the less transition shock experienced. The more confidence in one's general technology skills, the less transition shock was

experienced. The more confidence in one's educational technology skills, the less the undergraduate reported feelings of transition shock.

Online behaviors correlated statistically significant with one variable, educational technology skills ( $r = .126, p < .05$ ). The fewer online classes an undergraduate had taken, or the higher reports of confidence in educational technology skills, the more respondents participated in online behaviors.

Table 13

*Correlations between Demographics and Second Language Acquisition, Transition Shock and Online Behaviors*

	Prior Online Experience	Length of Time in Program	General Technology Skills	Educational Technology Skills
Second Language Acquisition	-.005	-.137*	-.078	-.016
Transition Shock	-.140*	.019	-.200**	-.241***
Online Behaviors	-.111	-.086	.040	.126*

\* $p < .05$ , \*\* $p = .001$ , \*\*\* $p < .001$

Small statistically significant correlations were found among the variables prior online experience, length of time in program, general technology skills, and educational technology skills with second language acquisition, transition shock, and online behaviors.

## **Hypothesis 2**

It was hypothesized that there is a negative relationship between Motivation for Acculturation and (a) Transition Shock, (b) Online Behaviors, and (c) Second Language Acquisition.

In order to investigate these relationships, Pearson's correlations were computed between motivation for acculturation, transition shock, online behaviors, and second language acquisition. One statistically significant relationship was found. A small negative relationship existed between motivation to acculturate and transition shock ( $r = -.185, p < .01$ ). The more motivation one had to acculturate the less feelings of transition shock were experienced.

One negative relationship was found between motivation to acculturate and transition shock, motivation to acculturate did not predict transition shock, online behaviors, and second language acquisition.

## **Hypothesis 3**

It was hypothesized there is a predictive relationship between the Tools of Teaching and Learning and (a) Transition Shock and (b) Online Behaviors.

In order to investigate the predictive power, a multiple regression using the Enter method was computed between the Tools of Teaching and Learning-Class, Tools of Teaching and Learning-Others, and Try and Figure It Out on Your Own with Transition Shock. Initial correlations indicated statistically significant relationships. Table 14

shows the correlations between the Tools of Teaching and Learning, Transition Shock, and Online Behaviors.

Table 14

*Correlations between Tools of Teaching and Learning, Transition Shock, and Online Behaviors*

	Transition Shock	Online Behaviors
Tools of Teaching and Learning-Class	.17*	.30**
Tools of Teaching and Learning-Other	.02	.24**
Lurking	.04	.07

Note. \*p <.01, \*\*p<.001

A small statistically significant positive relationship existed between Tools of Teaching and Learning-Class and Transition Shock. The higher the rating of Transition Shock, the more a respondent considered and sought help in an online class by e-mailing the professor, posting on a discussion board, going to the teacher’s office, or calling the professor. Two correlations emerged with Online Behaviors. A small statistically correlation existed with Tools of Teaching and Learning-Other, and a moderate correlation existed with Tools of Teaching and Learning-Class. The more a respondent was participating in the elements of the online class, the more the participant was seeking help by e-mailing a friend, asking a friend not in class, and looking at someone’s post for clarification in addition to seeking more help by means of e-mailing the professor, posting on a discussion board, going to the teacher’s office, or calling the professor.

The multiple regression using the Enter method revealed a predictive power reaching significance between the Tools of Teaching and Learning and Transition Shock (p = .059) (Table 15). The multiple regression with Try and Figure It Out on Your Own,

Tools of Teaching and Learning-Class, Tools of Teaching and Learning-Other, indicates a slight predictive relationship with all three online behaviors contributing ( $\beta = .076, .262, .260, R^2=.138, F(3, 249)=13.252, p < .001$ ) (Table 15). The strategies undergraduates use to try to figure the class out on their own, to work in the class, and to seek help predict an increase on the frequency of their online behaviors.

Table 15

<i>Multiple Regression between Tools of Teaching and Learning and Online Behaviors (n=251)</i>			
Variable	Model 1		
	<i>B</i>	<i>SE B</i>	$\beta$
Try and Figure It Out on Your Own	-0.070	0.070	0.076
Tools of Teaching-Class	0.405	0.093	0.262
Tools of Teaching-Other	0.334	0.097	0.260
$R^2$		0.138	
$F$		13.252*	

\* $p < .001$

**Hypothesis 4**

It was hypothesized that an increase in Social Presence and Learning Style will be associated with a decrease in (a) Transition Shock and (b) Motivation to Acculturate.

In order to investigate the association Pearson’s correlations were conducted between Social Presence, Learning Style, Transition Shock, and Motivation to Acculturate (Table 16).

Table 16

*Correlations between Social Presence and Learning Styles with Transition Shock and Motivation to Acculturate*

Measure	Transition Shock	Motivation to Acculturate
Social Presence	-.34*	.03
Learning Style	-.38*	-.00

Note. \*p <.001

A statistically significant moderate negative correlation existed between Learning Style and Transition Shock ( $r = -.38, p < .001$ ). As participants felt they self-directed their learning, the less transition shock was experienced. A statistically significant small negative correlation exists between Social Presence and Transition Shock. The more connected a person perceived in the online environment and the less negative emotions experienced.

**Hypothesis 5**

It was hypothesized there is a positive association between the Number of Tools Used in Class and (a) Transition Shock and (b) Online Behaviors.

In order to investigate these relationships, Pearson’s correlations were computed in order to measure the relationship between the Number of Tools Used in Class and Transition Shock. A no relationship appeared between Number of Tools Used in Class and Transition Shock. ( $r = -.05, p > .05$ ).

Correlations were computed between the Number of Tools Used in Class with Online Behaviors and its three factors: Class, Print, and Help. Small positive

relationships were indicated between the Number of Tools Used in Class and Online Behaviors ( $r = .16, p < .05$ ) and the Online Behaviors-Help ( $r = .15, p < .05$ ). The more tools used in class indicated an increase in online behaviors and behaviors asking for help. The number of tools did not impact printing of materials or class behaviors for undergraduates.

### **Hypothesis 6**

It was hypothesized that there is a statistically significant group differences between Digital Generations, Student Type, Role in Course, and Face-to-Face Classroom Behavior with (a) Transition Shock and (b) Motivation to Acculturate.

A MANOVA was computed between the independent variables Digital Generations, Student Type, Role in Course, and Face-to-Face Classroom Behaviors with dependent variables Transition Shock and Motivation to Acculturate to explore any group differences that may have existed. A Levene's test was computed for uneven group sizes with the dependent variables. Levene's was violated for Role in Course ( $p = .023$ ) and Digital Generations ( $p = .002$ ) for Transition Shock but not violated for Motivation to Acculturate. A confirmatory nonparametric Mann-Whitney test was computed for these two grouping variables with Transition Shock. Results showed a statistically significant difference in Digital Generations with Transition Shock ( $U = 6847.50, p < .05$ ). Digital Natives ( $M = 2.5, SD = .68$ ) reported higher transition shock than Digital Immigrants ( $M = 2.3, SD = .50$ ).

Results also showed a significant difference in Role of Course with Transition Shock ( $U = 490.0, p < .001$ ). Undergraduates ( $M = 2.4, SD = .63$ ) reported higher transition shock than instructors ( $M = 1.8, SD = .29$ ). No other group differences existed with Transition Shock.

A MANOVA was calculated with the independent grouping variables and Motivation to Acculturate. Two statistically significant group differences emerged: Student Type and Face-to-Face Behaviors. The main effect between traditional and nontraditional students was significant  $F(2, 267) = 8.96, p < .005$ . Nontraditional students ( $M = 2.8, SD = .96$ ) reported higher motivation than traditional students ( $M = 2.2, SD = .96$ ).

The main effect between introverted and extroverted behaviors was  $F(2, 267) = 4.713, p < .05$ . Students who rated higher on introvert behaviors reported higher motivation to acculturate ( $M = 2.91, SD = .93$ ) than students who rated higher on extroverted behaviors ( $M = 2.58, SD = 1.01$ ).

### **Research Question 2: What Are Instructors'/Undergraduates' Paradigms for Teaching and Learning?**

This research question explored the instructors' and undergraduates' perceptions of the roles of instructors and undergraduates in the teaching and learning paradigm as well as qualitative differences of these roles and in the structure in the online classroom. The theoretical frameworks of second language acquisition and Community of Inquiry Model were used to view these paradigms.

## Instructor's Roles

The first element of the teaching and learning paradigm was the instructor's role. A word frequency count was tabulated from the instructor and undergraduate surveys (Figure 3). In both surveys, "student" was the most frequent word. Instructors and undergraduates perceived the students as the focus for the instructor. Instructors' roles broke into four main areas: transmission of content, active roles, passive roles, and personality traits.

### *Instructors' Tag Cloud*



assignments facilitate guide information needs online provide  
students support teacher

This tag cloud for instructors features the word "students" in the largest font, followed by "facilitate", "provide", "information", "guide", "needs", "online", "assignments", "support", and "teacher".

### *Undergraduates' Tag Cloud*



assignments class classroom help learning provide questions  
students teach teacher

This tag cloud for undergraduates features the word "students" in the largest font, followed by "questions", "learning", "teach", "teacher", "assignments", "classroom", "class", "help", and "provide".

Figure 3. Comparison of word frequency count of instructors' roles

**Transmission of content.** An instructor's first role in the classroom was the transmission of content. Instructors were charged with conveying content to students by facilitating, guiding, leading, or teaching. Instructors saw themselves as providing an environment for learners as well as providing individualized support for learners. A teaching assistant at Texas Woman's University explained in the questionnaire,

environment for learners as well as providing individualized support for learners. A teaching assistant at Texas Woman's University explained in the questionnaire,

The teacher's role in the classroom is to guide the students to understanding and gaining the knowledge and objectives put forth in the course. The teacher needs to supply the materials and information, as well as activities which will allow their students to develop a firm grasp and understanding on (sic) the content.

Instructors included comments about how the child development paradigm impacted their instruction. These comments included discovery learning, inquiry-based instructing, making connections to students, and making connections to prior learning. Jade, a teaching assistant at Texas Woman's University, commented on Vygotsky's influence on her teaching paradigm.

I believe in the social/cultural perspectives and, and the need to have dialogue and conversation, and we learn through language so, uh, when you got an online class there's a lot of discussion. I think sometimes more than a face-to-face class.

Students viewed instructors as mainly teachers. The number one verb used to describe the instructor's role was "teach". The role of the instructor was an active expert of knowledge transmitting content to the student. The teacher was seen as a filter of knowledge. One male at a focus group at a community college explained,

[Y]ou have their lectures which are a filter of the text of what is really the key points so you have someone who's an expert in that field really going through the major points with you

According to undergraduates, instructors were supposed to synthesize all the information and provide an abbreviated version of the key points. In the undergraduate survey, one student commented that the instructor was to "offer expert testimony". In

addition, teachers needed to provide exemplars and real-life connections to the content.

A survey respondent explained the role of the instructor was, “[t]o teach the student what is needed to be learned. To teach the students so they understand what is needed to be a great teacher. To give them examples so they understand every aspect of teaching.” The responsibility for learning is placed on the instructor.

The teachers (sic) roles are to teach the information (not just learn from reading books), explain information, and be open to discussion and questions. I think it’s the teachers (sic) role in the classroom to make sure that the material is understood before proceeding and to make the information easy to understand as well as make the work outside of the classroom manageable with busy schedules and grade according to how much instruction is given.

The instructor was also to manage the student’s learning.

The teachers (sic) role in the classroom is to make sure you learn what you need to learn in that class. The teaches (sic) job is to all so (sic) make sure you are getting you (sic) work done and turned in on time. If their (sic) is something you don’t understand (sic) you should be able to ask the teacher for help in understanding what it is you don’t understand.

Conversely, other students viewed themselves as the active agent for learning, and the instructor’s role was to guide, lead, or facilitate. An undergraduate explained, “It is the role of the teacher to facilitate learning and to provide an open, comfortable environment with resources suitable to meet those ends.” Another other student added, “A teacher’s job to is (sic) facilitate and guide student’s (sic) in the learning process. A teacher should be a leader who allows student’s (sic) to take an active role in the educational experience.” An instructor explained the supporting role in terms of language learning.

“Instructors (sic) roles are to help students with language. I’m there to help them and help you know relay, kinda translate for them how to do that language of the newer technology and kinda help them.”

**Active roles.** The next role of the instructor was to be actively involved in the classroom by keeping the class moving and students learning. These active roles included providing assignments and instruction, answering questions, providing feedback, including grading, and managing the classroom.

Instructors provided assignments for undergraduates. Instructors “give assignments with explanations and expectations”. Assignments were seen as a vehicle for learning and a way to demonstrate mastery. Undergraduates wanted instructions on how to complete the assignments. “Clear expectations are an important role for any type of classroom virtual or face-to-face”. An undergraduate wrote, “The teacher is responsible for setting up the homework assignments and posting the due dates. Also, the teacher is responsible for clarifying homework assignments or learning data to help the student meet their full potential in the class.”

Another active role for the instructor was answering questions. Instructors saw their role as “assignment clarification” and to “clarify readings, [and] answer questions.” Undergraduates asked questions over content, assignments, or “any questions that we have about the class”. The reoccurring theme of undergraduates on the active role was the responsiveness of instructors to the students’ questions. Undergraduates expressed instructors should “be available” “when needed”. Students expected timely responses to

their questions. Undergraduates wanted answers to questions when they asked them and found it difficult to have a delay in the answer in the online environment.

Undergraduates in the focus groups clarified what “timely manner” meant from the online surveys. Most of the undergraduates explained 24 hours should be the typical response to e-mails and questions.

Jennifer: Feedback or responses to questions, how quickly should an instructor respond to a question or an e-mail?

Sandy: Within 24 hours and that’s any teacher and that, that’s so frustrating when you, and I understand you’re busy and like you have stuff going on too, but, who doesn’t have a smart phone, who doesn’t have-, get on their e-mail everyday like

Darcy: I say if it’s a weekend maybe like 48 hours or Monday

Sandy: Business day

Cindy: Yeah business day. I think 24 hours is a good ball park

Providing feedback was another active role of the instructor. Feedback to students included grading, comments on content, and point deduction. The majority of students’ comments involved grading. Grading reflected the number or letter grade received. Students also wanted written feedback on the content submitted and clarification for missing points. An undergraduate respondent explained instructors were “to provide constructive criticism when a student doesn’t make full amount of points.” Several undergraduates included comments of how to grade like “efficiently” and “timely.” Focus groups clarified the “timely manner” and feedback desired on work. The consensus in focus groups was a week to have an assignment graded.

Jennifer: Feedback or responses to questions, how quickly should an instructor respond to a question or an e-mail?

Sandy: Within 24 hours and that's any teacher and that, that's so frustrating when you, and I understand you're busy and like you have stuff going on too, but, who doesn't have a smart phone, who doesn't have-, get on their e-mail everyday like

Darcy: I say if it's a weekend maybe like 48 hours or Monday

Sandy: Business day

Cindy: Yeah business day. I think 24 hours is a good ball park

Lisa from focus group 3 added timely feedback was needed in order to improve future assignments.

“if I write one paper, and I have another paper due, I would like to see feedback and a grade before I have to turn in a second paper so that if I'm doing something wrong or I could be doing something better, the instructor can let me know what that is, but you can't improve if you don't know where you, where you need improvement so that's where feedback is important. It's very important.

Undergraduates in focus group 4 also reported feedback was needed in order to improve the quality of the work.

Darcy: A lot of the grading like you know you get 24 out of 25. What did I miss a, one point on? Like please, and it's just you know, cause you submit it so it's not like you get something back with marks on it. It's not, you don't get anything like that and I think one, in one class she was just particular about how to cite something, and I don't, like I don't care but tell me about the content like what was I missing in my content, what was I –you know miss that one point for any point. I don't' get anything back.

Cindy: Feedback is very important I think on grades. I think it is. I mean I'm like you. I want to know what, why, you know

Later in focus group 3, Lisa explained the quantity of grading may be a reason why there may be a lack of feedback.

3-4 pages for every student so you can kinda see where she may not have the time to comment on every paper so but I did get a, a pretty good grade you know 45 out of 50 points so she couldn't have disliked it that much

The last active role for instructors was managing the class. Instructors were to facilitate learning through housekeeping duties. Instructors were to direct the flow of learning and conversation, "and keep [the] classroom under control." Instructors needed to summarize learning and "compile a calendar" while informing students about upcoming due dates. An undergraduate wrote, "[s]he posts information on Blackboard as far as reminders and updates."

**Passive roles.** Passive roles for instructors involved the student as the focus of learning. Instructors needed to provide students an engaging environment and support through the learning process. Instructor questionnaire respondents and interviewees discussed the supportive role of the instructor. "The teacher should provide support, communication, guidance and positive interaction."

Undergraduates also wrote about support. "[Instructors] are there for guidance and support." In addition "[a] teacher's role in the classroom is to instruct, answer questions, be supportive, allow adequate time for assignments, take note of what is working and not working." Support was not a defined quality but seemed to an emotional component in teaching. Students sought emotional support from their instructors.

The other passive role for instructors was providing the environment. Effective environment design allowed the students to explore on their own and set the pace for their learning. Instructors created the environment for active learners to engage with the content. One instructor survey respondent explained,

I believ (sic) the teacher's role in an online cass (sic) is to facilitate learning. The teacher designs an effective environment where students can be successful nd (sic) have their needs met. This may include tailoring the course to students (sic) needs. The teacher also should engage in discussion by providing alternative thoughts to explore.

Erin, an instructor at Texas Woman's University, in an interview noted "I think that I do strive to create an environment where students are actively engaged."

Undergraduates explained that instructors needed "to provide a safe and learning environment," "with instruction." "[A] teacher should have [a] good classroom environment in which if teacher prepares [a] warm, happy environment, than students most likely to be happy learning in a positive environment." "It is the role of the teacher to facilitate learning and to provide an open, comfortable environment with resources suitable to meet those ends."

**Personality traits.** The last instructors' role involved personality traits. This theme emerged solely from the undergraduates' responses. These traits seemed to be qualities students sought from instructors in the paradigm of teaching and learning. These qualities included being positive, friendly, open, nice, approachable, and caring. One undergraduate survey respondent wrote about her instructor, "She's really nice and tries to motivate all of us to do well."

Undergraduates added these qualifying characteristics as they explain how instructors were to instruct and respond to students. For example, “The role of the teacher in the classroom as a leader is to lead student[s]. A good interaction, friendly and positive role with the students (sic). Also she, (sic) makes a difference in the learning of the students.”

These affective qualities appeared to support the learner. Students, in their learning, did not want merely interaction or information, but interactions and information structured in a positive way to support the learner. Positive emotions helped to facilitate learning. An undergraduate survey respondent wrote an instructor is

[t]o advise the students of what is needed to complete the course and what is expected to do so. To communicate with the students in a timely manner so that they are informed and don't get behind. Be open/patient and willing to provide solutions for students seeking help. Being committed to helping students further their education. Challenging students to dig down deep to discover their full potential.

It is imperative instructors offer challenging assignments but are also open to questions and lending a helping hand when needed. The other role in the classroom is the student's role.

### **Students' Roles**

The second element of the teaching and learning paradigm is the student's role. A word frequency count was tabulated for the instructor and undergraduate surveys. In the instructors' and undergraduates' questionnaire, “learn” was the most frequent word, and “assignments” was the second most frequent word (Figure 4).

*Instructors*

Word Frequency Query

assignments	course	learn	instructors	skills
				active
	students	learning	instructors	all

*Undergraduates*

Word Frequency Query

learn	assignments	dc.	students	time	work
		student	teacher	see	graduate

*Figure 4.* Comparison of word frequency count of undergraduates' roles

Assignments seemed to be a large component of the student's identity. Students' roles divided into three main areas: (a) learning, (b) work, and (c) skills. In the majority of instructors' and undergraduates' responses, characteristics of students' roles were more than one-dimensional. Most comments reflected two if not all three roles in one quote.

**Learn.** Instructors and undergraduates viewed learning as the number one task of a student. An undergraduate commented, “The students (sic) role in the classroom is to learn all the information and material that is presented. Also the student’s role is to immerse (sic) themselves so they can get an understanding of the material.” The concept of “learn” was used by itself, “to learn” and in combination with activities responsible for learning. For example, one instructor in the questionnaire wrote a student’s role was “to learn, question, challenge, grow personally, grow professionally.” The concept of “learn” was broken down into tasks done to learn. Students learned by asking questions, listening, paying attention, studying, and participating.

Undergraduates explained they ask questions “when needed” to “get clarification for assignments,” when “they don’t understand,” or to “aid in solidifying knowledge regarding the course subject matter.” Another student succinctly clarified, “Student’s (sic) roles are to learn, discover, question and explore.”

In addition, an undergraduate explained, “A student’s role is to listen to the instructor. Also ask questions if you have a question. Participate and complete all assignments given through the course.” In the same vein of listening, paying attention was another component of learning. The student actively absorbed the information from the instructor and the class. An undergraduate wrote, “The students (sic) role is to pay attention in class and listen to the teacher. Come to class everyday prepared and ready to learn. if (sic) the student does not understand the assignment the student should ask for assistance.” Another undergraduate explained, “To pay attention, to try to be like a

sponge with information, to question what is being taught, to learn and put what is learned into practice.”

Participation is an important component of learning for instructors. Six of the twelve instructors’ survey respondents mentioned participation as a role of the student. One instructor wrote, “Listen and participate in activities, projects (group & individual), discussions, etc. Be respectful to the professor and other students.” Undergraduates also believed participation was critical to learning and a role of the student. One undergraduate wrote, “To listen and participate. That is how we learn.”

**Work.** The next role of the student was work. Work consisted of tasks to accomplish in the course. Work included assignments, assessments, group projects, and, in an online course, discussions. An instructor at Texas Woman’s University explained this idea as to “complete assignments, evaluate, think critically and solve issues with their virtual child, improve technology skills, improve writing and grammar skills.” An undergraduate clarified work as

Checking all classes for work, emails (sic), and assignments. Read the book and do all of the assignments that are due in a timely manner. Participate (sic) in discussions and blogs and such so that they can learn the material. Ask the teacher if there is (sic) any problems or questions.

Another undergraduate added logging into Blackboard as a “work” activity.

Many of the instructor and undergraduate questionnaire responses added a qualification to work and, more specifically, assignments. Assignments needed to be done “on time” or “in a timely manner.” These comments led to the third role or requirement of students in the teaching and learning paradigm.

**Skills.** There was a skill set undergraduates needed to possess in the teaching and learning paradigm in order to be successful. Some students appeared to possess these skills prior to the online course while other students developed the skills during the course. Skills included respect, responsibility, time management, open-minded, and being active.

Respect was a term used by both instructors and undergraduates. Instructors commented students needed to be respectful to instructors and fellow classmates. Undergraduates agreed, “A student is to be studious and be dedicated to their work. They are to respect the teacher and be respectful to other students.”

Students also needed to be responsible for personal learning and work completed in the class. “The students (sic) responsibilities include reading all course content and readings, complete and submit weekly quizzes, discussions, and assignments before its (sic) deadline[s]. And communicating with classmates and the instructor.” Personal learning responsibilities included being proactive and asking for help.

It is the student's responsibility to diligently monitor all assignments, due dates, and requirements and to submit them in a timely fashion. Students should be actively involved in online discussions and message boards. It is the student's responsibility to ask questions if materials or instructions are unclear, and to ask them in advance of the due date. It is the student's responsibility to log on daily to monitor for updates.

Part of student responsibility was time management. Undergraduates needed to manage time well. One undergraduate explained time management was important for learning content. Undergraduates needed to manage their time and do the assigned readings outside of the classroom. Another undergraduate added time management was

necessary for making sure assignments were submitted on time. The student's role is "to be professional. do (sic) their work to their fullest potentials. ask (sic) questions if they dont (sic) understand anything. try (sic) and help other classmates if they can. turn (sic) in assignments on time. make (sic) time to do the work and to study."

Another skill undergraduates needed was "[t]o be open to new ideas." Another student added "To have a healthy curiosity (sic) about subject, be open minded, and to have a desire to learn a new skill."

The last skill a student needed in a classroom was to be active. This concept includes being motivated and engaged with the content, the teacher, and fellow students.

A teaching assistant at Texas Woman's University explained in the questionnaire,

The students (sic) role is to be an active learner by participating fully in the class and to demonstrate their knowledge and understanding of the material presented. Students need to be active in the learning through class discussions and attendance and group assignments, as well as individual assignments.

Undergraduates concurred with the instructor's perspective of being actively involved in learning. "Students should be active, contribute to the discussion, share the insight and be an active participants (sic) in learning and also enjoy the learning experience." One undergraduate summarized the students' role. The students' role was

Being committed (sic) to give their all. Putting a lot of time and effort in to doing what is required to attain the goal at hand. Communicating and being open to gettingfany (sic) feedback and support from people who have experience working with students and knowledge about education being sought. Using all of their resources to gain knowledge. Setting goals and working diligently to complete the task at hand.

## How the Teaching and Learning Paradigm Translates into Online

These developed constructs of instructors' and students' roles in a teaching/learning paradigm have been shifted into the online environment. These roles are in the process of being redefined as the environment of teaching and learning has moved online. This section presents findings on how instructors and undergraduates perceived these paradigm shifts of roles and classroom.

**Roles.** In the questionnaire, half of the instructors and 80 of the 257 undergraduates responded they did not think there were any qualitative differences in instructors' or students' roles in the online classroom. More instructors and students wrote no differences but then clarified differences. An instructor at Texas Woman's University explained, "The roles are not different in the two classroom, however, the amount of responsibility on the student for their own learning is greater." An undergraduate wrote,

no. [T]he student is still responsible for reading and understanding the material along with the assignments and the teacher (sic) is responsible for preparing readings/assignments, then giving the feedback necessary for a student to understand what they might have done wrong or even right. the (sic) only thing difference (sic) is the availability (sic) of asking questions that might arise as something is being discussed in a class, instead, online classes have a turn around time for questions to be responded to.

The reoccurring theme was a paradigm shift of roles as the instructor moved from teaching, lecturing, and disseminating knowledge to creating an environment, providing support, and delayed communication. An instructor at Collin College wrote, "The online course requires more work prior to the course beginning. It is more dependent on

student's personal goal setting and ability to work independently.” Instructors in the interviews agreed work and class preparation was “front-loaded”. Grace, an instructor at Texas Woman’s University, explained,

I’m not real organized and so online teaching really makes me be more organized and it makes me frontload my classes more than kinda work on it all along you have to work, work, work to get them done up front and then you can kinda of not coast but, but attend rather than constantly be putting assignments up or changing them.

Mary, a professor at Grayson County College described how online classes were overall more difficult and required more skills and time from instructors.

It was very time consuming as it still is today. Uh you know it’s a tradeoff. The time, it’s flexible but then you might say Oh I’ll just need 2 hours to make those quizzes, and it turns out 6 hours later you’re still working on those quizzes or you’re still grading those papers versus just, and I hate to say just, but just uh getting your notes together and your activity for an in-class lecture and interaction activity to get the students involved

On the same token, the student’s role shifted to taking on more responsibility for personal learning and becoming more actively engaged. “In an online class, [the instructor] is merely a moderator.” Two undergraduates explain this paradigm shift of roles. The first student commented on several teacher supports a positive shift in the online course.

I would say the role of the teacher is much the same except that they are not lecturing and regurgitating the text book back to the students. Otherwise they still present the information that students need to learn, grade work and ask and answer questions of students. The student however is not required to show up at a particular time. They may or may not take notes or ask questions. Students can still participate in discussions and listen to information the teacher presents via podcasts. Students still need to study for tests, turn in work and be prepared.

The second student commented on the same supports of the environment, but the teaching presence appeared to be missing.

[I]n face to face there is alot (sic) more that the teacher does. For example when I went to classes, the teacher went over the power points, the chapters, the discussions. With online, the teacher isn't (sic) there. its more where the student reads the chapters, does more research, has more to do of themselves.

Some of the undergraduates perceived the shift negatively and viewed it as a lack of teacher's outcomes for students. One undergraduate wrote,

The teacher in a face to face classroom has higher expectations for the students since the students see the teacher once a week. Therefore, the teacher will teach the students more of the data rather than only relying on the student to teach themselves.

This shift in student's role placed more requirements on the student, which required more skills. Undergraduates explained more skills include more time management, more self-direction, more motivation, and more organization. Lucy, in a focus group at Texas Woman's University, explained that undergraduates needed,

self-discipline, gotta have it, um that, time management skills, I mean obviously like, tech skills, and you have to be able read fairly well but yeah if you don't have discipline or if you are sitting there and I don't know Criminal Minds comes on you have to be able to pause it or something or go in another room.

An undergraduate survey respondent clarified why time management was an important skill to have.

The studnet (sic) has to be able to manage their time wisely and stay on top of their schedule/calendar. If the Blackboard or the internet is down that can cause problems. I think sometimes people wait until the last minute to do an assignment and then find out the internet is not working.

So staying on top of that and completing assignments a little earlier is a wise idea.

Another undergraduate student wrote how the skill of responsibility appeared and worked in the online environment.

I have to be responsible for myself on the calendar and when things are due and if I don't understand something then I need to make sure I go about finding out how to do the assignment to the best of my abilities.

Learning was placed firmly in the hands of the undergraduates. Another undergraduate in the survey explained a combination of characteristics needed for an online student. "Yes. You must be able to manage your time efficiently and be more disciplined to complete assignments. You must also be able to feel confident to ask for help since there are no face to face reminders and instructions." Confidence seemed to be a critical skill in the online environment. This finding will be discussed more in the next chapter.

Another skill undergraduates commented they needed in larger quantities in an online class was self-motivation. "Online course's (sic) are different form (sic) a face-to-face course because you have to be alot (sic) more self motivated. It is up to you the student to make yourself get your work done and turned in before the dead line (sic)."

The last necessary skill discussed by undergraduates in an online environment was organization. Students needed organization of the course environment and organization of coursework in the midst of their busy lives. One undergraduate explained how organization worked.

These people must be very organized and persistent. They are required to hold down a full time job and be devoted enough to come home after work and set time aside in order to complete tasks set out by the instructor. These people are generally older individuals who have children at home.

### **Classroom Differences**

Participants compared the pedagogical practices of teaching and learning in a face-to-face classroom and an online classroom. Three main differences emerged from the surveys, interview, and focus groups. The differences were environment, interactions, and work.

**Environment.** The most notable difference between the face-to-face classroom and the online classroom is the lack of a physical “brick and mortar” room. “[I]n an online class everyone is on the front row.” The participants defined environment to include access, schedule, lack of nonverbals, and technology.

Online courses could be accessed from everywhere and at anytime. One instructor from Texas Woman’s University answered, “Online courses can be accessed from any where, face-to-face require the student to have ‘seat time.’” Undergraduates concurred. “The online course works around your schedule. Face to face you ahve (sic) to work around its schedule,” and another undergraduate wrote,

The online course can be taken anywhere from your home or work, anywhere with wifi or internet access. A face to face (sic) course involves transportation and being in a classroom at all times. Online courses involve good time management skills.

“In an online classroom you do not have that fear of going into class unprepared. In the face to face (sic) classroom you seem to prepare yourself more since the possibility of being called on is higher.”

Online courses allowed students who could not attend a typical face-to-face class an opportunity to learn. A nontraditional student explained,

The online courses gives (sic) the student the opportunity to do their work, get it done, and have a little time to do things within their schedule. As a single mother, online courses are a blessing. They give me a chance to learn and succeed while providing for my child. Face to face courses use (sic) to be exciting for me when I was younger but now Im (sic) more focused and I have more responsibilities as an older woman. I also love that I can wake up at 3 am and do the work I need to, or take a quiz within the deadlines of course.

Within this instant access and convenience of online classes, there is also a lack of nonverbal communication. One Texas Woman’s University instructor respondent wrote,

The major difference [between the classes] to me is the ability to read body language and facial expressions . . . On the flip side, I am able to hear my 'quiet' students better online. They talk more in discussions online than they do face to face.

However, an instructor at Grayson County College explained online courses could offer a deeper perception of teaching and social presence.

Done correctly, online students can feel more in tune with the instructor and their peers than students in face-to-face courses. The biggest difference in online and face-to-face courses is the freedom of time online courses offers students. They do not have to lose an hour traveling to campus and getting to a face-to-face course.

In an instructor interview, Jade, a teaching assistant at TWU, explained how online classes if “done correctly” gave every student a voice.

I felt like I got to hear from every student and sometimes in a face-to-face class you have quiet students that don't talk as much and you only really hear their voice in their assignments and written papers which is sporadic through out the semester, but online it's more of an ongoing conversation so you get to hear from everybody I think.

Online courses appeared to offer equal opportunities for each learner to contribute to the discussion. However, these ideals laid out by the instructors appear to not be translating well into the online environment. Stacey, an instructor at Collin explained how in the new culture it was hard to interpret without nonverbal cues. The lack of nonverbal cues brought first culture ways to the forefront.

It's very hard interpreting sometimes what students are saying in written work versus face-to-face where you're actually seeing their facial expressions and their nonverbal cues . . . I also become really aware how important it was, that I word my messages to students or word what it is I say to students because they can't see me. It can sometimes be misinterpreted one way or the other good or bad

Lucy, a participant in the second focus group, perceived online class to not be an effective means of teaching.

Jennifer: What do you think, from a student perspective, instructors think online learning is supposed to be about? I mean what are the instructors doing?

Lucy: I don't know I kinda feel it's a bit of a cop out for instructors cause they don't really have to do much like we have no idea if they are reading anything, and I've gotten direct feedback from work twice this semester in one class and none in another class. I get grades I don't get any feedback for any of the grades.

Technology is the last environmental component difference between online and face-to-face courses. Online courses use technology as the platform for learning rather than as a tool. An undergraduate wrote, "[Online courses] allows for you too (sic) use

more technology than in a face to face (sic). It is not just soley (sic) lecturing all the time.” Another undergraduate noted of the online child development course, “THIS COURSE REQUIRED A LOT OF TIME. THIS CLASS ALSO REQUIRED MORE TECHNOLOGY IN ORDER TO COMPLETE THE COURSE. I FOUND THIS CLASS MORE STRESSFUL THAN YOUR AVERAGE FACE TO FACE (sic) CLASS.”

A third undergraduate linked technology knowledge of the instructor in the effectiveness of an online class.

I don't feel as if you get as much one on one (sic) attention in a (sic) online class. I feel if you get a professor that does not understand technology then you do not have a good experience in the online class. If you get a professor who is orginized (sic) and well versed in technology you can have a wonderful online class.

**Interactions.** The next difference between online and face-to-face courses was the interactions in the environments. Differing opinions came forth from instructors and undergraduates and among the undergraduates themselves on this topic. On one hand, some respondents explained online courses offered more individualized communication and a safe place for self-expression. An instructor at TWU reported,

The online course encourages more participation from the learners and the instructor. An online course is more than a lecture, it allows the students to develop their knowledge if set up appropriately. Students interact more in discussions in online courses.

One undergraduate in the questionnaire wrote in the “face-to-face classrooms, there is less involvement and more lecture. Online classrooms allow more hands on involvement in the curriculum which, in my opinion, allow students to retain more information.” These interactions were not always the chosen preference for students, but

it helped students increase their understanding on topics. An undergraduate survey respondent clarified,

We are forced to enter discussions (sic) which gives you more access to what others in the community are thinking. It gives us the opportunity to be bold in our (sic) beliefs and not hide our opinions as many Face-to-face classes do. It requires students to improve on their written communication skills to coherently express opinions while politely disagreeing with other's opinions.

Online courses appeared to allow students time to compose their thoughts.

The pressure to quickly respond while others watched was removed and allowed the introverted students to have more equal access to the discussions. One undergraduate described how “[t]he online discussions gives the student a certain level of comfort because a student may not feel judged for their responses.”

Undergraduates wrote they could be “more honest and free” and “allow[ed] more self confident interaction between other students and the teacher.”

I also feel it becomes easier to talk and explain my ideas. Unfortunately, with it being online, I do not feel as much as a connection to my teacher or my classmates. I feel their (sic) just there rather than having social face-to-face interaction.

Some students in online classes specifically took online classes to not interact with others. An undergraduate questionnaire respondent explained,

I also like the fact that I can write a post when I take the time to do so, not whenever the course is scheduled to meet . . . I also like the fact that I don't have to hear everyone's opinions and useless comments that take up time that I could be learning . . . I like the fact that if I start reading a post and it sounds childish or not well prepared, I can exit out of it and go on to the next one.

When asked ways to make online classes interactive, Rachel in focus group 6 explained some people, including herself, took online classes for the express reason not to interact with others.

[S]ome people I think take online classes so they don't have to be face-to-face so they don't have to interact with people so I mean I know this summer I was, I'm not happy about being in classes at all, um, so I'm doing, I hate to say it, I'm doing the bare minimum of what I have to do to get by. I'm don't, I don't want to get to know the people ...I'm to the point where I just want to get the course over with. I want to be done.

Rachel's motivation to acculturate for that class was small. In addition, the online environment offered a chance for undergraduates to ask the questions they wanted to ask but could not. "It's more personal in a [face-to-face] classroom in my opinion, but you are still faced with the issue of feeling like you cannot ask a question in class. It's easier to sit behind a key board and ask a dumb question, then to say it out loud."

On the other hand, the online environment offered less immediacy, less interactions, less social presence, and less teaching presence. Lack of immediacy referred to the delayed responses to a question. An undergraduate wrote,

If you need clarification on something you have to e-mail it and then get a response. If you were in the classroom then you could just ask and then get a response right then and probably clarification for someone else.

Undergraduates perceived there was "[l]ess interaction with others. However in most lecture classrooms there's not much interaction other than lectures." Even though the same number of interactions may have been occurring in the face-to-face and online classrooms, the undergraduates perceived there were less interactions in the online

environment. In the second culture of online teaching and learning, flaws of the first culture were exposed. This idea will be discussed in detail in the next chapter.

The social practices of how to communicate shifted in the two environments. Verbal turned into nonverbal, and writing, the main form of communication in the online teaching and learning paradigm, caused a barrier for both instructors and students. A teaching assistant at Texas Woman's University explained, "sometimes it is difficult to achieve clarity in a text-only environment." Another instructor at TWU offered an example of how a student struggled with communicating a need in a written correspondence.

I have a student, her husband has a brain tumor, and he just went on chemo so that's why she hasn't done anything. Well you know I think there that whole idea if, if she was face-to-face . . . we would have communicated earlier. . . you don't see the body language, you don't, you don't hear the, the, you don't see or hear the types of things because everything got to be, again has to be typed up.

With the lack of nonverbal cues to accompany e-mails and discussion posts in the online environment, instructors and undergraduates had to think and reword e-mails to ensure clarity of intent. An undergraduate wrote,

I dont (sic) get to talk to these people. We can share things, but it is limited to how much we feel like typing, or how often we are able to check discussion boards. If I have an in-depth problem, I cant (sic) sit down and discuss it with a teacher. I have to depend on wording it correctly in an email.

Writing takes more time and effort on the instructors and undergraduates. Lucy in focus group 2 explained how she composes her discussion posts.

Lucy: The whole point of online is you're trying to, you have to, you know, give your thoughts and so it takes time and effort to make sure that what you saying is what you want to say and that tone you can't really tell tone you can't see gestures and facial expressions so you have to make sure that what you are saying comes out as you mean it and so it always takes more time and effort and so when you're doing that for 10-20 students and each one takes like 20 minutes to respond to it adds up.

Jennifer: so do you reread your posts to make sure that it is?

Lucy: cause something I would say that sounds funny in my head once you see it written down you are like oh they might think that's a little smart ass so let me reword that.

The written word as opposed to the spoken word was harder for instructors to engage students on an individual level. Erin, an instructor at Texas Woman's University, explained the conundrum.

The thing they want the most is you. Just like a little kid and the thing you have least to give is you cause there's 20 of them, 40, 50, 60, 70 and there's one of you . . . if I were sitting. . . in a face-to-face class and I spoke to you . . . the other 30 people are gonna hear me talk to you and they're gonna hear that information and how they interpret it who know? . . . but here on a discussion board . . . if they choose to go there then they hear it, if they don't then they don't think I'm not there, but I've been there I just chose to talk to you cause I can't talk to all of -em, or if I say something to all of -em, it can't all be profound.

**Social presence.** The lack of interaction seemed to have led to a lack of relationships and in turn a lack of social presence. The physical distance was also experienced relationally. An undergraduate survey respondent wrote the online course

felt “very cold and impersonable (sic).” Another undergraduate wrote, “I do not know anyone in the class personally except for one person so I feel kind of lonely.” Without the relationship, a strong component of learning seemed to be missing. One undergraduate explained,

A face-to-face course gives the opportunity (sic) for relationships. Where there are relationships, stories can be shared and things can be learned from one another and not just from a textbook. Online classes try to recreate this aspect via discussions and required responses... but when it becomes a chore, and not something that naturally happens, it takes away the benefit. People do what they have to do to get the grade they need, and no more. They have no interest in a stranger's experiences, they don't know that person, they don't even know what sex, or race, or anything about where they came from, who they are. I feel like online classes have a "get in, get done, get out" kind of feel to them. They . . . can never compete with a true class.

Nancy and Melissa in focus group one explained how one professor tried to establish relationships in the class through students posting pictures of themselves.

Melissa: And this, this class that we have um she actually had our well we posted our pictures and everything so I mean I know who I am commenting on cuz I can see their picture but other than that you know you don't know them very well.

Jennifer: But even then you still feel really, even those you have seen their face, they're still not someone that you know.

Melissa: No

Nancy: Unless you like see them in one of your classes up here.

Instructors also commented it was difficult to establish those relationships in the online class. “It is difficult to develop a relationship with online students and to help the students to develop relationships with each other.”

**Teaching presence.** This perceived lack of interaction extends to include the instructor as well. Some undergraduates experienced a lack of teaching presence.

It's a lot less personal and when you are having issues late at night, there is no one available. Where as with face-to-face classes, you can ask questions on the spot and you can ask your classmates who you see every day or every other day. It's more intimate to be in a face-to-face course.

Teachers are not merely perceived as being physically distant, but emotionally distant as well. “The teachers can be cold when you ask for their help. It sometimes seems like the teachers are only teaching online classes because (sic) they don't (sic) have to go into a classroom.” Another student response indicated how personal issues were perceived by instructors.

I don't like that the online course doesn't care about all the other things that are happening in my life. I hate how I feel that even if life is crashing to rubble around me I can't care because I have to turn something in on time.

Instructors feel a disconnection to students as well. Susan, an instructor at TWU explained her initial feelings in her first online class and how she transitioned over the semesters.

I think the first time I taught online it felt kinda disconnected from them um and so that's probably one of things that I work on doing are coming up with creative ways to get students involved with each other and get me involved with the students so it's not just a name on a list . . . and I encourage them to go in and not just read the introductions but to talk to respond to their students so it almost like they are introducing each other um that way it's not one person taking an online class they kinda feel like they have a cohort that are that are working together

Other undergraduates did experience a sense of teaching presence from their instructors. One undergraduate questionnaire respondent wrote, “Teacher responds to

communication quickly and addressess (sic) any issues. Has a well thought out schedule for the class.” “The teacher set a platform (sic) for us to be able to not only openly discuss things and ask each other questions but to also talk to her.” A third undergraduate explained even further,

I am 100% satisfied with my professor's work and ability to teach this course online. I love how she is able to assign group projects as well as individual projects throughout the 4 weeks and have them graded so quickly!

It seemed to undergraduates that teaching presence was established when instructors replied quickly, graded quickly, and facilitated interaction between students and students and students and content.

**Teach self.** This lack of teaching presence seemed to increase the perceptions that undergraduates were teaching themselves. An undergraduate survey respondent wrote,

I have noticed that the instructor (sic) is less likely to help if the student is having a problem. Out of the five online classes I have taken, I have noticed that the teacher tells you to figure it out yourself. When a teacher doesnt (sic) help with a question it can take a lot of time away form (sic) the student. Some teachers take too much time getting back to your email.

Undergraduates explained online classes were more self-taught and guided, while face-to-face allows more teacher-student interaction. One undergraduate questionnaire respondent described how,

It's more self passed (sic) and you have to be driven or motivated to complete the assignments. Your pretty much doing it all on your own. In class you can ask other students or the professor questions right then and there, online you can either email or call.

Another undergraduate questionnaire respondent added how feelings of teaching self impacted emotions by increasing the frustration levels.

It feels more frustrating than a face-to-face course. It is not as easy to simply ask a question, although I suppose in the long run it's a good thing because it forces one to depend on oneself and try to find the answer before asking a question.

Incidental learning also seems to be absent from the online courses, which increases a perception of teaching self. Susan, an instructor at TWU, clarified about students asking questions that had already been asked by other learners,

[T]hey're complaining a lot about the quizzes that they have to take . . . the ones that are complaining I can guarantee you are the ones who aren't reading the book as thoroughly as they should be they're not watching the video clips, and they're not going through the lecture notes um had they been in a face-to-face class a lot of that stuff they get from just being in class and listening to me and the other people talk um

Susan continued to explain why the online environment was perceived as an environment to teach self.

I think a lot of undergraduates are under the impression that if you can take something 100% online it's going to be easier um and I try to, when they're in here for advising I try to let them know that I honestly think it's harder for the undergraduates . . . they have to be really responsible for doing it on their own . . . They expect you know that they can open the book and open the quiz online and find all the answers while they're taking the quiz

Nancy, in focus group one, reported how the teacher explained the online learning environment for her class in terms of seat time or the time in the traditional face-to-face classroom.

She explained it that, like, for the time we don't spend face to face you have to make up actually working yourself and teaching yourself so it

made a lot of sense well of course I'm going to do more work if I'm not listening to someone talk to me.

Susy, in focus group 6, described her perceptions of teaching herself in her first online class.

I think that I am learning a lot more online because I am not being taught. I am teaching myself, and I have to go look up stuff on my own. I have to find the information I need. I have to make sure I am controlling or attempting to control as much as I can my environment and my schedule so I can have everything done on the time it's supposed to be done and also carrying out daily life activities that I have to do and I feel like it's teaching me a lot of responsibility.

Lucy, in focus group 2, clarified that how the lack of interaction impacts the lack of learning.

Lucy: If they give you all the information and if you're not particularly skilled at translating it into something that is of interest to you and something that will sink in especially if its not your major then yeah you're going to learn it just long enough to do the homework assignment or the quiz or the exam and then it's... I think it's that, that the spontaneous discussion that happens in classroom is what helps it sink in cause you remember you're there you have other senses that's happening versus you just sitting on the couch reading your laptop

Jennifer: It's more of a sense experience in a face-to-face as an online where you're trying to make your way through it and trying to learn the material and the technology

Lucy: yeah the more senses and you know the more sensation that is attached to whatever you are hearing or experiencing the better chance it's going to stick in there

**Graded interactions.** A key difference noted by undergraduates and instructors in interactions between face-to-face and online classes was that discussions are required

and graded. An undergraduate survey respondent wrote “In a face to face (sic) classroom you do not have to join in the discussions but online you do.”

In focus group 4 undergraduates elaborated on the perceived purpose of discussions.

Cindy: I think that’s what . . . the posting and responding to others’ posts is suppose to mimic or- but I don’t feel in this particular class . . . I do um my 2 posts on somebody’s and I try to go back in and, and read other people’s, but I catch myself just not really

Darcy: I don’t engage because I’ve got other stuff to do

Eliza: When there are 25 other students in the class and sitting there reading everybody else’s posts and everybody else’s reposts, or I don’t have time to do that

Discussions are required, and undergraduates’ contributions to discussions are counted and totaled. An undergraduate questionnaire respondent wrote,

[Y]ou must respond to certain emails or discussions and if you don't you will not get a grade. If you do not log on at least once a day to your online class, it will reduce your grade potentially. With face to face (sic) classes you can be in class and say minimal things during the class period and still get credit for being there.

Mary, a GCC instructor in her interview, commented on how discussions are graded.

I’m a lot stricter obviously on the online discussion because in face-to-face I actually think unless I sit there with a tally sheet . . . I’m not going to do that in a face-to-face, but in an online class I do. They do get points for every discussion post.

Discussion boards are asynchronous and graded. It appears some undergraduates and instructors feel they are forced. In addition, discussions are thoughts written out.

Susan, an instructor at TWU, explained how the online environment might inhibit written discussions.

You know to thoroughly grade all the discussion posts in a large class it takes a really long time for them to go in and make these long posts and then respond so many times um it's a lot of work where as if we were just having class discussion that would be a lot, a lot easier and quicker and easier to facilitate,

Susan then commented on how the discussions were not directly translating from the traditional classroom to the online classroom

I would love it if we could do as many discussion board posts as we could have discussions in a face-to-face class. It's just not feasible in an online class so I think I've had to tailor what I expect and what I would like to do just, just to the limitations of being 100% online and to be within a semester and not completely overwhelm the class and make them do tons and tons of work.

Grace, a TWU instructor in her interview, also discussed her perceptions of the limitations of online discussion participation.

I don't care for discussion board because it's too text-bound. I wish that we could all have avatars or at least little icons or something, skins that would pop up, you know, even it was a cartooned picture of me . . . It was just literally you know name after name after name and sometimes the students' names are the same so you have no contextual clues to who this is because you just see their names so I, I just see that there are some pieces of it that are just really you know problematic that are so different than if you were to see them every week and one of the things.

Discussions, at first look, appear to develop interactions and connection to others. The lack of context, the lack of visual cues, and a requirement for each student appeared to limit the effectiveness of discussion boards.

**Work.** Work was the last area where online courses and face-to-face courses differ. Instructors and undergraduates commented online classes were more time-consuming. Instructors spent more time initially in course construction than in a face-to-face class. Lyndsie, a professor at Texas Woman's University, explained in her interview.

There are so many more things you have to anticipate and be ready for when you're teaching online cause you can't just show up in the classroom and wing it . . . Students access the Blackboard shell at various times and so it just took a little getting used to in terms of making sure that, there were several misunderstandings [that] came up just because you have to make sure that everything in writing is exactly, that it's very clear because they can't well they can ask questions.

Moreover, the course work was perceived as heavier in online courses. Instructors explained they must account for seat time.

Grace, an instructor at Texas Woman's University explains,

I think the immediate thought is um we [undergraduates] don't have to do as much "ooo let's take it online we can stay home in our jammies and there won't be as much to do. We don't have to pay for gas; we don't have to go to campus, don't have to take that time" but then as a professor I feel that I, somehow I have to substitute that class time which is I think um 2400 minutes per semester so I have to substitute something to make sure you are actually engaged in that time whereas if you came to class you may sit on the back row or even in the front row and you aren't engaged the whole time you are there but in an online class there is engagement whether you like it or want it or not because that's, the engagement is, is that which you are graded upon.

Grace commented student engagement perceptions are different in the online and the face-to-face courses. Undergraduates noticed the quantity of course work and some perceived it to be busy work. One undergraduate explained, "I feel that we are assigned

busy work to ensure that we are doing "something" for a grade. Some of the assignments are lengthy and superfluous." Another undergraduate respondent wrote,

I HONESTLY THINK THAT ONLINE CLASSES REQUIRE MORE WORK. SOME PROFESSORS THAT ARE IN CONTROL OF THE ONLINE CLASSES FEEL THAT SINCE WE ARE NOT IN CLASS WE AREN'T GETTING ENOUGH INFORMATION. THIS IS WRONG. WE CAN GET JUST AS MUCH INFORMATION AND STILL HAVE THE SAME AMOUNT OF WORK LOAD OF A LECTURE CLASS.

In the midst of more course work and more time required to complete it, undergraduates wrote they were provided less direction. Undergraduates at focus group 6 at Collin College theorized about why instructors assign that large quantity of work.

Jennifer: You were saying professors give you a whole lot of work to do in a class. Why do you think they do that?

Susie: Maybe because the more quantity I give you, the higher the chance, the chances are higher that something will stick from all of it.

Rachel: I think part of it is they can't tell from face-to-face interactions Are you reading? Are you getting it? Are you-? So the more that we give them, the more they can tell because even in a face-to-face class you could assign me one paper, but in say in class discussions and things like that. A class discussion doesn't seem like work when you're in class, but we are counting discussion posts as work so all-in-all it's the same thing we're just having to type it out and have it in by a certain time rather than participating in class.

On the other hand, instructors struggled with creating explicit directions to bridge the nonverbal gap in the online classroom. Maddie, a Texas Woman's University teaching assistant, explained,

My main concern teaching online is to try to anticipate the problems before they become problems because you don't have the face-to-face interaction and the course time where you're together for one question to feed off another question and for all of the clarification to be made.

A Texas Woman's University teaching assistant wrote,

In an online course, you have to provide a lot more written direction for the students in order to clearly express expectations on course assignments. You also need to provide more electronic communication to be able to clarify anything that may be not clear to some students.

In summary, there were indications of the beginning to be a pedagogical shift of instructors' and students' roles in an online classroom. As the shift is occurring, students and instructors vacillate about their roles and functions and how to accurately translate them in the new learning platform. The first culture paradigms are being reconstructed in the second culture paradigms and some roles translate fluidly, but others are experiencing problems due to the new platform and the users of the culture. Some are ready and motivated to move on and persevere while others are mired in the traditional paradigm of teaching and learning and are not trying to use the second culture, but doing the first culture in the second culture and it is not working.

### **Research Question 3: What Role Does Technology Play in Teaching/Learning?**

This research question examined instructors' and undergraduates' perspectives of technology in their personal and academic lives. The theoretical frameworks of second language acquisition were used to view these roles.

Two main roles for technology in teaching and learning emerged from the questionnaires, interviews, and focus groups. Technology was perceived as a tool and as a language.

Technology is an integral part of education. Embracing the technology allows teacher's (sic) and students to connect, expand their learning and

core understanding of topics they are studying. Technology can add a dimension to the classroom that helps engage those that normally would not be engaged.

### **Technology as Tool**

As a tool, technology was used as a vehicle to facilitate or supplement teaching and “enhance the learning process.” Half of the instructor questionnaire respondents described how technology should be used as a supplement. One instructor wrote, “Technology should be used to supplement the teaching, either verbal face to face (sic) or written online,” and another instructor added, “It should enhance the learning environment, not just be a toy to add bells and whistles. Technology should be used critically to meet the needs of students.” An undergraduate survey respondent explained, “Technology is an enhancement tool. It allows you to visit in a non-threatening learning environment (sic) all of the options for material presentation. It can be a hands on (sic) learning center.” Another undergraduate explained how students used technology as a tool.

It is a very useful tool for education. It allows you to watch video's (sic), accomplish tasks more efficiently (sic), learn from a variety of sources, you now have e-books online. It should be used in education as a valuable learning tool along with the teacher instruction.

Technology as a tool placed the teaching in the hands of the instructor. One undergraduate clarified, “I think that technology should always come along side teachers and never replace teachers. It should always be used to support education, but not at the loss of interaction between the teacher and students.”

In focus group 5, Kevin gave the analogy of technology being like pen and paper.

It's "just to get something done."

Kevin: It's a tool and it's a useful tool. I mean just in my own use of it I mean it's easier to store notes, lectures or anything else.

Jennifer: What about using blogs, and wikis and some type of social networking platform and what is, what is your opinion on that?

Kevin: If it can be done well. I don't think it should be done for the sake of doing it, but I do if a professor is comfortable with and the students are, it's a great way to communicate then it would be useful, but if no one is comfortable with it, it becomes more of an annoyance than anything else. . . I mean it's the same thing if a professor can use it as a way to send out reminders or hands out assignments; it's a great tool but if they're not comfortable with it, it's not gonna work.

### **Technology as Language**

Technology was also viewed as a language. Technology was seen as inevitable.

It was perceived as the future of education. An instructor on the questionnaire commented, "All students should use technology as it will be part of their professional lives." Undergraduates extended the inevitable into all sections of life. One undergraduate wrote,

I love online classes, (sic) you can access them through your smart phone, laptop- anywhere. [T]echnology is growing and though it can be scary, we can't escape it so we might as well learn to use it now and have it benefit us in the classroom.

Another undergraduate added why adults needed to learn technology.

I think technology should be embraced in education because it is something that is not going away, and we need to be able to teach children how to use it safely and effectively. However, I do believe that we need to be using the right technology in the classroom, it should be beneficial to the student's learning and not just there for entertainment.

A third undergraduate explained how technology should be used through the entirety of the teaching and learning paradigm.

Technology should be used in every aspect available. Online classes have the potential to be so well integrated to the social and cultural world around them. Students might be more active and have a more positive response to a better integrated online classroom. Examples of how technology should be used range from video discussion responses to video projects and Skype group meetings. No longer is academia limited by technology.

Technology was a language. When undergraduates were asked “Give me your thoughts on this statement, ‘Technology is a language.’” Undergraduates paused, thought, and offered these comments. Lisa in focus group 3 explained how technology is a language.

I definitely think it’s a language um you take a person who has never used a computer and you try and put them for example in an online class they are gonna be so lost it is something that you have to learn. You have to learn piece by piece by piece as you go along.

Veronica, a teaching assistant at TWU, offered her perspective about a digital language and Digital Natives.

Technology’s always changing . . . I think online learning is um it’s just, it’s the way of the future I mean I think a lot, so many more programs are going to go online because I think that um there’s just a lot of people that, that especially the students now that are in high school or junior high you know I mean they, they’re learning about computers and they’re learning things about computers that we didn’t know that we’re having to learn and so these are techno-savvy kids and so the technology that comes out is compatible with their way of thinking.

Online education seemed to be an inevitable future for higher institutions.

Instructors and undergraduates seemed to have a perception that younger students have

more knowledge and experience with the technology culture. Lucy, an undergraduate in focus group 2, described how learning digital literacy may take longer due to the age at which the person encountered it.

I might be in the wrong generation for that I think like my kids know more about the computer than I do so I think it's it is well that's why I feel it's like a language cause if you grow up around it you're automatically fluent in it if technology didn't happen until you were like or this rate of technology didn't happen till you were in your 30s or 40s you might be a little bit hard pressed to try to figure it out you may not even care to figure it out.

Darcy and Cindy, in focus group 4 offered two perspectives of how technology was a language.

Darcy: Something you have to learn about and there's, there's well not pertaining to classes but I mean there's the you know LOL and then like on Facebook I was like what is SMH, and they were like "Shake My Head" (all laugh) I was like all right, whatever. I, I will like sit there and be what are they trying to say and it is. It's a language . . . my brother you know got a new phone and he got the same phone as I do and I was like did you do this? And he's like I didn't know you could do that.

Cindy: I have an education class that I took had an online portion in it and it said are you a um a technical, how did they say it? Are you a something immigrant.

Jennifer: Digital Native or Digital Immigrant

Cindy: Yeah Digital Native or Digital immigrant I said I was a, a fluent immigrant, you know, because I didn't I wasn't born into this . . . so I had to learn how to use them and my children taught me how to use them because they were born with a mouse in their hand you know.

Darcy discussed the aspect of text speak, a developed abbreviated language for use is communicating via technology, and Cindy discussed Prensky's ideas of Digital Native and Digital Immigrant. The word choice of native and immigrant painted a

picture of a language to be learned. Her response that she was a “literate immigrant” supported Prensky’s idea of digital wisdom. Having digital literacy is not related to age, but knowledge of technology.

### **Technology as Both Tool and Language**

Technology seemed to be in the midst of a paradigm shift. Technology is a tool and yet it is a language. Five instructors in interviews explained how it could be both. Their responses are in Table 17.

Table 17

#### *Instructors’ Views of Technology as a Language and a Tool*

Speaker	Role	Institution	Comment
Harry	Teaching Assistant	TWU	I see it as a multitude of things. It is a language in that we have developed our own language around it, (texting). It is also a tool to accomplish work, play, socialization, etc. I also see it as a culture, I often wonder what I would do without it and how much we depend on it but how little many of us actually know about the inner workings of it.
Veronica	Teaching Assistant	TWU	I see technology as a tool and a language. It a tool to aid in learning with online classes but it is also a language. One must be computer literate and understand the different computer programs and online platforms (wiki, Ning, Blackboard) to be able to implement them in an online environment. Basically to use the tools you really need to speak the language. You do not need to be completely fluent in the language, but you must be willing to learn the language to use the tools associated with the language.
Jade	Teaching Assistant	TWU	I view technology as a tool that promotes language; learning and exploration...just as paper and pencil enhanced communication in the past, so do newer tools today.

(continued)

Erin	Instructor	TWU	I think technology and language are both tools :) as well as living, breathing, changing entities that have been created to allow us to express self.
Mary	Instructor	Grayson	I view it as both a language and a tool. In most aspects of my online classes I would say technology is a tool. A tool that helps me introduce concepts and ideas and tie these to real life to make them meaningful to students. I find technology to be a language in education when I am creating my classes or when a student first accesses a course. The student realizes what a module, Voki, wiki, discussion and webcast are. Once they learn the language the technology turns into a tool for accessing the concepts and knowledge the students are seeking in taking a course.

In this language of technology there are Basic Interpersonal Communication Skills and Cognitive Academic Language Proficiency.

### **BICS/CALP**

Through the data sources, comments of differing types of technology language were discussed. The instructor and undergraduate questionnaire had sections for technology skills. In a factor analysis, these factors separated into the domains of general and educational technology; there are distinct technologies for BICS and for CALP.

BICS technologies were used in the academic arena and assist with CALP.

Instructors and undergraduates explained how technology language was perceived as Basic Communication Interpersonal Skills. Cindy in focus group 4 described how searching for information is a daily task.

I think that Googling or searching or trying to figure out the technology part of it is just kinda everyday part of our lives now because our lives are so embedded with technology that at some point during the day you're gonna have to look up on how to do something or how to- or like you said

you get a new phone, you gotta figure out how to use your phone and so you're- so it doesn't really impact your negatively your content knowledge you know your um whether you've gotten the content or not.

Earlier in the focus group 4 discourse, Anna and Eliza explained how online classes required CALP technology skills beyond the common BICS skills.

Anna: It's actually pushing you to be more technologically advanced cause I mean you know I wasn't really into technology . . . just the Internet, you know, cell phone, but I haven't really pushed myself until this semester cause I'm currently taking 3 classes online so it's good for you.

Eliza: I had an assignment due today that I did over the weekend. I had to do a wiki page. I didn't know what that was (laughs), and it, and it's in Blackboard. You do it through Blackboard, but I had to just sit there and play with it and try and look through everybody else's just to get ideas. What, what are you supposed to do with this?

There was a distinction between technologies used for everyday living and technologies for education. Veronica, a teaching assistant at TWU, explained her perceptions of undergraduates and their command of BICS skills and how they impacted the online paradigm of teaching and learning. Veronica further explained how the age of the learner impacted how technology is learned.

[T]he young online learners the, the ones who grew up with computers . . . and have had laptops in, in their room or, or whatever they know how to IM, they know how to blog, they, they love their computers they like the social networking so when you bring in the Ning, or you bring in the wiki, you know or you bring in chat where they can go in and chat with each other like through an IM. I think they might enjoy that because it's what they do anyway versus someone who is an older learner who's just come back to school after being out for a while, it might be confusing to them so you have to take into consideration.

In addition, Karen, an instructor at Collin College, explained how an academic language was necessary for success in the online classroom.

It's critical uh I think that in order to uh, uh really be successful they need to uh have a basic understanding of the software uh that they're using, of the computer um often times uh they uh a lot of things they just don't realize they can do uh because they don't understand technology.

Melinda, an instructor at TWU, clarified what CALP might look like with undergraduates.

I think some of them just even though . . . Blackboard is fairly new for some of them . . .figure out . . .what do I mean by, by attaching a document . . .you just have to give them more explanation

An undergraduate survey respondent also listed several academic technology languages that make up CALP.

In order to succeed in an online course, one must be computer literate and be able to scour websites, blogs, news articles, etc., in order to get additional information for the course. They must also be able to use Microsoft Office products, or a similar program in order to submit their assignments, because paper assignments cannot be accomplished through distance education.

Vanessa, in focus group 6, had more CALP as she described her journey as she learned the CALP necessary for the child development online course and the outside support she sought.

I had a wiki, well it took forever to do the Wimba and get on and the, the wiki. . . I was like I don't know what this does so I go get my daughter. "Show mommy how to do wiki. Oh you just do this, this and this." OK. Good at wiki. Good at Wimba now I'm like OK. . . and then at TWU the library, the research stuff oh I get lost up in there and I'm just like What? I mean Wait a minute, wait a minute. I was looking for this, what? And so I come out and they're like did you get it, and I'm like no. I'll just go find me a book somewhere else you.

Throughout the data sources, CALP consisted of Blackboard, Wimba, Wiki, library resources, and Microsoft Office. Google and websites were components of both BICS and CALP depending on how the respondent chose to use it. As in Cummin's (1982) model, CALP skills seem to develop after initial BICS skills. BICS seemed to aid in CALP development. Harry, a teaching assistant at TWU, explained in an interview how specific BICS skills aided CALP development.

I think first and foremost you have to have uh a basic understanding of how computers function um you know it helps if you know how to browse the internet uh be able to access the web, uh be able to access articles, uh I see a lot of students who have never used the databases at the library uh they're very green when it comes to doing research of any kind uh and so that tech- technology can enhance that aspect if they know how to use it.

Another undergraduate in the online questionnaire described how his BICS skills allowed for an easy transition into CALP.

My first online class was a few semesters ago, but I was already very computer savvy, and familiar with posting on message boards, so it wasn't a complete culture shock. It took a little time to discovery (sic) the navigation buttons and their functions, but all in all, it was a fairly seamless transition.

Greta, a teaching assistant at Collin College reported she did not have BICS skills prior to teaching online and the impact it had on the learning process.

Jennifer: Describe your technology skills?

Greta: um I was probably about a uh maybe a 3 or 4 and now I'm probably more of a 7 or 8 there's still a lot that I don't know at but I'm, I'm not as afraid of it, to learn about it

Jennifer: Have you acquired more technology since you started teaching online like more cell, use your cell phone more or more text messaging?

Greta: well I don't text (unintelligible)

Jennifer: in your personal life?

Greta: no, no text. But um some things still scare me online. uh, like, uh oh, now I can't even think of them but um what do you use uh where you can see, you can do your face . . . Wimba and, and some of those kinds of things I still haven't use those but I think I could learn it if somebody showed me how to do it, tell me I, I think I could do it, but there are yeah I'm doing a little more but only pretty much as much as required and then I kinda of stop

The lack of BICS did seem to hinder students in the online environment. An undergraduate complained,

Figuring out how to download videos of myself, pictures, new programs like Wiki. I'm not a computer savvy person. These two latest classes have been the most challenging, because I dont (sic) know what jpg. file means, or "just upload your link here!" Too much different stuff. It started out with just assignments (sic), tests, and papers. That's what I like.

Undergraduates explained if instructors wanted to use new technologies, new languages,

[I]t should be used in a way that the students aren't having to learn a new technology as part of the course. If I'm in my chem class i (sic) don't want to have to learn about a new program - that's for my computer sci class to do not chemistry.

Melissa, in focus group 1, offered advice for how to incorporate new technology into the classroom using her experience in SecondLife.

I just could not figure that out so you know maybe I mean if the professor's gonna . . . require that of the students maybe have a little bit more, uhm, on how, teaching us you know exactly how to get on there

The BICS and CALP of the technology language appeared to be a second language layered on top of the content to be learned. There appeared to be the idea that instructors and students are acquiring a second language of academic technology language while learning in the second culture of online teaching and learning, and while at first appearance problems would not exist, the models of second language acquisition became explicit in the instructor's interviews.

### **Second Language Acquisition**

Instructors appeared to be learning a new academic technology language. Veronica described her process of learning the technology and language for the online teaching and learning paradigm and how she perceived her technology skills.

They're getting better (both laugh) I'm learning things that I didn't know . . . when you're on the computer that much for online classes or just yourself with your own school work you do start learning things like different programs, um different um online learning environments, um so you're still you, you hone on your skills and you refine them pretty quick . . . I've found that, you know, even my, my typing speed has . . .

Technology knowledge, even typing skills, were needed in this new culture.

Harry, currently a teaching assistant at TWU, described his first experience teaching online when he worked at a four-year university.

When I first started it was, it was intimidating, it was overwhelming um at, at that particular time I didn't have anything other than maybe some classes that I'd experienced to go by um I really didn't know how to set things up properly and so there were a lot of glitches that first time through and I spend **a lot** of time just putting out fires and um you know one of the big things was just explanations of directions of what was expected and students not understanding what was expected and having to really go in and um solidify that.

Harry pointed out emotions, the affective filter, was felt by the students as well as himself. Harry seemed to be surviving this first semester of online teaching and learning.

Susan, an instructor at TWU, went on to explain the impact of her lack of technology language and the students' lack of technology language in the online classroom.

I don't consider myself a technologically savvy person and so like I said I really kinda of use the Blackboard, um, the basic things like that I do, like I said I get lots of emails from students who say I can't work technology, I have a hard time with email, I'm really worried about this online class or at the beginning of the semester they'll say I've never had an online class before, I'm really nervous about it . . . I also think the more technology [skills] the students have the more they sometimes can get out of it.

Susan explained how the lack of technology skills impeded learning in her class.

[I]f a video clip doesn't work . . . I'll get an email saying this doesn't work I can't watch it at all and it's, but they haven't really tried or you know so I think that how comfortable they are with technology has a lot to do with how well they'll do although I don't think you necessarily have to be a wizard at it to succeed in it.

An affective filter seemed to be present. Susan described initial reactions she received from undergraduates.

They come in here and they say I'm really worried about 100% online class I've never had one before um they're, they're worried about how they are going to succeed just cuz they're nervous about taking that face-to-face portion of like lecture and all that kind of stuff out.

Emotions seemed to have caused tentative exploration of the technology language and content. It appeared that acquiring the second language of technology takes time.

Greta explained how it took time to learn the second language.

Maybe the first year but just learning uh little things about what to do and how, the technical end of things, and I still, there's still a lot I don't know but I'm still learning but I think it took me probably about a year and, and part of it was learning a new job too so it wasn't just the online, but it was a combination of everything that first year

As it takes time for the second language to be acquired, it also takes time for the first language to translate into new culture. Judy, a teaching assistant at TWU, related a story from her days as a student and watching her peers struggle. Learning the technology takes up additional time.

We had people in their 50s taking the class online I mean there, there was a lot of frustration from them that something that would take me an hour ended up taking them three hours because of the learning curve plus you know they had to find someone to sit there and help them and answer their questions and there's a lot of frustration somewhat anger because they couldn't even feel like they were expressing themselves the way they would want to express themselves or being able to clearly express themselves

Judy's peers do not feel like they or their thoughts or their personalities were translating well into the online environment due to the technology language barrier.

Crystal, a teaching assistant at TWU, reported a constant uneasiness in the second language, and the technology language is never fully learned. The comparison might be to after the critical period of language and a person does not think in the second language but is always translating.

Honestly, I don't know that I can ever say that I'm comfortable using it cause I'm, I just don't like the way it's set up after being exposed to a lot of other things, I think there are better ways to do it. But uh I mean I feel proficient in it. I feel I can you know get through a semester and there's no big deals[,] But (sic) there's not a semester where I'm not contacting the help desk because of technical issues within the course

The new technology appeared to increase a cognitive load and add a layer of difficulty in teaching. Crystal went on to explain how she thought that even though younger students were in a technological and social world, in academics the Discourse of teaching/learning superseded the technology discourse.

They just kinda expected to be passed on in some level I've had um little clusters in every class that you know the expectation was well I got passed here you know I should be passed because I showed up and turned something in basically and then with the older students just dealing with the technology and they usually get through it a lot easier. It's more the more resistance I notice is just out of high school students.

Melinda, an instructor at TWU, explained how the technology language is another language to learn in online education,

There is always another piece you can add to it you . . . always having to go look up something and figure out how to do it because it's just like a cell phone that you know it does da-da-da-da And then after 5 years you go "Oh man it does this". . . and I tell my students all the time I say, you know especially the masters level, well and I tell the undergrad somewhat to this point I say you're, you're learning course content but at the same time you're learning technology. You have to learn how the Blackboard shell works. And . . . layers that are simultaneously that you're working in and you just can't check off the box for course content.

It seemed the learning the "language of college" is impeded by the "language of academic technology". Technology seemed to add another layer of cognitive load and with the constant evolution of technology, the intrinsic load is high and cannot become automated. It may be akin to always having to have a Spanish to English dictionary.

Stacey, an instructor at Collin College, explained that her knowledge of the second language of technology was not proficient and was learning along side her students in this new cultural paradigm of online teaching and learning.

It does have im- impact I think both for me as a professor and also the students. Me as a professor as I said I think of myself more as a novice even though I've taught a few classes online. I'm still learning and I don't know it all so I might type something incorrectly.

Stacey went on to explain how the lack of technology language may be prohibiting undergraduates from fully accessing the course.

I had a student this past semester who said uh "you talk about us having to post on discussions, where do I find the discussion board?" Um so not taking a step back and really not understanding how the system . . . but unless they have really looked at everything they don't know that that means "discussions" and . . . um so once I told her discussions can be found by this icon, click on that, and I have posted this discussion for this topic . . . and you just post comments on it in that place, you, she still had a difficult time understanding it.

Karen reported one reason why undergraduates appeared to struggle in the online environment.

They often don't . . . go through um, ah the initial tutorial and, and I think they don't explore well enough and so then they'll start asking where is this and where is that without having looked at that um, I think that uh sometimes in uploading uh they don't seem to recognize uh the st-, The appropriate steps in uploading even though they've been given instruction Uh a lot of times I think there's so much online It overwhelms them initially and so some of them don't know where to go to find their information uh they don't know to go back to the home page and, and look at the tools that are there.

Face-to-face verbal discussions translated into typed discussion. The translation may not be direct. The method of written communication may initially have decreased the quantity and quality of discussions.

Rachel, in focus group 6, hinted at Cummin's idea of language interdependence. Once a student has a strong first language, it helps with learning the second language.

I think that good um experience in the classroom with a good professor . . . [online education] because then you know you can look back at the syllabus, you've studied the syllabus, you've studied the timeline um working with rubrics in the classroom before is a little bit easier to use a rubric online. I think it's just the experience of going through a classroom class can help you with the experience of going through online just because you can draw parallels.

A strong grounding in the language of teaching and learning seemed to aid learning in the online environment. An undergraduate in the questionnaire, offered the perspective if the first language is technology, it will aid learning the language of teaching and learning online connecting the BICS and CALP. "I did not struggle. I'm confidant (sic) in my computer abilities and the work for this class was mostly easy."

Grace, an instructor at TWU, explained how learning the second language should not impede the learning the content.

It's a venue for learning, but it's not THE learning, it shouldn't be THE learning. It shouldn't take more time to learn what's going on in the class and that's what students complain to me about, you know, so I try not too offer too many at a time, like too many new innovative kinds of things like Wimba at a time.

There appears to be a need for balance to not overwhelm students cognitively or emotionally in order to maximize learning.

#### **Research Question 4: How Does Transition Shock Manifest in the Online Classroom**

##### **When the Two Cultures Meet?**

This research question investigated instructors' and undergraduates' perspectives and experience when teaching and learning in the online classroom. This question was explored by instructors' and undergraduates' first experiences in online courses and the

interactions in the current child development course. The theoretical frameworks of Transition Shock, Transitional Experience, Acculturation, Motivation to Acculturation, and Cognitive Load were used to view these interactions.

### **First Experiences**

Instructors and undergraduates reflected on their first experiences in online classes in the questionnaire, interviews, and focus groups. After the 2<sup>nd</sup> level of coding of common words and phrases, the responses separated into 3 main responses: (a) no struggle, (b) an initial struggle and then felt successful, or (c) yes, struggle. Sixty-four out of 221 responses were classified as no struggle in the transition from the traditional teaching and learning paradigm to the online paradigm. In the questionnaire, two instructors responded they did not struggle. One instructor at Collin did not struggle due to self-study on online education. “I did a lot of reading beforehand and attended workshops and felt pretty confident.” The other instructor had support during the course. “My first online experience was very good because I had an excellent mentor to help me.”

Two undergraduates clarified, “I did not struggle. I'm confident (sic) in my computer abilities and the work for this class was mostly easy”, and “no i (sic) didnt (sic) struggle but it did teach me to better time manage.” The first undergraduate seemed to have a strong underlying general technology language (BICS) by the computer abilities that assisted in learning CALP. The second undergraduate did not appear to view the

first experience as a struggle but a new skill that was acquired. Another undergraduate reported a preference for online courses.

I did not struggle in my first online experience. In fact, I enjoyed it so much, that I decided to take any available online courses in the future, before I would take face to face (sic) courses. I think they are wonderful, and provide me what I need. The hardest part was getting around the virtual classroom environment.

The second group of respondents experienced an initial struggle in the online class, but after a learning curve, felt successful. An undergraduate described,

It was a challenge at frist (sic) until I got the hang of it and how it worked, but now I love them. I just have to remember to log in and check stuff daily so that I dont (sic) miss an assignment or quiz.

Another undergraduate explained that once the technology language was acquired, the struggle dissipated. “I struggle trying to know the computer and software, but once I learn[ed] it, it was very easy to get around in.” Some students wrote the online course was easy, “It was pretty easy. I did not struggle it was straight forward and regarding a topic I liked and understood.” The environment appeared to assist in resolving any potential struggle for this undergraduate.

The last group of respondents did struggle in the online environment. The struggles related to the unknown, environment, and the lack of skill. Some undergraduates seemed to enter the online environment with trepidation. “I was extrememly (sic) nervous and did not know what to expect. I was terrified that I would not be able to complete specific (sic) things that were required when I did not understand

or know how to do it.” Another undergraduate showed the impact of not knowing the teacher.

It was overwhelming because there was so much information to take in. I also didn't know how to take the teacher and really didn't know what she expected. I found Blackboard to have to[o] much going on as to where to go. It seemed like a lot of assignments and so little time.

Other areas where undergraduates expressed concern were missing deadlines and discussions. “I was a little bit anxious during the first week because (sic) I was worried about missing something or not understanding what I had to do.” “I was nervous to post first on a discussion, I was afraid it was wrong and I could not retract it.” Not realizing the power the student had over her language and how she would reveal herself invoked negative emotions.

The environment appeared to cause some undergraduates to struggle. The first area of struggle was the quantity of work. “I have struggled yes, too many websites, I feel this class had a lot busy work involved (sic) in it.” Course navigation appeared to be another area of struggle. An undergraduate survey respondent wrote, “I struggled with where to find everything. I couldn't find the syllabus or the assignments, but through email I got it figured out fairly fast. Blackboard is very user friendly.”

The quantity of work led to another area where some students struggled. “It was difficult at first because I tried to read every single post every written by my peers, and it was just too time consuming. I really spread myself too thin the first two weeks.” The quantity of work led to more time spent doing the assignments. The other area that seemed to consume time and cause struggle for undergraduates was learning the

technology language and culture. An undergraduate questionnaire respondent described, “I have never struggled with an online course. However, this course was so much more time consuming than I expected due to having different forms of electronic learning thrown into it. I was not a fan of that.”

The last struggle in the online courses appeared to revolve around lack of skills needed for the online teaching and learning paradigm. It appeared some students needed to create boundaries between home and school in the online classroom, “Yes, I did struggle. It was a learning curve. I had to learn to mangae (sic) my home life with school work.” Doing school in the home environment brought the two spheres together. Undergraduates had to devise a way to either keep them separate or accept the blending of the two spheres.

Other undergraduates had to develop specific skills, like time management, to use within the online course. “I had a hard time with time management and the technology. I struggled, but I was able to pull myself through it.” The skills seemed to develop over the course of the semester.

A few undergraduates struggled but found the positive outcomes of the course. One undergraduate reported, “I had a positive experience with my first online class. I learned a lot about the subject and about how to use [B]lackboard. I did struggle at times.” Another student summed up feelings for the whole online course experience. “[I] have struggled a little, but it has been a learning experience and i (sic) am glad i (sic)

have done this.” Among these struggles and first experiences, instructors and undergraduates had associated emotions related to online teaching and learning.

### **Transition Shock**

As instructors and undergraduates acclimated to the online teaching and learning paradigm, a range of emotions was expressed. Table 18 lists common emotions used to describe their acculturation process into the new culture process.

Table 18

*Common Emotions Experienced in Acculturation*

Negative	Positive
Nervous	Interesting
Worried	Enjoy(able)
Scary	Freedom
Overwhelming	Relaxing
Confusing	Efficient
Frustrating	Laid back
Stressful	Challenging
Terrible	Pleasant
Anxious	Awesome
Horrible	Exciting
Terrible	Thrilled
Intimidating	Fun
	Great

Some instructors and undergraduates had a positive experience. Karen, an instructor at Collin College explained her initial emotions about online teaching. “I was excited I, I like technology, and I thought it was interesting and challenging to develop a course that would be both interactive and online.” Jade, a teaching assistant at TWU said, “I’m comfortable with technology and I, I don’t sense any barriers on MY side.”

On the other hand, many instructors expressed negative emotions to their experiences. These negative emotions seemed to indicate levels of transition shock. Transition shock was the emotions experienced when the two culture meet. Lyndsie, an instructor at TWU, reported she was “probably a little bit uncomfortable just because I hadn’t taught an online class before.”

Stacey explained her emotions when initially encountering preparing a course in the new culture on online teaching and learning.

Overwhelming um took much more time and preparation than I ever in a million years thought it would, it would be um anyone who says online teaching is easy they must not be doing something right because it’s not at least it isn’t for me, and I don’t think it’s because I’m a dinosaur um it’s just difficult.

Veronica described how her negative emotions prohibited her from fully immersing in the second culture.

I prefer face-to-face and so when I helped with the first online class I think that maybe came through because I don’t feel like I was as attentive as I should have been because I didn’t, I wasn’t used to it myself.

Veronica appeared to have experienced some of the stages of Adler’s Transitional Experience. Her initial emotions were of

My own fears Am I going to be good at this? That's, that's the only thing I was thinking was . . . Am I gonna be able to convey to them you know what I want them to know.

Her second concern was establishing a social and teaching presence. "Am I going to be able to convey that in a way that they understand . . . my personality and things?"

In regards to undergraduates, Maddie, an instructor at TWU, described her experiences with undergraduates in a first online course.

If it's their first course, they seem a little overwhelmed like how do I, how do I use this, how do I navigate this Blackboard system, what, I can't find this, I, and, it kinda reminds me of when you're just, when you're overwhelmed in general and people just keep throwing information at you and you can't absorb it... It's like a little child who goes into a room that has all these great you know things on the wall and doesn't know where to look first.

Maddie used her experience in child development to create an analogy to explain in a new environment, limiting choices helps the learn focus on the important components. In focus group 6, Susy who was enrolled in her first online class, expressed her initial emotions.

The first time I realized how much we had to do I was very, very surprised and shocked and then I started thinking to myself how am I gonna to possibly get this done and sometimes after the assignment I would just start cry-, about to start crying because I felt very stressed out and frustrated, and I felt because I couldn't finish all the assignments that were on there I was going to be a failure, a bad teacher.

The interaction of these two cultures appears to disorient some undergraduates. Students had to negotiate how the old rules applied in the new culture. One undergraduate survey respondent wrote, "Online classes are more stressful and feel (sic)

like a lot more work because you constantly worry about forgetting to do something or not doing something correctly because you do not understand (sic) the directions.”

Another cause for worry seemed to be how to negotiate the new environment.

Students expressed worry over assignments, assessment, and the technology.

I always worry about turning things in, taking quizzes, and also tests online. It scares me everytime (sic) I begin a quiz or test that I will get logged out and will make a zero for getting logged out. I also think that if teachers don't get your assignments turned from your online course shell, you may not get a grade and I only hope that never happens to me.

For this learner, the negative emotions appeared constant and did not abate with time. This transition shock experienced by some respondents led them into the transitional experience.

### **Transitional Experience**

Adler described five steps in a transitional experience in a new culture. The first phase is the Contact Phase. The individual views the second culture from the perspective of the first culture viewing similarities and has initial positive interactions. Stacey explained how some undergraduates expect online teaching and learning to be.

I think some of them think it's going to be very easy ...they think well, you know, online how much can they put on there. . . they think to themselves um well this is good you know when the baby is sleeping, I can go online, and I don't have to get a sitter so I think in those ways it is also very good. But I think that students think it's going to be easy and that we are going to cut out a lot of perhaps assignments or tests, exams, quizzes maybe um less reading um because it's online and they're sadly mistaken because online at times can be I think even more difficult than those face-to-face classes cause a lot of this they really do have to do on their own.

An undergraduate supported Stacey's ideas. "People that has (sic) never take an online class before register thinking they are easy." When perceptions and experiences meet and do not match, the individual enters the second phase.

The second phase is Disintegration. In this phase, the differences between the two cultures become apparent and explicit as the individual explores the second culture. Negative feelings begin to emerge. Harry explained his perceptions of undergraduates in this stage.

I see that a lot with young students who've had no online experience uh or even older students who've had no online experience um they just have this preconceived notion about what an online class should look like and if it doesn't fit that notion they get frustrated.

An undergraduate wrote, "My first online experience was horrible. I felt like they gave me way more homework than they would if I was in a face to face (sic) class. I couldnt (sic) keep up and eventually just gave up." The undergraduate's choice to give up shows an entry into the third phase.

In the third phase of Reintegration, the individual has to make a decision to continue on learning in and about the second culture or retreating back into the first culture. In this stage, several undergraduates reported in their first online experiences, they either withdrew or failed the course.

I dropped my very first online course. I was a lot younger then, and did not have as much experience with computers or being in college, for that matter. The format was weird, and the expectations were not very clear. This was not a good experience.

Another undergraduate explained how this stage resolved in a positive manner.

My first online experience was pretty good. I felt a little overwhelmed at times, and some days (sic) I would have doubts about being in online classes, but everything worked out perfectly and I'm glad I was in online classes.

Those without technology knowledge got overwhelmed and dropped the course.

Karen explained, “[T]hose students who don’t, uh, who can’t use the technology and who can’t pull it together typically drop um I’ve, I’ve found they either drop or um they don’t do as well.”

In the fourth stage of the transitional experience, Autonomy, the negative emotions began to fade as new skills and navigation in the new culture emerge. Lyndsie explained how her continued experience in online courses promoted this stage.

Part of my challenge is to make it as interesting as possible so that they will engage in it. Um in the beginning the first couple of semesters I taught online there were students that dropped because the technology was just, they just could not figure it out. That has not really happened lately and I think that probably because the students are getting more comfortable with using Blackboard, more and more instructors are using it and so now they kinda know how to use it um but it, it really is a variety of students because the main reason they take it online is for the flexibility

Undergraduates appeared to have learned the technology language dialect of Blackboard. With the acquisition of the CALP, students had the tools to continue and be successful with the content within the new culture.

Independence, the final stage of the experience, was marked with a new identity with an integration of both cultures. One Digital Immigrant undergraduate reported, “[The online class] was fantastic. Oddly, it was sort of liberating.” Another Digital Immigrant undergraduate wrote, “After taking the 2nd and 3rd online class I felt like a

pro and was able to give advice to my friends on how planning and scheduling might help them not to fall behind.” An undergraduate questionnaire respondent wrote what might be expected at this stage, “I would be very happy if I could take every class online.”

Another undergraduate explained acquiring new skills for success in the online environment.

My first online class was a learning experience. I had to learn to manage my time more wisely and keep sticky notes with reminders on when something was due and make sure I stuck to my schedule so I didn't fall behind in reading or answering a discussion.

In the interviews, several instructors walked through their transitional experience. For example, Harry taught at a four-year university prior to being a teaching assistant at TWU. He was the initial instructor who began translating courses into the online paradigm of teaching and learning. He discussed his initial steps.

We were kinda in a push to add some online courses because of the pop-up of many of the online universities and losing students to those universities um being a commuter college where I had taught mainly and then being here as far as being a commuter college um many of the students were asking for some sort of online class uh either hybrid or full online and uh I was the technology person in the department and so they kinda came to me to start that process of, of really adding those online components.

Initially Harry appeared to like technology as he was the technology person for the department. As Harry began to create these online courses, problems and glitches arose when figuring out how online works. Negative emotions emerged as he learned the technology language and culture in the role of instructor.

When I first started it was . . . intimidating, it was overwhelming um at that particular time I didn't have anything other than maybe some classes

that I'd experienced to go by um I really didn't know how to set things up properly and so there were a lot of glitches that first time through, and I spend a lot of time just putting out fires and um you know one of the big things was just explanations of directions of what was expected and students not understanding what was expected and having to really go in and um solidify that so it, was, it was overwhelming

Harry went on to clarify how his teaching and learning paradigm evolved in the online environment to match his pedagogical paradigm that is present in his traditional learning paradigm. He also explained how it took time teaching for his actual pedagogy to match to his theoretical perspectives in a face-to-face setting as well.

Harry: When I teach face-to-face I try to do more inquiry based stuff and . . . teaching university level it was more lecture-type and that evolved as I was able to bring out those rich discussions in the classroom about certain topics, and then I started playing devil's advocate with a lot of things where I would bring in controversial topics about education and children . . . and so I had to figure out a way to take what I was doing in the classroom and make that part of that online experience, and it took a while to do that and I still don't think I'm there completely . . . and so I'm, I'm, I'm more now matching how I feel about teaching face-to-face students with how I feel about teaching online students.

Jennifer: Why do you think when you first started the face-to-face teaching you went with the lecture module?

Harry: I think it was comfortable . . . I had been teaching 11 years in the elementary school before that, and I'd never done in elementary school, I mean, it just wasn't me but [face-to-face college teaching] was new, it was something that um I think I'd seen from my professors in the past and um going into these classes not really knowing what to expect, how I was borrowing somebody else's syllabi, following somebody else's assignments, following somebody's else's really work, and it really um it, it can be intimidating for a first-time person, and I had find my way I had to find my own niche in that system and once I did that then I was able to come out of theory and move more into what I was more comfortable with.

Jennifer: Did you see that pattern repeat itself in the online class where it looked more of a lecture, reading an assignments model?

Harry: Yeah definitely . . . Anytime you try something new you kinda revert back to that comfortable stage and then you work through it from there and try and figure out you know what's, what's going on.

Through this transitional experience, the two cultures, though distinct, become integrated with the user of the cultures. As the second culture is learned, an acculturation process is experienced.

### **Acculturation**

Acculturation is the process of learning the rules and models of another culture.

Lucy, in focus group 2, explained how this new cultural paradigm has evolved.

I didn't think there wasn't going to be quite as much interaction as there is now and actually 10 years [ago] there wasn't as much interaction um as far as like we had discussion boards and stuff but I don't think we really conversed with any of the professors or anything.

Within the new culture, instructors try to translate customs of the first culture into the second culture. Seat time was one of those customs. Veronica, a teaching assistant said "like teaching a class face-to-face versus um online you have different, you have to account for seat time like in an online class I mean they're, face-to-face they're in a classroom for so long."

Lyndsie explained her paradigm of teaching and learning in a face-to-face class.

Part of what I like to do in face-to-face classes is have a lot of, a lot of different, use a lot of different teaching styles to try to cater to the different learning styles of the students and initially I wasn't really sure of how to do that online because when you're in a classroom um you can set up group discussions, you can do different activities within the class, you can pop a video in . . .

A strong child development perspective was present with references to learning styles and tailoring to make individual students' needs.

. . . and so getting it's probably just within the last year or so after having taught online for several years that I've become comfortable with and gotten ideas from other from other instructors in terms of how to do things with more variety online cuz the first class I taught online was pretty much, you read this book and you have these additional readings and you do these assignments and you upload them on Blackboard. There was not a whole lot of variety.

However time was required for the acculturation process as the first culture translates into the second culture. Her first online courses seemed to have emerged from her previous correspondence courses and the traditional teaching and learning paradigm. In the midst on the unknown, instructors relied on what they do know to scaffold them into the new culture beginning the pidginization of a new language.

After an acculturation process with support from others,

I've learned over time how to do that, um, and how to make it more like, this past semester in the spring I taught um my global perspectives class uh both face to face and online and so it was, doing that at the same time kinda helped me see how can I make the online environment more a little bit more like the classroom since I was doing it at the same time um and so we I've learned about a lot of other resources we have available to where they can watch videos online and to where they can do group projects even though they are in different locations and, and try to do, to use some of the tools both through Blackboard and through our library.

Experience in the second culture helped with acculturation. Lyndsie explained how in a past semester she was teaching an online section and face-to-face section of the same course. She was able to see the discrepancies between the two sections and made adjustments in her online course. Her response was "wow [the online environment] is so

different' so um I'm not sure I would have been able to create the online class at the time the same way I did." The first semester of online teaching she would have been able to see the difference in courses but not have been able to make any changes. After acculturating for four years, she was able to successful modify classes to provide similar experiences.

Grace explained that instructors do not receive training in how to teach in the first culture of traditional teaching and learning. It is by trial and error.

You don't have to be groomed to teach face-to-face, you know, we get our PhD or our EdD and we're hired, and they're like go for it. It's almost like throwing the baby in the water to swim, you know, we're thrown into that classroom, and gosh I remember SO many mistakes and still make mistakes, but I'm not making the same mistakes I hope then when I started.

In regards to undergraduates, Susan described how many undergraduates expressed fear and reluctance when it came to taking online classes especially when the required course was only offered online.

A lot of my advisees because we're in here talking about classes and I'm telling them this is being offered when and you know so they're planning their schedules, but then I've even had students stop in and they say I need to take this class it's only offered 100% online and you're right now signed up to teach it and I'm really scared about it what can I do? What-How- do you really think I should really take an online class, I've never had one before you know.

The motivation for taking an online class is low and students seemed to be forced into taking the course in that format. Lisa, in focus group 3, explained how rules of the new culture are unknown and what works in the first culture may not work in the second culture.

[The teacher] was really helpful in answering questions and providing information and there all kinds of supplementary materials. . . and links to external sources all kinds of stuff, but in another way it's harder because . . . what I studied was world literature . . . so some of the translation and understanding what this means can be difficult, and if your question's not answered in supplementary materials you still kinda feel like even with that class with a really good teacher I still kinda felt like . . . I have to take a quiz on this and it's online, can I even ask this question? You know or is that like asking her to give me the answer to the quiz even though I wasn't take the quiz right at that moment it still kinda felt like you know maybe that was not something I should do.

In the first culture, the teacher had the answer, but now Lisa thought she had to answer her own questions with no support.

Schumann (1986) explained there are two types of acculturation. In type I acculturation the individual is involved with the first culture. An undergraduate described how that was done. The learner "spent time... on blackborad (sic), played around with some things, trail (sic) and error." The learner seemed to want to be present and spent time exploring and playing beyond the requirements of the course.

Veronica reported an attitude that needed to be present in online teaching and learning. This attitude helped to decide which acculturation group one is in.

They might not have wanted this class to be online, but now they're in it so you have to be open-minded and willing to give this a shot because you just never know um when you, you just never know that you might actually enjoy this experience so come into it with an open mind.

Rachel in focus group 6 demonstrated the Type 2 acculturation. She purposefully chose not to engage in the culture and,

How little can I get by with now that I'm panicking you know I've got, I've got to get a certain grade this course for it to transfer you know, what's gonna get me a "B" on this so I'll make sure I'll get a good enough

grade in the course, you know, that kinda of thing, and I hate to do that as a student because I'm not gonna do that as a teacher . . .but at some point it's just how much is enough it get by because I'm so stressed I can't deal.

Rachel was in the second culture for the minimum requirements. She learned what language was sufficient enough for the completion of the coursework. Her perspective mirrors the second language learners in Cheng and Fox's (2008) study. One of the issues with acculturation into the technology culture is the evolving language and dialects. Melinda explained,

What I say to the students applies to myself . . .there is always the new version, there's always the next big thing uh and, and so you're constantly trying to um to integrate what will be helpful what, what will work with them and but every, but again everything takes time to do it.

Acculturation, the quality and the quantitative of the second culture acquisition, depended on the individual's motivation to acculturate.

### **Motivation to Acculturate**

Throughout the data sources, "motivations to acculturate" and "not to acculturate" emerged. In focus group 2, Lucy explained required courses were less motivating than major courses.

Lower level courses or courses that they knew you didn't want to be in the course you were there because it was on your degree plan so like your core courses, those were more "don't forget this assignment is due" um yeah like my upper level psych courses, yeah, they are not going to say anything to you if you don't turn in a paper even if it is half your grade

There was less intrinsic motivation to be in the course so the instructor provides more supports for the learners, whereas major courses, where undergraduates have an interest, provided less support.

In focus group 4, Anna explained motivation to acculturate in the new culture of online teaching and learning due to family responsibilities.

I prefer the online class cause I have 2 kids and it's, it's really hard to drive from, I live in Keller to have to drive over here like twice a day and it's really hard in gas too so it's really beneficial when it comes to finances.

Rachel, in focus group 6, explained she had to be in the courses, so she had motivation but her negative emotions counteracted them.

I'm home for the summer for the first time with my daughter. Um I start student teaching next month. I had two more courses I could take at Collin that I wasn't aware would transfer and count so I have to get them out of the way before next month and these the, the two online classes I took this summer were the only way to get it done

In the same focus group Susie explained her reasons for taking an online course.

I wanted to experience what an online classroom was like, and I decided that child development, one of those would be a, a good idea because there wasn't gonna be math or something like that and also because it was the only um type of class that was offered for this, for this course. There wasn't a face-to-face. It was just online so I had to take it.

Susie picked a child development course due to the assumption math or other intrinsically difficult content would not be required. She may not have realized the time it would have required to learn the new paradigm. Online courses were also seen as a trade-off. Some respondents enrolled in online courses for the flexibility and comfort of home despite the preferred interaction wanted by the respondents.

Online courses offer flexibility that face to face (sic) courses do not. There are times when I wish I could speak to the professor personally, but I am willing to trade face to face (sic) communication for a class that can be taken in the comfort of my own home. I live an hour away from the school and have a child in school and it is VERY difficult to find classes that fit

my schedule. There are courses in my degree plan that are only offered at 4:00pm or even later. How in the world is anyone supposed to plan for a class that late in the evening?

Motivation to learn about content also helped students continue on in the transitional experience and the acculturation process. One undergraduate explained the reason for enrolling in the course was,

To learn more about my child and his development. My son just turned one so its nice to see what to expect with him and when i do have to put him in daycare or when he starts school what things to look for to make sure they are giving him a proper learning enviroment (sic).

Grace, an instructor at TWU, explained she entered online teaching “with my heels dug in”, because “it was so foreign” to her but other colleagues made it look “like a lot of fun.”

I was fussy, um, but excited but then fussy I, I mean was liminal. I was on the fence um but at the same time it was something I wanted to know about because my peers were doing it and it was like you will be left behind nobody ever said that but I had a sense of the left behindness if I didn't do something.

Grace also commented on undergraduates' motivations and receptiveness for online courses,

They still take a class that's online because it's only offered online. I think it's almost like real estate, location, location, location. It's whenever the class is offered. If . . . I have to take it online then I'll take it online, but I prefer not to and they usually voice those concerns. Well, I'm not going to take another online class until it comes up that's the only one that's offered that semester and then they take another one and, and so I think we still have the very same concerns today that we had 10 years ago in online teaching and learning.

Undergraduates did not have an option to take a face-to-face or hybrid course. The only delivery format was online. Their reluctance to be enrolled in online course increased the affective filter and, in turn, impacted learning.

Maddie, a teaching assistant at TWU, related motivation to acculturate to the age of the learner. “I think some of [the older students] aren’t real familiar with the technology, but I think they seem to be more willing to learn and not as afraid of it as the younger in my experience, the younger students.”

Crystal, a teaching assistant at TWU, also noticed age as a contributor to motivation. Age contributed to having an explicit purpose for the class and the motivation to pursue an end goal.

I’ve noticed that students that, you know, are a little further along in life in their mid-20s, or early 30s or whatever or even later there a certain motivation and that keeps them continuing to contribute and actually apply and learn because they’re wanting to get something out of this cause they kinda gone through life and seen what they actually really want whereas at 19 – 20 years old you don’t necessarily know all the time... it’s not so much well you know my family wants me here so I’m, you know, la di da getting through this.

Greta, a teaching assistant at Collin College, explained how she had observed older students respond to the online environment.

I think ... somebody that grew up before . . . the technology really just ... took off, um, I think that they have a harder time. Older people, um they just cringe, and I’ve seen people just say you know they won’t do it and they just if, if they are older and they are returning to school I’ve, I’ve had some that have just said they won’t take an online class.

Two perceptions of older students emerged. Some undergraduates were motivated and persevere through learning the technology language while the other group refused to engage in the new culture due to fear.

Stacey, an instructor at Collin College, explained “I decided that um as chair of a program I couldn’t ask faculty to do what I wouldn’t do so I thought that I needed to experience that whole online component cause I really do consider myself a dinosaur.”

Later in the interview, Stacey added,

I’m still um would much rather teach face-to-face than online... I keep the online class for me because I, I want to stay crisp, um, with it, and, um, I know my online class will always make and that’s the way of the world now . . . I think in that way it’s opened up perhaps my mindset a bit more in terms of being able to teach on online in terms of marketability, in terms of knowledge, but the truth is give me a class in front of my face any day I’d really much rather do that.

Stacey corroborated Grace’s opinion, there was a sense of being left-behind and being unmarketable if this new culture is not learned by instructors. Grace added another contributing factor to motivation for acculturation.

We had teachers before instructors, professors before who inherited a class they had not intended to teach and um were not as successful because a) it wasn’t what they wanted to do and b) there was no preparation for it I mean I think it takes another level of understanding to, it’s another layer of disseminating information to the learner um through online.

Interest in the course content or the ability to teach through your own theoretical lens promotes positive emotions and motivation to acculturate. Stacey described how an interest and understanding of the technology culture impacts motivation to acculturate for undergraduates.

They are kinda techies at heart um I think they like the adventure of perhaps learning something new... and I don't necessarily know that it's the younger students versus . . . the little bit older students because I've got some older students who just love technology . . . but I think they just get it... I think there is that excitement about technology. I think there is that excitement about ah, I can still take this class and be at home with my children or I can still take this vacation, but I can still have my class um and that challenge. It's a challenge I'm going to learn something new and, and have it make sense to me.

Lyndsie, an instructor at TWU, explained her first motivation was the choice of online teaching.

When I got hired here there were the first summer I was here there were some opportunities for online classes and so I signed up for one of them, and then I worked with another faculty member who had been teaching online to get started and kinda developed it from there.

Karen, a Collin College instructor, added another motivation for undergraduates. University students had a strong motivation to complete online courses at the community college level.

I think that they're very motivated particularly those from the four-year programs because they know if they don't do well in this one they're going to have to take it there and it's going to cost them more so I think you know they, they recognized uh the ramification and, and go ahead and work with it.

Susan, a TWU instructor, explained she had a choice in choosing to teach online and then further continued her learning. "Well, I chose to teach a class. It was offered 100% online... and then about a year and a half ago I did the Quality um Matters, the QM training for online teaching." Her motivation showed she wanted to be in the new environment and sought ways to improve the environment for her learners. Susan also expressed concern for students who did not necessarily want to be in an online class. "I

still would think that sometimes students who might live here might have no other option than to take a 100% online because it was what was offered and maybe they're using a computer here on campus." Students' lack of choice seemed to decrease motivation. If a student was on campus and forced to enroll in an online course as an online option, negative emotions may block the learning.

Mary, an instructor at Grayson, had a positive bent towards motivation due to her own personal circumstances.

I was able to have my last three kids while I was still adjuncting there and never had to miss a semester and so um I just love the flexibility that it allowed cause I, I again I didn't live close to the campus so I would always have to drive to campus and the time that it saved I felt like I was able to make better use of my time.

Motivation to acculturate impacts the affective filter. The more motivation, the less the affective filter. Motivation and the affective filter impact cognitive load and its ability to work at its optimum capacity.

### **Cognitive Load**

Melissa, in focus group one, explained there was an adjustment period for an online course. The routine of the class seemed to automate the environment and reduce the cognitive load.

At first when you first start out it takes you a while to get uhm a hang of how the course is going and what all needs to be due, but other than that I think it's pretty easy to do.

Nancy, in focus group 1, described how she explored Blackboard on her own, and she then offered the idea that experience using Blackboard in face-to-face classes allowed

the learner to become comfortable with the technology language before it became the teaching platform.

Nancy: Yeah I get bored sometimes so I just start clicking things. (laugh)

Jennifer: Have you learned a lot of things about Blackboard just by clicking on it?

Nancy: Oh yeah, I love it like it's better than the community college I went to like I love how every teacher like makes you use Blackboard to look at your grades and stuff that's SO nice and convenient.

During focus group 3, Lisa explained how cognitive load is reduced when the learner knows the language of the environment.

If you are comfortable with your skills, just like if you're comfortable with your language, you're gonna be more comfortable interacting in that environment. It's gonna be easier for you. You don't want to stress over how to work the program when you're taking the class you wanna just worry, focus on doing your work and learning you know how do I attach a file I've never done that before, how do I do it? You know and, and things like that you don't want to have to worry about that type of technical aspects.

Lisa reported some subjects should not be online. For example, math is too visual and too complicated. Math has a high intrinsic load for this student.

I don't think there should be a completely online math class in my personal opinion because math is something that is um just a lot of it's visual, ... and I know you can do visual online but I, actually seeing it in person is quite different than seeing it online I think when it comes to math.

Other students in the questionnaire also expressed similar concerns. "I love online education when I am knowledgeable about the subject matter. If it was a subject I struggled with like math, I would prefer to take it face-to-face so I could see examples on

the board.” Table 19 highlights courses undergraduates wrote should not be offered in a fully online format due to the difficulty of the content.

Table 19

*Subjects Perceived Too Intrinsically Hard for Online Education*

Subject	Comment
Math	I struggled a little, but I think that was mainly because it was a math class, and for me, I learn math better in a classroom. However, all my other online classes were a breeze.
Math	There are some classes that I myself can not take online such as Math and Science. I would rather take a face-to-face class because I like the feedback and suggestions offered by other students.
Science	There are some classes that I myself can not take online such as Math and Science. I would rather take a face-to-face class because I like the feedback and suggestions offered by other students.
Math	It was difficult being that it was a math class, and math is my weak subject. But I got through it and now I prefer online classes.
Math	It was a bit difficult because it was math. Math I think the only way to take that is face to face. Others are not as bad.
Government	it was government which is really hard for me but everything was laid out from day one so I could work at my own pace and I made an A in the class.

When the content was intrinsically large for the undergraduate, the additional technology appeared to be extraneous load, pushing the undergraduate into overload, and learning was halted. An undergraduate reported, I “[l]earned what type of courses were taken best online and what were ones that may not come across well online.”

With learning anything new, there will be an initial period of struggling. One undergraduate wrote, “It was a good experience but I struggled somewhat due to it being a new thing for me.” Darcy, in focus group 4, offered a length of time it required to

become sufficiently acquainted with technology language enough to become automated and decrease its extraneous impact on cognitive load. At the end she explained how to explore the new language.

It takes at least a semester to get acquainted with that, and I feel so bad whenever like you're doing introductions or whatever, and they're like this is my first online class I don't know what I'm doing. I'm like yeah I know (other laugh) but you get it but you just have to play, that's with anything, when you get a new phone, you play with it until you know what you're doing.

The number of courses also added to cognitive load. "This is my first time to have a class 100% online and I have 3 classes. I'm kind of struggling because I'm not used to it yet." Stressors on cognitive load are additive and multiple courses may have caused an overload. In addition with learning new language, a new skill set needed to be developed.

My first online experience was challenging, but fun. I really like the flexibility (sic). It allowed me to work full-time and take care of home responsibilities. I struggled the first time because I was not organized and had issues with time management.

An unstructured or an unprepared environment seemed to be extraneous load, which in turn increased overall cognitive load sometimes past the range of learning. "This has been so difficult. Modules won't open sometimes, no calendar, sometimes it takes a while to get questions answered. There were not many examples."

Too much technology language or too much new technology language also seemed to increase load to the point undergraduates were not learning. One undergraduate questionnaire respondent wrote,

Some professors are intent on cramming all new and updated technologies and ideas into one online course, which, ultimately, can become overwhelming and serve as "busy work". This can actually hinder not only the learning process, but also the desire to perform to the peak of abilities (i.e., doing only what it takes to get the work completed).

Another undergraduate theorized why there were so many tools and work in the online course.

I also feel like teachers have more time to sit down and think about what they are going to see, so there can definitely be an information overload. I've thought about that a lot, actually. The conclusion my friends and I have come to is that the professor has so much information that they could share--but not the time constraints of a classroom. So the amount of information you get is actually more than in a regular semester sometimes. It's easy to overload the student and then there is actually a decrease of understanding.

Having prior knowledge of technology, a BICS understanding, seemed to decrease the complexity of the technology language, and, in turn, decreasing its impact on cognitive load, bringing learning into a load capacity where learning could occur. In focus group 5, Kevin elaborated,

I mean just being familiar with the technology, how to do something on a computer or make it happen. It just makes it a lot easier and rather than-, cause you know how to use the tool at that point so it's just another tool to have. It's not another barrier something to go learn.

In addition, continued exposure to the technology language allowed for understanding and familiarity. This allowed for the language to become automated, decreasing cognitive load.

Finally, a structured environment allowed for less confusion of where to locate items.

This appeared to decrease the extraneous load and optimize learning potential.

“Everything is broke[n] down into sections and modules. It's easy to read and answers all my questions.”

My first online class was a Women's Studies class. It was very well structured. Every week we had the same assignment due. We answered specific questions and then commented on two of our peers. It was an easy class to follow and keep up with. We also had a quiz. It was easy to manage time because you knew each week what to expect.

The child development concept of routines seemed to support the learning. Judy explained how her child development paradigm was also shifting as the traditional teaching and learning paradigm translated into the online environment. Her teaching and learning paradigm wanted students to create by connecting from within the learner, but in order to decrease cognitive load and a large affective filter, worked samples seemed to be the best scaffolding tool. Providing examples presented a paradox for this instructor. Worked examples could clarify expectations for assignments but could also limit the student's creativity.

One thing that I'm torn over is providing examples for the students . . . I would like them to have it look something like that but I'm also I'm kinda of a constructivist nature and so I hate to give them an example and that's the exact way that they put it out there because I want them to be able to create on their own . . . if I was in a face to face, I provide with a variety of samples, I would talk about you know surprise me, show me a different way you know talk to me about it but really haven't figured out how to work that out online yet and that's what I forgot.

It takes time to figure out how to translate strategies in the face-to-face class into the online world. “The ones who are struggling to use the tools are, they don't have the time to focus on the content and the topics if they're troubleshooting technology.” Jade

explained more time involved with the technology distracted from learning content.

Mental energy was expended into extraneous load.

Erin also explained the balance of technology and learning. Students' cognitive load increased with learning the new technology and in addition increased the amount of time spent. Learning to negotiate the environment also increased the feelings of frustration and cognitive load. Students seemed to be about the products of learning rather than the process of learning.

If you don't have the tools, and you're having to learn that at the same time as you're having to learn content I think it makes it very difficult . . . now I can't be efficient any more cause I don't have the shovel I need to dig the hole. I have to use a trowel or I have to learn to use this new thing-a-ma-jig that I don't know how it works but I still have to get that hole to China before the end of the semester so the ability to sit back and say to yourself you know, it's, it's all good.

Melinda explained video is a form of interaction, and it takes away the ambiguity. Verbal into nonverbal "translation" appears not a direct translation from one language to another.

I need to develop the video piece because I think that uh if I could put that in there periodically it would be helpful for a lot of other students, and I could just talk some of the things that when I otherwise to sit down and say OK I need to write this announcement you know Ok am I saying everything I need to say, are they going to understand what, I'm what I'm say in print.

Talking and the visual aspects add to maximizing the cognitive load. These tools work to optimize germane load.

That's what I use Wimba in one class, a graduate class but I can see where Wimba would be really great in undergrad in that cuz they get to see the, the Word doc but then they get to hear your voice at the same time and uh

I think it would probably help a lot of, of different learning styles uh to do it that way.

The interaction and playing to different learning styles reflected child development practices. In addition, the online paradigm seems to be about doing and checking rather than interacting.

Everybody's just busy . . . and they want to check off the box and say they've done that assignment and sometimes but when they read it's, they're in a hurry you know and uh and so it, it well if maybe they had to slow down and listen to me talk (laughs) I don't know you know but I, but that's where, that's my, my challenge right now is to find other ways.

Karen explained the initial feelings experienced by students. These emotions seemed to indicate a higher affective filter contributing to a higher cognitive load. This appeared to block students from adequately exploring the new environment.

A lot of times I think there's so much online it overwhelms them initially and so some of them don't know where to go to find their information uh they don't know to go back to the home page and, and look at the tools that are there.

Mary described the benefits of using technology, but there needs to be a balance of technology use and overwhelming learners with it. Older students may give up while younger ones play with the tools.

I think technology can be great, but . . . you don't want to bog them down if you do Vokis and wikis you don't want to lose them in all that process to where they don't get the concepts of the class versus the technological tools but . . . the students today are pretty tech savvy because again if they don't know how to do it like when I do the vokis or the wikis you only have a few who will actually throw their hands up and be overwhelmed where the others will take the time and figure it out and play with the tools.

Mary went on to theorized why students may initially struggle with the online teaching and learning paradigm.

I typically get students that for some reasons I guess because I'm at a community college that teach, that it's their first online class and so therefore they don't know what they're doing and they're scared to death and taking 3 or 4 classes in a semester is overwhelming anyway the first 2 weeks. It is. It's very overwhelming for instructors but even more so for students cause they have all these different instructors that have different expectations and so then you throw in that online component, they're not comfortable with it, they're way more comfortable with face-to-face because that's how they went to high school.

Students' perceptions of teaching and learning did not match their reality in the online class and negative emotions were experienced. This appears to be the beginning stage of the transitional experience.

### **Research Question 5: How do Instructors and Undergraduates Manage the Filters for Learning?**

The research question explored strategies and supports instructors and undergraduates used in online teaching and learning in order to learn the content and technology in the course. Data for this question came from the questionnaires, interviews, and focus groups. The theoretical frameworks of cognitive load, the Community of Inquiry model, and the discipline of child developed were used to examine these filters.

#### **Instructors' Management of Filters**

Instructors managed their filters for learning in several ways. Some filters emerged from the institution and others filters were placed by the instructors themselves

in the online environment. Instructors mediating filters included (a) instruction through professional development, (b) first culture tools, (c) feedback, and (d) reflection.

**Instruction.** Instruction was a two-pronged method to managing the filters for learning about the online teaching and learning paradigm. The first prong involved experience in the online environment, and the second prong involved seeking professional development.

Stacey explained the two prongs in her interview with how she has started to overcome her negative feelings towards the new paradigm of online teaching and learning. She was developing courses and getting help though more experienced users of the language.

I decided to be a part of um developing a course online with the college and 2 other instructors and so in that process um learned a little bit more how to navigate myself through the online system and also had someone to be able to go to um besides . . . the techy people at the college and um learned a little bit more about . . . I wasn't as fearful um as I had been and decided that even if I click a wrong button, it's not the end of the world

The institution has created strong support systems for instructors and undergraduates.

They also have um the, the teaching/learning centers (TLC) which means there are actual people there, and I can go to that center, and I can say I'm having challenges with my course or with understanding how to do this, could you hel-, walk me through it so I can get that face-to-face, hand-on-hand kind of support as well there is 24/7 technological support not only for me as an instructor but also for students and that's very helpful um so I'm very much supported by um the college.

Susan explained how her professional development helped her with her online course.

I did the QM training through the university and I, that was very helpful um sometimes the Blackboard training is really helpful . . . one time I went during faculty development. I went to a Blackboard training, and we had an hour just for them to sit there and show us things, and I got a lot more out of that than I do when they come and try and fit in to our schedule. But um I do think they offer quite a bit of training.

**First culture tools.** Instructors used first culture tools in second culture. These tools seemed to be as a stop-gap measure as they worked on translating the course from traditional delivery to online delivery. A face-to-face component may be a catalyst to establishing teaching and social presences. Mary explained how Grayson had added a face-to-face component to their online courses, a one-time optional orientation at the beginning of the semester.

One thing we do is we have orientation sessions in our department. We offer, try to do two-one during the day and one in the evening to accommodate students' schedules. They're not mandatory, but we do offer them for um our students in a computer lab, and we basically just go over how you submit assignments, what our expectations are, um what do you do if the computer messes up um and I'm in the middle of a test where do I start?

This may initially make a connection between the first and second culture, calm initially negative emotions in undergraduates, and help with translating the language. Grace, an instructor at TWU, incorporated chat and Wimba sessions into her courses and required attendance. The brick and mortar classroom literally translated into a virtual classroom.

I've replaced that now with um something that is akin to Skype it's called Wimba and so we are now beginning to use our, our laptops with webcams so that we can see each other when we talk in groups so at least you know we are beginning to do a facsimile of that kind of face-to-face learning.

One reason Grace appeared to use the synchronous interactions was in order to receive feedback from students.

**Feedback.** How teachers receive feedback within the Community of Inquiry is relatively silent. Within the traditional classroom, a feedback loop is created. Instructors can observe and gauge and understand their students through verbal and nonverbal behaviors attention. In the online environment, teachers received feedback in a variety of ways. Grace used synchronous interactions and pictures.

[What] I have started doing now is making a yearbook page of my classes . . . we have them upload a photo, we put it into the table with their name and their email address and then we share it with the whole class so you are looking at . . . the picture roster of the whole class so that now when I go to my online chat . . . if they just do the microphone or call in for Wimba . . . then I'm looking at my yearbook page, and when Sally is talking I'm looking at Sally's picture and I'm like "yeah, yeah, I'm with you." It's so much better than trying to just wonder who it might be.

Mary, Veronica, and Jade received feedback through the discussion boards. In addition, Maddie explicitly asked students in "text-based communications ... questions like, "Does that make sense?" or "If this explanation doesn't help, please let me know and I'll try it a different way because sometimes it's hard for me to explain it online."

Other instructors reported they received feedback through written assignments.

Erin described she,

Receive[d] feedback by asking students to participate in what I have termed "Reflections" ...these opportunities happen at the beginning, middle and end of each semester. They are open-ended in nature although the first reflection focuses on goal setting related to course objectives, and the final reflection asks the student to revisit their goals.

Other instructors received feedback from end-of-course evaluations. Lyndsie explained, “they leave it for the online evaluations that all students in all classes are asked to fill out at the end of the semester.” This feedback appears to be used in a reflective process for course improvement.

**Reflection.** Instructors reflected on their course designs based on undergraduate and personal feedback. Harry explained, “As students provided information on what they liked and did not like, I was able to make changes and make the course more user-friendly while still engaging the student and making the course rigorous.” Maddie evaluated the course through reflection including assignments and using tools that were germane and would foster learning rather than having additional tools that became extraneous.

I’m going to a less is more kind of paradigm online because I think, I think in the beginning it was real easy to go “Oh look at all these bells and whistle that we, we can use that are available to us” instead of saying what are our goals and objectives? What assignments do we think really think enhance those goals and objectives and what tools are best for those assignments” . . . how can we get the most learning from the least amount of clutter . . . if you get too much in your course management system it, it becomes noise and they don’t see it . . . it’s overwhelming to them . . . I’m more conscious of that and kinda streamlining it and bringing it down to what is absolutely necessary to enhance their learning.

Maddie’s solution involved providing fewer tools more effectively in order to narrow down choices and allow the learners to focus on the content. Susan explained how she reflected and thought of ways to make the course more interactive and to meet different learning styles.

I'm always looking for new things to put in there that are, I don't want to say entertaining, but I think that technology is moving really fast and I think, I'm just trying to find things that students appreciate um and that would go a little bit more than reading PowerPoints on the computers um those types of things. I've um I haven't done any of it yet, but I want to try experiment with putting like my voice with the PowerPoints so that when they watch the PowerPoints they actually are hearing lectures.

As instructors managed the filters for themselves and for their learners, the undergraduates were also managing filters for learning in the online teaching and learning paradigm.

### **Undergraduates' Management of Filters**

Undergraduates managed their filters for learning in several ways. Some filters emerged from the learners and others filters were placed by the instructors in the online environment. Undergraduates mediating filters included (a) disassociation from the second culture, (b) skill development, (c) support, (d) motivation, and (e) cognitive load.

**Disassociation from the second culture.** One way undergraduates managed the new online teaching and learning paradigms was to disassociate themselves from the environment. Harry summarized some of the disassociation strategies.

Some shut down and they quit, some get angry and they send you ugly emails and messages. Um some go to the department head and complain, uh I had some go to the dean and complain um I, I think and, and some drop, uh some just stop doing anything, and um you know they either get dropped by the instructor or uh they get a failing grade for the course.

The first disassociation strategy used by students was to avoid 100% online courses. Melinda described in her interview.

I think it's the nontraditional students or those of lower SES who did not have the opportunity to have computers. Um I know I've got a young gal now she I don't know what, but she's nontraditional but she's still very young intimidated by the technology cause I don't think she ever had it at home or grew up with it so again it's that learning curve at the adult level, and that's intimidating and there are still students that try to avoid the students, the, the classes that are online 100% online, They're not comfortable with it.

The next disassociating strategy employed by undergraduates was withdrawing from the online course. One undergraduate wrote, "My first online experience was horrible. I felt like they gave me way more homework than they would if I was in a face to face (sic) class. I couldn't (sic) keep up and eventually just gave up." The last disassociating strategy used was failing the course. Three undergraduates offered three reasons for failure:

- I failed the class because I could not understand the procedures fast enough so I missed credits.
- I did not do a whole lot of work so I failed.
- I failed my first online course because I was not driven and motivated.

Undergraduates failed because they did not understand the environment, choose not to engage in the environment, or did not have sufficient skills. Skill development was an important filter for managing the online culture.

**Skill development.** Undergraduates seemed to manage their filters through acquiring skills needed to be successful in the online course. An undergraduate in the questionnaire wrote,

[I] had to figure out how to time management and take that extra time to teach myself how to do the assignment instead (sic) of it being discussed in a face-to-face classroom. had (sic) to stay on top of when assignments were due and what time.

Time management and discipline were key skills repeated throughout the survey.

My first online class was a learning experience. I had to learn to manage my time more wisely and keep sticky notes with reminders on when something was due and make sure I stuck to my schedule so I did not fall behind in reading or answering a discussion.

Time management was a common skill noted by the instructors and undergraduates for success. Another undergraduate explained how they stayed disciplined. “I made a calendar (sic) and stuck with it.” Darcy, in focus group 4, explained how she had to put alerts in her phone in order to remember when assignments were due. Students must also have had adequate reading and writing skills. Kevin, in focus group 5, reported, “You have to read the content so you have to be able to learn that way.” As reading and writing were the main vehicles for learning, minimum skills are required. Erin, an instructor at TWU expanded on cognitive skills an undergraduate needed for success in the online teaching and learning culture.

What plays into it is being able to be fluid and flexible in your thinking and to be able to maintain your frustration levels so that you can get to the next level of learning and I think that’s what gamers, true gamers . . . have. They have a fluidity and a flexibility in their thinking and they’re able to control that sense of failure to meet it head on so that they can move on.

Undergraduates brought these skills into the teaching and learning paradigm or had to quickly develop them in order to manage their filters for learning. The next filter that emerged involved filters instructors create for students in the paradigm for learning.

**Support.** Instructors provided support for their undergraduate learners. Child development strategies were seen throughout their answers of how they provided support. Harry demonstrated how he scaffolded the learning for students. First Harry offered detailed explanations with visual and audio cues in order for undergraduates to set their own pace.

We usually take some time at the very beginning of my classes to uh really go over that step-by-step my, I put in uh PowerPoint presentations that are self, they're, they're guided by me speaking through the presentations of how to access those databases so I do screen shots and I show them step-by-step you know how to do that and a lot of students find that helpful in that sense.

An undergraduate questionnaire respondent wrote about the concept of differentiated instruction.

A teacher must be able to gage (sic) the level of learning their classroom requires, if they have some that are struggling the teacher may need to spend a little extra time in assisting the students, if they have a few that are rolling ahead then a teacher can be grateful (sic) that they are understanding and able to use the material in the way needed to succeed. A teachers rold (sic) is to keep as many students learning and understanding the material as possiable (sic), there are times when you are so overwhelmed by the amount of materials to read, reply, study, quiz, and look up that you are not really retaining the information. The role of the teacher even if materials have to be simplified is to ensure the main sources of useful infomation (sic) are learned and retained perminately (sic) in the students (sic) mind.

In the online classroom, the instructor needed to be a manager by knowing each student's level of performance and allowing the students to direct their own learning with support from the instructor.

**Environment.** Instructors helped undergraduates manage their filters for learning by the arranging the online learning environment and increasing social and teaching presence. One strategy used by Mary at Grayson County College was a slow release of course materials.

I kinda show things slowly like the first module, show, I may not even show it the first couple of days I might say this will be available, if the class starts on Monday, it will be open on Wednesday here's the syllabus, take the orientation quiz, and introduce yourself and then by Wed or Friday of that week depending on how long a semester is I'll unfold the first module and again I'll kinda go slowly but usually by the end, middle of the semester I'll try and have everything available.

An undergraduate questionnaire respondent agreed. "The best way for a professor to teaching online is to release assignments week-by-week and be as simple and concise as possible." Another undergraduate explained emotions felt when the entire course was available in the beginning of the course. "It is overwhelming to read about all the things you need to do in one day the interface have to (sic) many things going on." Another strategy was to build relationships and create the social and teaching presences necessary for meaningful learning.

Lyndsie described how she arranged the environment to reduce cognitive load. By creating a weekly routine, students were able to automate the technical culture and focus on learning the content.

One of the things that, that I feel has really has worked is dividing everything into weekly modules because it really helps them see what is due this week and it's easier for them to manage when they're just dealing with one week versus you know the entire semester and so I'm, there are less students turning in stuff late or being confused about when what is

due and so that seems to really have helped in terms of guiding them um along.

Crystal, in her online course also created a routine.

I think they can pick it up quickly because . . . there is so much repetitive, you know, going to certain spots doing the same type of tasks over and over again that at same point during the semester they get to where they understand the process and then there are the ones that are completely terrified and you know it's a whole mess the whole semester.

The routine helped to automate learning, except for undergraduates with a large affective filter the whole semester. An undergraduate in the questionnaire explained how a personal routine was created to assist managing filters. "I struggled in the beginning (sic) but after a couple of weeks and figuring things out I formed a routine and thing became much easier."

***Pidginization.*** As an interlanguage was created for the new online teaching/learning paradigm, Discourse from the teaching/learning culture was brought in to create new Discourse First culture tools of videos, a visual and audio immediacy connection, and the narrated PowerPoints seemed to have been successful. Lyndsie explained,

[J]ust from the evaluations it seems like the incorporating videos helps just because it kinda breaks it up and they like to just have these videos so they're just not sitting there reading all the time um when I have done the narrated PowerPoints they have usually said that they've appreciate those

However, Lyndsie did not have as much success with group projects.

I have tried but I have not been extremely successful with the group projects yet and I think that just a matter of finding a way that really works, it worked for some groups but not others and I think they probably need better guidelines as to how they can make it work in an online environment.

Videos are working online but groups are not at this point. It seemed some aspects of the first cultural paradigm of teaching and learning translated better (e.g., videos) than others (e.g., groups).

First culture beliefs are also carried over into the second culture of online teaching and learning. Veronica explained how the little child's belief "My teacher lives at the school" translated into "My teacher is always online to respond to my question."

I wonder if they think we, we live online so we (chuckles) we're always, we always have that Blackboard shell popped open and we have nothing else better to do because I, I, I see questions like I asked a question yesterday and nobody's gotten back to me. This blending of first culture tools in the second culture is pidginization. The online teaching and learning paradigm is being plugged with first culture strategies as instructors and students learn the new culture.

This may be a first culture belief, which has translated online, or it could be an extension of immediacy behaviors. Verbal immediacy behaviors were another support strategy from instructors.

*Verbal immediacy behaviors.* Mary explained how she creates social and teaching presence.

Our introductions to be done either with a Voki, . . . I think it's important building that sense of community so students don't feel like they're on a little desert island all by themselves and no one helping . . . I had [a student] that just told me . . . wow um I knew this class was going to be different after your 2<sup>nd</sup> email to us . . . say[ing] hey are there any comments, questions or concerns? How are you doing? I think that if it's online they are afraid to tell you for some reason they think you're, cause they can't see you so they can't read your body language, or your caringness or whatever things you know don't show sometimes

Harry tried to increase social and teaching presence by the use of more organic, or free-flowing interactions. He engaged the undergraduates' BICS by using a social-networking component. However, some students were resistant to the use of a technology that blurred the distinction between a general technology language tool and an educational technology language tool.

I got so tired of discussion boards and just I would get the same monotonous responses over and over again, and there was no depth to them . . . um I started adding social pieces in . . . we would put a topic for the week or topic for the two weeks and um you know I had certain expectations that I expected out of them you know as far as keeping the discussion going or I would log back in and I would ask questions and you know they might make a comment wh- what about this um the social piece really helped the discussion take off in the courses and I got a lot of you know positive feedback back from students based on that uh they really enjoyed that aspect of it. It made them feel like they were on Facebook. . . . and then I had students who were very resistant about that they didn't want that, they thought that was ridiculous.

Harry contributed to the discussions, increasing his teaching presence in the online course. Crystal described how the teacher of record accomplishes an increase of teaching presence.

Dr. Underwood does a good job of uploading videos of herself explaining material so it's kinda like part lecture part reading on your own though the videos are not 50 minutes or longer they're usually maybe 10-15 minutes um so there is, the interaction is different and I'm hoping with things that changes cause I think the immediacy of being able to ask questions and get an immediate answers is a little delayed in how we do online learning . . . It's just um getting some real-time interaction involved with the online learning would be helpful.

Videos may increase a sense of immediacy. An undergraduate described how her first online experience was positive in part due to the environment created and immediacy behaviors by quick response times to e-mails.

My first online experience was a positive one. The professor did a really good job of fully explaining the expectations for the class and the assignments were clearly laid out. If I ever had any questions about the class, the professor was always quick to respond to emails and very willing to help.

**Motivation.** Motivation to acculturate seemed to influence the effectiveness of the filters: the more motivation to learn in the new paradigm or the motivation to finish an end goal, the more willing students were to persevere in the new culture, the more effectively they managed their filters for learning.

I mean I know it's difficult to have an online class but I just always prefer it because of my kids but I mean if, if I'm and I live far away from here too so I mean not too far but I live in Fort Worth so if I can get an online class I try to do it even though it's difficult sometimes to understand

Yes, I don't feel as much is learned in an online classroom. I prefer face to face (sic) or hybrid but when online is the only option it is the only option. I work, have two small children and go to school. I prefer class time to discuss and learn. It is also hard for me to just sit down and read and read and read. . . Online gives you your own speed, pace, and time to do things. Every thing is lined out and you just do your work. I like that part, finish early or finish late. I guess its just my outside life that keeps me from being able to apply myself outside of class but I'm not the only single mother student, working, school, and two kids under four.

These two undergraduates expressed the difficulty of online courses, but they both choose to take them because the online coursework is the best match for their lifestyles.

Within this motivation to acculturate, students process their learning through these filters.

These filters added increased pressure on the student's cognitive load.

**Cognitive load.** Optimizing cognitive load by instructional design in order for learning to occur is an important goal of the educational process. This section discusses how instructors and students worked to maximize the efficiency of cognitive load.

Harry, as stated above, tried to increase the effectiveness of cognitive load by increasing social and teaching presence by the use of social networking. Judy described how technology learning impacted content learning and ways she tried to reduce the impact on undergraduates' cognitive load by reducing the amount of new technology learning.

One thing about technology knowledge is that if you have it, you can actually be doing the learning required in the class. If you don't have the technology knowledge and you're taking an online class, you're actually double learning . . . you have to learn the class material and the class technology so I mean it can really add a lot of time into your, the core course that you're taking when it requires . . . new technology or resource so that means as a teacher I really try to limit the amount of what I would think is new technology. I, I foresee me in the future saying who knows how to do this or this kinda surveying them ahead of time to find out what their background is because if you throw too much of it at them I think it can be very overwhelming.

Undergraduates suggested worked examples to demonstrate expectations could reduce cognitive load. "Maybe offer more examples of what is expected in the assignments." "I would feel alot (sic) more comfortable if for like specific essays or things we have to do for that class that they have examples for us!"

Furthermore, undergraduates requested more explicit instructions in order to reduce cognitive load. "I think that the teachers need to be make (sic) more of an effort to

clearly spell out their expectations for assignments (sic) and give examples of what they are looking for.”

In focus group 4, Cindy offered this advice for first-time online learners to reduce cognitive load by learning the routine and learning the technology language.

Maybe just take one um in the beginning just to kinda understand the process you know if it's your first time try to just or you know just come in slowly and see how the process goes and then you can you know fill your plate up with -em the next time around.

### **Summary**

Within higher education, a paradigm shift is occurring from a traditional teaching and learning paradigm to an online teaching and learning paradigm. The research questions were viewed through the lenses of second culture acquisition, cognitive load theory, and child development. These two paradigms can be defined as cultures and viewed as an acculturation process. The quantitative data revealed motivation to acculturate and educational technology skills were the two strongest influences in perceptions of success for both instructors and undergraduates.

The paradigms of instructor/student roles were shifting in a new culture perceived as less interactive and placing the responsibility of learner more on the learner. These roles and social practices were less defined in this new culture and both parties are in the process of renegotiating those roles.

Technology has been perceived as a tool for academics as a supplement for learning. It has served in static roles in the classroom. Technology has also been viewed as a language, but in the social, nonacademic spheres of an individual's life. These social

language and practices have provided support for technology as a language in academic settings.

The renegotiating of roles, the transition of technology, and relocation of learning, moving from school to home, had created transition shock. Instructors and undergraduates went through a transitional experience as they acculturate, into the new online teaching and learning paradigm. Boundaries of school and home were blurred and motivation to acculturate influenced how the transitional experience would resolve and at what level resolution would occur.

Instructors and undergraduates managed their filters for learning in the online environment as they went through transitional experiences. Child development theories undergirded the instructors' management and how they provided support to the undergraduates. Instructors managed their filters through professional development and experience of the environment, pidginization, feedback from the undergraduates, and reflection on practice. Undergraduates managed their filters for learning by disassociating with the second culture, skill development, support from the instructors, motivation to acculturate, and managing their cognitive load.

## CHAPTER V

### DISCUSSION AND IMPLICATIONS

#### **Introduction**

This research study investigated child development instructors' and undergraduates' perspectives and experiences in online child development courses. The purpose of this study was to begin to explore the transitional experience from the traditional teaching and learning paradigm to an online teaching and learning paradigm. These perceptions and experiences were viewed through three theoretical lenses: (a) second culture acquisition, (b) cognitive load, and (c) the discipline of child development. These lenses were used to investigate these online experiences as if a person was acquiring a new culture in hopes to begin to explain why some instructors and students succeed and others do not.

#### **Summary of the Study**

This research study was a mixed methods design. Quantitative and qualitative measures were used to collect data from instructors and undergraduates at three higher education institutions in North Texas. Instructors included instructors and teaching assistants of 100% online child development courses. Fully online courses were selected due to the full immersion of instructors and undergraduates in the second culture of teaching and learning. Child development courses were selected due to the paradigm

embedded in this field of study. Child development explores development and the internal and external forces that can aid or impede optimal development. Instructors trained in this pedagogy were thought to use specific strategies that could inform practice in all fields of study in online instruction. Undergraduates were selected due to their diversity of demographics including age-Digital Native/Digital Immigrant and status-Traditional/Nontraditional. Nuances of the different group and their perceptions of teaching/learning and online teaching/ learning were thought to offer a diversity of responses.

Quantitative measures included an anonymous online questionnaire. The instructor questionnaire was created to mirror the undergraduate survey in order for comparison. The qualitative measure included open-ended questions on the online questionnaire, instructor interviews, undergraduate focus groups, and researcher's documents. Protocols were used for both interviews and focus groups. Fifteen interviews were conducted with instructors and teaching assistants. Six focus groups were conducted at two higher education institutions. A total of 14 undergraduates participated in the focus groups. The qualitative data offered rich descriptions of perspectives and experiences in both cultures and the transitional experience. The quantitative and qualitative data were in alignment and support each other's findings.

The five research questions investigated in this study were as follows:

Research Question 1: What factors impact transition shock?

H1: It was hypothesized that there would be a negative relationship between Prior Online Experience, Length of Time in Program, General Technology Skills, and Educational Technology Skills, and (a) Second Language Acquisition, (b) Transition Shock, and (c) Online Behaviors.

H2: : It was hypothesized that there is a negative relationship between Motivation for Acculturation and (a) Transition Shock, (b) Online Behaviors, and (c) Second Language Acquisition.

H3: It was hypothesized there is a predictive relationship between the Tools of Teaching and Learning and (a) Transition Shock and (b) Online Behaviors.

H4: It was hypothesized that an increase in Social Presence and Learning Style will be associated with a decrease in (a) Transition Shock and (b) Motivation to Acculturate.

H5: It was hypothesized there is a positive association between the Number of Tools Used in Class and (a) Transition Shock and (b) Online Behaviors.

H6: It was hypothesized that there is a statistically significant group differences between Digital Generations, Student Type, Role in Course, and Face-to-Face Classroom Behavior with (a) Transition Shock and (b) Motivation to Acculturate.

Research Question 2: What are instructors'/undergraduates' paradigms for teaching and learning?

Research Question 3: What role does technology play in teaching/learning?

Research Question 4: How does the transition shock manifest in the online classroom when the two cultures meet?

Research Question 5: How do instructors and undergraduates manage the filters for learning?

## **Discussion**

### **Preliminary Data and Descriptives**

The variable “Tools of Teaching and Learning” deconstructed into three unique constructs to seek help in the online environment. “Class”, “Other” and “Figure It Out on Your Own” emerged as different factors due to the nature of how the learner chose to seek help. “Class” related to strategies to seek help from the instructor (e.g., e-mail, professor). “Other” related to seeking help from others in the course, (e.g., e-mail friend), and “Figure It Out on Your Own” related to seeking help from self rather than the outside sources of teacher or classmates.

The majority of instructors and undergraduates engaged in the online course every day or every 2-3 days. Undergraduates checked assignment, grades, and discussions while instructors are also checked assignments, grading, and discussions. Instructors were also e-mailing students. However, learners did not appear to frequently e-mail professors (Table 11). Undergraduates explained they felt alone and taught themselves the materials and yet, at the same time, did not consistently reach out for help from the instructors. This appeared to be a disconnect. The instructor may have assumed the class

was learning and no clarification was needed because the confusion was not communicated to the teacher.

One discrepancy was revealed in comparing “Online Behaviors” and “Tools of Teaching and Learning.” The discrepancy was the concept of lurking, looking at someone’s post for clarification. In seeking help, 189 undergraduates agreed they had looked at someone else’s post for help in their discussion or assignment. However in the online behaviors, 109 undergraduates reported they did not lurk. Undergraduates may perceive looking at someone else’s work as cheating. In the traditional teaching/learning paradigm, “looking at someone’s paper” is considered cheating, but when reviewing the technology culture, reposting a video or a blog is a common occurrence. The online teaching and learning paradigm has not fully defined what student engagement or acceptable online behaviors looks like.

### **Research Question 1: Factors Impacting Transition Shock**

Through quantitative measures, there were several factors that impacted transition shock. The first hypothesis explored second language acquisition, transition shock, and online behaviors.

**Hypothesis 1.** The more hours completed by an undergraduate, the less the online environment felt like learning a second language. The length an undergraduate had been immersed in the traditional teaching and learning culture of college seemed to have positively impacted learning in the online environment, much like learning a second language. The interdependence (Cummins, 1979) of understanding the first culture of

traditional schooling and having a strong first language CALP aided the acquisition of the second language CALP. In addition, the social rules and language of the first culture become automated and allowing for focus of learning the second language of technology.

Less transition shock was experienced when more online courses were taken, more general technology skills possessed, and the more educational technology skills possessed. This supports second culture acquisition because the longer the respondent was in the technology culture, the more exposure and opportunity to learn the technology language, which, in turn, decreased the negative emotions experienced. Moreover, general technology skills (BICS) appeared to aid learning the educational technology language, and the more educational technology skills (CALP) present, the less negative emotions were present. Cummins (1982) explained BICS is a foundation for CALP. Educational technology skills correlated the highest of the three independent variables indicating the strongest relationship with transition shock. Those who already have some CALP have a most positive reaction to the new online environment while those with BICS have more positive emotions than a respondent with no technology skills. When higher reports of confidence in educational technology skills occurred, the more respondents participated in online behaviors.

**Hypothesis 2.** The more motivation one had to acculturate the less feelings of transition shock were experienced. Motivation to acculturate appeared to be a foundational construct to success in transitioning to the second culture of teaching and learning (Stewart, Bachman, & Johnson, 2010). The desire to succeed in the course or to

accomplish a goal encouraged the instructor or undergraduate to persevere and overcome negative emotions (Christensen, Horn, & Johnson, 2008). Nontraditional students and Digital Immigrants appear to be more motivated. The ability to delay gratification (Bembenutty, 2011) and the online course is part of the pathway to a terminal degree or staying marketable in the job market. Motivation helps individuals manage their emotions and push them aside to view it in a positive light.

**Hypothesis 3.** The more feelings of transition shock were experienced, the more a respondent considered and sought help in the online course by e-mailing the professor, posting on a discussion board, going to the teacher's office, or calling the professor. In addition, the more a respondent participated in the elements of the online class the more the participant sought help by e-mailing a friend, asking a friend not in class, and looking at someone's post for clarification in addition to seeking more help by means of e-mailing the professor, posting on a discussion board, going to the teacher's office, or calling the professor.

**Hypothesis 4.** The more the undergraduate felt connected as a person in the online environment, the less overwhelmed and negative the environment was perceived. Social presence was a critical component to overcoming transition shock. Establishing and developing relationships between self and others supported the individual not feeling alone. Lack of social presence increased feelings of isolation, which caused the affective filter to rise. This allowed the individual to become overwhelmed. Social presence established connections to others. This connection allowed for learners to discuss similar

feelings, provide support, and help facilitate learning. These were some components of the face-to-face course that undergraduates commented were missing in the online environment.

Moreover, all undergraduate survey respondents perceived they self-directed their own learning. This perception may be present due to the lack of social and teaching presence. The perceived lack of the above experiences enforced the concept they are teaching themselves. Table 10 shows that the number one consistent strategy used by students to solve a problem in the online environment was to try to figure it out on their own. This strategy was used almost twice as much as any other strategy. E-mailing the professor was an option considered but only used a couple of times. The third most popular strategy employed by undergraduates was lurking. Lurking is looking at someone's post for clarification. Of the top three strategies to receive help in the online environment, two of the strategies are devoid of support of the instructor who is the architect of the course.

**Hypothesis 5.** The more tools used in class the less transition shock experienced. The result was unanticipated. Initial impressions assumed the more tools in place for instructors and undergraduate to have to learn to use would increase the amount of new language, increasing negative emotions, but the next finding in this hypothesis may shed light on this. More tools used in class indicated an increase in online behaviors and behaviors asking for help. More tools required the teacher and the learner to be more involved in the course. More involvement in the online paradigm allowed the users to

have more experience and learn parts of the culture. Furthermore, there was a need to interact with the instructor and others in asking for help. This may have established a greater sense of teaching and social presence in the students which, in turn, lowered the transition shock.

It is also interesting to note the number of tools did not impact printing of materials or class behaviors for undergraduates. Printing materials in order to have a hard copy of directions, assignments, and the calendar are first culture tools used to bridge the translations from the first culture into the second culture. The majority of undergraduates and instructors were logging into the course every day and almost all interacted in some way. Students were checking grades every day and every 2-3 days while instructors graded once a week or when assignments were due. This mismatch may have contributed to a lack of teaching presence.

**Hypothesis 6.** Undergraduates reported higher transition shock than instructors. Undergraduates had a mean of five online courses while instructors had a mean of 14 online courses. Instructors had more experience in the online teaching and learning culture. More experience mitigated the transition shock. The longer an individual spent time in the second culture, the more the language and social practices were learned. In terms of the future of online education, more and more instructors are beginning to have the expertise in the CALP of technology language in addition to the academic language. They are becoming cultural brokers of the new culture and are beginning to support less experienced users of this new culture.

In addition, nontraditional students reported higher motivation to acculturate than traditional students. Nontraditional students may be more goal-oriented to obtain their degrees, having outside obligations, or are returning to school for specific purposes. Christensen, Horn, and Johnson (2008) explained this concept as extrinsic motivation. “Extrinsic motivation is that which comes from outside the task” (p. 7). The course content isn’t interesting but the end goal of a degree for a job is. Traditional students may view college as the next logical step in life rather than for an express purpose.

In addition, traditional students are Millennials. Millennials have a need for immediacy and interaction (Tapscott, 1998) that did not appear to be met all the time in online courses. Tapscott explained the Net Generation as assertive; however, this study showed traditional students withdrew from online education as opposed to the nontraditional students. Discourse for online education has not been fully developed. As the Discourse is negotiated between the Discourse of teaching/learning and technology, the Discourse of teaching/learning supersedes the Discourse of Technology and dominates in the online course. The Discourse of teaching/learning is the language of school and the instructors who traditionally have held the power in the classroom (Courtney, 2001). How Millennials acted in their personal lives has not traditionally been accepted in the traditional paradigm. Another contribution may involve brain development. The Pew Research Center (2010) separated Millennials into two groups based on age: ages 18-24 and 25-29. The younger group’s frontal lobe, the lobe

responsible for planning and reasoning, is still maturing (Woolfolk & Perry, 2012) which may contribute to the group differences.

Nontraditional students tend to have full-time jobs and support a family, so an online class may be a better match for their lifestyle. A 24-year-old nontraditional student wrote in the questionnaire, “I think online education is GREAT!! I have a two year old at home and I am a wife who works full-time as well. Online classes are the only possible way for me to complete my degree right now.”

Undergraduates who rated higher on introvert behaviors reported higher motivation to acculturate. Undergraduates wrote they had the time to compose their thoughts without fear of other classmates’ responses. The online environment gave the introverted students more time to compose their thoughts. It also removed the pressure of participation of the face-to-face classroom and immediately contributed to discussions (Huang, & McCConnell, 2009) or asking questions.

### **Research Question 2: Paradigm Shifts in Teaching/Learning**

The online teaching and learning paradigm has not changed the purpose of education, but the new paradigm has changed how higher education goes about accomplishing the purpose of education. Instructors still had the advanced content knowledge and provided an environment for learning, however the responsibilities of learning shifted to the learner (Boling, Hough, Krinsky, Saleem, & Stevens, 2011) due in part to the incorporation of technology. A skill set and strategies needed to be developed and maintained in online courses. Undergraduates had to learn to manage time

effectively. Course content and learning occurred mainly through reading and writing and the students' abilities to critically read.

Erin explained,

You're expected to come to class with a set of skills. It's not my job to teach you how to read, it's not my job to teach you how to write. You're already expected to know how to read and write and at some level critically think that's not my job. My job is to help you learn the content and those are your tools and your skills that you need to learn the content.

Confidence, though not skill, is a characteristic required to be successful in the online course. Confidence allowed undergraduates to seek help. In the quantitative data, 44 students did not e-mail a professor for help; 211 did not call the professor for help and 218 did not go by the instructor's office when they had a question. The support they wrote about needing they did not all seek out. They tried and figure it out on their own ( $n=241$ ).

In the technology culture, Gee and Hayes (2011) explain digital media require reading and writing skills, however written text is "decontextualized" (p. 123) and the skills needed for deep exploration of text may not be present in the technology culture.

Currently, instructors and undergraduates view online education as a trade-off. Instructors and undergraduates trade the synchronous interactions and teaching of a face-to-face classroom for the flexibility and convenience of online classrooms. Online education brings teaching and learning to the individual to tailor instruction, but tailored instruction does not look the same for everyone. In the discipline of child development, this concept is labeled differentiated instruction. The instructor meets the learner at their

current level of development, which is different for every learner, and provides scaffolds to support the learner to the next skills of development. The struggle appears to be how to facilitate synchronous group interactions among a diverse population with diverse needs.

In addition, the social roles in this new culture needed to be negotiated. Social practices from the traditional learning paradigm translated over into the new culture. Some practices did not have verbatim translations. For example, the concept of immediacy did not offer a direct translation. The traditional teaching/learning paradigm has immediacy during the class period. Students can seek immediate answers to their questions, but after that designated class time the immediacy stops. In online instruction, undergraduates may, in reality, receive faster responses to e-mails; but with the online environment, there was a perceived sense of consistent immediacy. Students were online now; the teacher should have been online to answer questions now. The students' learning was happening now, and with the social networking and instant access to friends, news, and information, online teaching and learning seemed to be included as well. Moreover, with school being conducted in the territory of home, schooling now comes on the learner's terms and the traditional mindset of, "I'm doing school now" so questions must be answered now during my set class time.

Furthermore, online education has caused a blurring of the definite boundaries of home and school. Schoolwork and the learning now occur within the instructors' and undergraduates' personal space. Two spheres that have remained separate now intersect,

encroaching on each other's territory. For instructors who are used to taking their work home to grade papers, this is not a new phenomenon, but for undergraduates who did homework at home, they now have to renegotiate what it means to learn in the home and to take on those responsibilities.

The last area of translation is interaction and, more specifically, engagement. The Community of Inquiry model organizes the student engagement into three presences: (a) social, (b) teaching, and (c) cognitive. In the traditional classrooms the interactions occurred before, during, and after class. In the online environment, these formal and informal interactions were not present. Instructors in this study used static pictures, blogs, chats, Wimba, and Ning, a social networking platform, to engage students. Static pictures initially seemed like a first step in creating a sense of self and others, but undergraduates thought it was nice, but not effective in establishing social presence. Asynchronous interactions had a delay to inhibit social presence development, and synchronous interactions were laden with technology issues and inconvenience. However, instructors in this study kept reflecting and evaluating ways to facilitate meaningful connections between students and between student and teacher.

Instructor engagement was an interesting finding in this study. Much emphasis in current literature focuses on the student (Grant & Thornton, 2007; Hodge, Richardson, & York, 2009; Sheridan & Kelly, 2010; Stewart, Bachman, & Johnson, 2010; Richardson & Swan, 2003), but in the dyadic relationship of student-teacher, the teacher had an engagement threshold as well. In face-to-face classes, instructors received feedback from

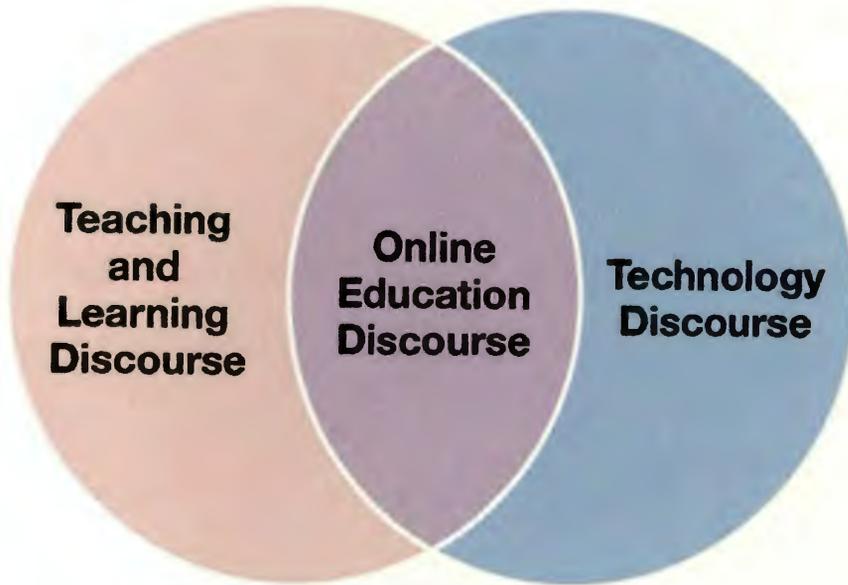
verbal and nonverbal cues. Perplexed faces and murmurs in the room let the instructor know content or directions needed clarification, and as the instructor spoke one message, all the students heard. The instructor in a discussion or lecture received a sense of learner engagement even in learners who were not actually engaged. Their presence in the class could sometimes be enough. Grace explained,

[I]f you came to class you may sit on the back row or even in the front row and you aren't engaged the whole time you are there but in an online class there is engagement whether you like it or want it.

As the traditional paradigm of teaching and learning translates into the online paradigm, the translation of first culture into second culture is occurring. As technology is introduced as the platform for learning the roles, responsibilities and social practices are renegotiated.

A pidginization of the teaching and learning language and the technology language appears to be occurring in online education. The two languages of teaching and learning and technology are blending together and creating a new language and new Discourse of online education (Figure 5). Tools, customs, identities, and strategies for both cultures are being combined and producing a unique hybrid of both cultures in the world of online education. For example, instructors and undergraduates view online through the culture of teaching and learning and see online education initially as a modification of traditional teaching and learning. The folk theories created in the traditional culture do not match and stay close to the norms and ideals of teaching and learning and a shift has to occur and new Discourse and folk theories be developed for

the new culture and pidgin language. Instructors are being to have more experience in this new culture and beginning to develop Discourse.



*Figure 5.* Creation of the online education pidgin language

### **Research Question 3: Technology as a Tool and a Language**

In all the data sources, technology was viewed as a tool to support learning, but when asked to examine emic principles of technology, instructors and students were able to identify the language of technology. In the traditional paradigm of teaching and learning, technology had been used as tool (Courtney, 2001; Ertmer & Ottenbreit-Leftwich, 2010; Schneckenberg, 2009) by teachers to automate pen and paper tasks. Erin explained, “They take the static world of paper and recreate on the computer so they can

log them, track them, keep up with –em and they know. It’s all about the fun.” The new culture uses technology as its language and its platform for learning.

Undergraduates described how technology as a language should be used to facilitate communication and engagement. An undergraduate explained, “[t]echnology should also be used to help the students connect with the fellow students and teacher.” Another undergraduate added, “Teachnology (sic) should be used in alot (sic) of ways, computers, tv, radios.to (sic) help students interactive and help complete assignments. This keeps learning fun and interesting.”

Engagement was another way to use technology as a language within the teaching and learning paradigm. “Technology in education should be used as a tool to help engage, motivate and interact with students. Technology is being a part of our day-to-day life and also have been using in the field of education.”

Another undergraduate offered examples of how to use technology more interactively. “It would be great to watch lectures online, sometimes I think I miss that personal touch. I do have a teacher that posts recorded youtubes (sic) and that makes clarification somewhat better.” These strategies increase verbal immediacy behaviors. Immediacy behaviors lower the affective filter (Swan, 2002).

Cummins’ (1982) ideas of BICS and CALP were seen throughout the online environment. Instructors and students were learning a new academic language in addition to learning the content. Factor analysis of technology skills separated the skills into a natural dichotomy of BICS and CALP skills between general technology and

educational technology. A strong BICS can facilitate learning the CALP of educational technology as opposed to someone with no experience. Viewing this paradigm through Cummins' (1979) concept of interdependence, instructors and undergraduates knowing the terminology and customs of this the academic language of college, CALP1 aided learning the academic online education language CALP2. Academic languages have common underlying proficiency (Cummins, 1982). Either approach supported the instructor or the undergraduate in mastering the new academic language of the online teaching and learning paradigm.

In most cases, BICS developed before CALP. However, students learning a second language do not usually have this trajectory. BICS and CALP are learned simultaneously. For both instructors and undergraduates, their ratings on their confidence of General Technology Skills and Educational Technology Skills were separated by tenths of a point (Tables 2 and 3) indicating CALP technology skills were in fact developing alongside the BICS. Melinda described the course she taught and problems undergraduates were experiencing.

I don't' (sic) know if some of these if there, being an undergrad class is this their first experience with something that is totally online? uh cause I know this particular class is never taught face to face it's always . . . I think they all know that but, but a lot of the undergrad classes are hybrids you know so that you still have that.

When viewing the delivery methods, online might be viewed as an immersion program (ESL) with 100% second language use, and hybrid is a bilingual approach with

the use of both methods to slowly transition from teaching in one language to teaching in another.

#### Research Question 4: The Transitional Experience in Online Teaching/Learning

Instructors and undergraduates appeared to walk through a transitional experience in regards to the online teaching and learning paradigm (Figure 6). Both groups experienced an acculturation process as they learn a second language and social practices of the second culture.

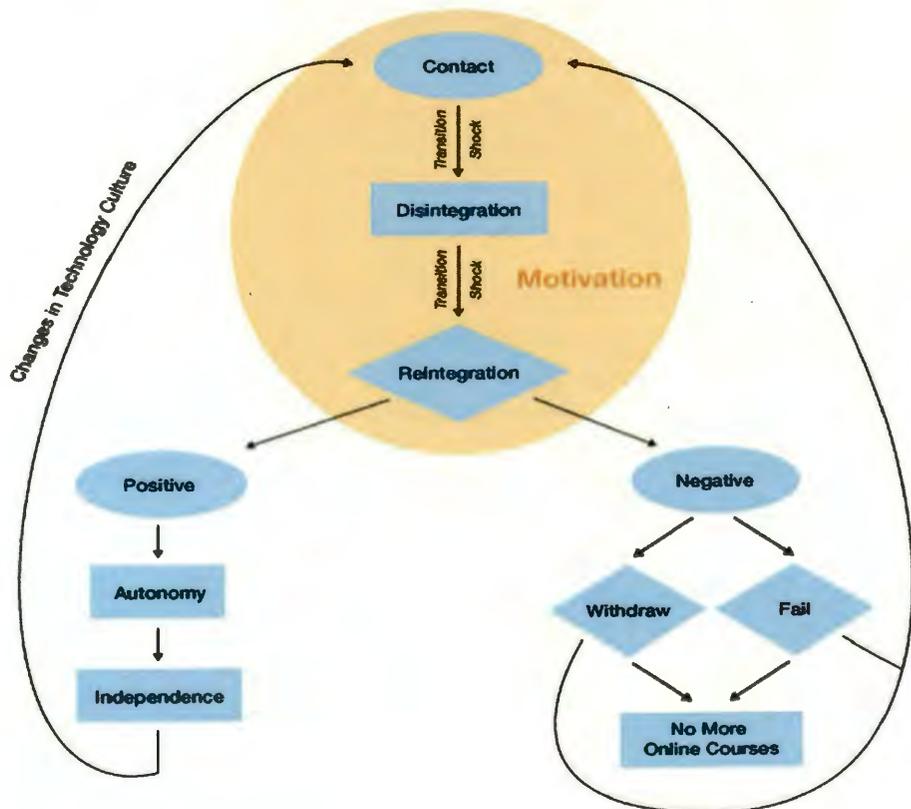


Figure 6. Transitional experience in the online teaching/learning culture

The Contact Phase of the transitional experience appeared to occur prior to teaching/taking an online course and during that first online course experience.

Instructors and undergraduates initially viewed the online educational environment from the first culture. Instructors used first culture strategies to instruct in the online environment. Harry reported,

I had to figure out a way to take what I was doing in the classroom and make that part of that online experience and it took a while to do that and I still don't think I'm there completely . . . I'm, I'm more now matching how I feel about teaching face-to-face students with how I feel about teaching online students . . . I think that's, anytime you try something new you kinda revert back to that comfortable stage and then you work through it from there and try and figure out you know what's, what's going on.

Lyndsie explained how she pulled from a traditional model of teaching in her first semester teaching online.

The first class I taught online was pretty much, you read this book and you have these additional readings and you do these assignments and you upload them on Blackboard there was not a whole lot of variety because I just didn't know sort of what to do.

Some undergraduates' perceptions in this first phase appeared to view online education as the removal of seat time and left with the assignments and assessments. They did not account for the seat time. Grace, an instructor at TWU, explained, "I think the immediate thought is um we don't have to do as much 'ooo let's take it online we can stay home in our jammies and there won't be as much to do we don't have to pay for gas, we don't have to go to campus, don't have to take that time."

In Adler's (1975) transitional experience, feelings of excitement and euphoria are experienced. During this transitional experience, findings showed during this first phase, some individuals experienced uncertainty and fear.

During the second phase of Disintegration, feelings of transition shock emerged as the instructor and undergraduate explored and navigated in the online environment. The differences between the first and second culture became obvious. Rules of how traditional schooling occurred became apparent and an individual's lack of language and skill sets became apparent. Undergraduates realized time to learn the material, seat time, was required, taking time designated for other activities. In addition, seat time invaded the learners in their home environment, which may have increased the negative emotions.

In the next stage of Reintegration, the individual made a decision to continue to either engage in the second culture or withdraw. Instructors may have chosen not to teach an online course again. Undergraduates withdrew from the course, failed the course, or chose not to take another online course again. With the transition shock and the transitional experience, the language (CALP-educational technology skills) and the experience (the number of online classes and look at length of time in program) were part of the success. In addition, two emotions seemed to be the catalyst for an individual to continue on in the online course and, in turn, the transitional experience. The first emotion was motivation—either motivation to acculturate or extrinsic motivation. The second emotion to emerge from the data was confidence. This arose as confidence in self whether in intelligence, skill set, or in seeking help to overcome transition shock.

Motivation and confidence are components of Krashen's (1982) affective filter. These two helped lower the anxiety, allowing for learning of the culture and the content.

If the Reintegration phase is resolved positively, the instructor or undergraduate continues on in the transitional experience to autonomy and onto independence. More positive emotions and feeling of confidence emerged as the language was understood and a new skill set developed. An identity in the new culture was created.

A person can experience this transitional experience multiple times. Each online course designed by a different instructor is different using tools of instruction, different course layout, and even different content management systems. One undergraduate explained during the move from one institution to another, the change in content management systems.

I think the first time that I did an online course it was easy I think it was the difference in [B]lackboards that really throw (sic) me off. I hate the new Blackboard you can never tell when you have new assignments when new grades are posted when you have new email NOTHING! I didnt (sic) even know how to get to my grades until a good while into the course much less to my emails.

Not everyone is ready for online courses. Judy explained,

I've even said that there's some people that I don't think should be or not ready for online courses and they need to recognize that may not be the option for them if they are not willing to deal with that frustration of learning the new technology cause if you're choosing to take an all online course you're pretty much choosing to do what it requires and uh if it's not, it, it's not meant for everybody and so um but you have to be there if they're there.

However Judy pointed out there needed to be a little frustration. This frustration is an example of Piaget's process of equilibration. As the undergraduate enters the online

world, the new environment challenges the current schema of teaching and learning with new information. The student must process the information and decide if it will be accommodated into new schema or assimilated into current schema. New learning will occur. Online may not be an initial viable teaching platform for everyone if the frustration level is high enough to cause an overload and unable to resolve the disequilibrium.

In the process of acculturation and second language acquisition, Krashen's (1982) theories were evident. There was evidence of the input hypothesis. Undergraduates needed language a little more advanced or tools that challenged them, but did not overwhelm them. Some technologies like Wimba and Second Life may have been beyond some undergraduates' comprehensible input. In addition the concept of lurking and observing in the online class could be considered a silent period as the undergraduate acculturated to the new culture. Instructors are beginning to have more experience in the new online teaching/learning culture in order to model and provide the "+1".

Schumann's types of acculturation were also seen in the online environment. Rachel, in focus group 6, demonstrated Type II acculturation. She was in the second culture, completing the minimum requirements necessary for the graded needed for transferring. Rachel learned what language was sufficient enough for the completion of the coursework. Her perspective mirrors the second language learners in Cheng and Fox's (2008) study who immersed themselves enough to be successful in the course. On the other hand, Nancy demonstrated Type I acculturation. She actively explored the

environment, clicking on buttons and trying to figure out the tools. She chose to be there and explore, which would aid her learning the language and, in turn, being more successful in the course.

### **Research Question 5: Filters for Managing Transition Shock**

Instructors and undergraduates had multiple filters for learning. Both needed motivation, support, feedback from each other as well, skill development, confidence (Figure 7) and time in the second culture of online education. Motivation as discussed in research question four was an effective coping skill for success in online education. There is reciprocity in the teacher-student relationship. Teachers and undergraduates need feedback from each other. Teachers and undergraduates need to know students are learning. Instructors in this study were receiving feedback from correspondence and work submitted. An assumption noted was that the more work a student produced, the more the student was engaged. This could be a misnomer. Longer, quality assignments may better demonstrate competency as well as shorten the amount of grading for instructors. Instructors would be allowed more time for the critical feedback undergraduates were requesting (Kupczynski, Ice, Wiesenmayer, & McCluskey, 2010).

Skill development by practice and training also aided the acculturation process. Instructors sought professional and personal development in order to hone effective online teaching practices. For undergraduates, explicit teaching of technology and examples of required skills were needed, and, once taught, the individual was able to monitor personal progress. The critical component for instructors was staying in the

culture long enough to acculturate and finding strategies to engage the undergraduates in order for them to stay long enough to resolve the Reintegration stage of the transitional experience positively. This positive resolution helped the individual to independence in the new culture. Skill development promoted confidence in instructors and undergraduates, which helped the individual reach out for more help, more support, and learn more skills.



*Figure 7.* Coping strategies for success in online courses

Length of time in the second culture was a critical linchpin in the acculturation process. Krashen's (1982) affective filter hypothesis explained the longer one is immersed in the language, the lower the filter. The longer exposure to a culture increases the learning and development of social practices and skill competencies. The more practice in the new culture causes routines to be developed. As routines are developed, the extraneous loads become chunked together and processes like how to upload a

document become automated. Extraneous load may dissolve or may become germane and further optimize learning. Strategies will be discussed in the implications and recommendations for professionals.

In addition, instructors in the questionnaire had taught an average of 14 online classes whereas undergraduates had participated in 5.5 online courses. Instructors in the interviews had an average of 4.9 years experience in online education. Instructors are beginning to have more experience in the online teaching/learning paradigm. Discourse including language, roles and customs are becoming ingrained. Instructors are starting to have more experience in order to model and pass on the socio-cultural tradition of this culture. Instructors also reported higher educational technology skills, CALP skills ( $M=5.65$ ,  $SD=.638$ ) than undergraduates ( $M=4.99$ ,  $SD=1.134$ ).

### **Implications**

Online education viewed through the lenses of second culture acquisition, cognitive load, and child development revealed several implications. The implications are discussed through the Sloan-C 5 Pillars of the Quality Framework.

The purpose of the Sloan Consortium (Sloan-C) is to help learning organizations continually improve quality, scale, and breadth according to their own distinctive missions, so that education will become a part of everyday life, accessible and affordable for anyone, anywhere, at any time, in a wide variety of disciplines. (Moore, 2005)

The Sloan-C 5 Pillars are learning effectiveness, cost effectiveness and institutional commitment, access, faculty satisfaction, and student satisfaction. Learning effectiveness involves demonstration of equal quality of learning in traditional and online

courses. Cost effectiveness and institutional commitment “improves services while reducing costs” (Moore, 2005). Access involves online availability to all learners who want to learn online. Faculty satisfaction makes sure instructors are “pleased with teaching online” (Moore, 2005), and student satisfaction makes sure “student are pleased with their experiences in learning online, including interactions with instructors and peers, learning outcomes that match expectations, services and orientation” (Moore, 2005).

### **Learning Effectiveness**

Course design is a critical component of learning effectiveness. Instructors need to re-evaluate the concept of seat time and how that is produced in online courses. In this environment, undergraduates are active learners and supposed to direct their own learning. What may take one student two hours to complete may take another five hours depending on the skill level and level of acculturation. Differentiated instruction and scaffolding should be in place. This may be offering a variety of ways to demonstrate learning. Student engagement needs to be redefined in this new culture. Lurking and viewing others’ photos and watching videos may develop a sense of social presence and learning. However these are processes instead of products an instructor can grade. In addition, play needs to be incorporated into the online environment. Play would allow students to be in control of their learning in a way that aligns with how children learn. Play occurs a safe environment where learners can practice and mess-up without severe consequences. It would help the learners internalize the environment (Bruner, 1983) and

show instructors what the learners know (Vygotsky, 1978). Play is freely chosen and fun, which is a characteristic of the Millennials (Tapscott, 1998).

Comparisons of face-to-face courses with online counterparts need to occur with the understanding direct translations of activities and assignment may not be possible. Social practices and skills need to be defined for undergraduates. Strong boundaries by explicit instructions can provide a sense of security and enable learning. Online education is a distinct second Discourse and pidgin language of its two parent languages of teaching and learning and technology.

### **Cost Effectiveness and Institutional Commitment**

Institutions need to continually evaluate the tools available to instructors and undergraduates. One content management system does not offer all the tools instructors expressed they needed for effective instruction because “tools . . . are not freely available because number 1 the tools are expensive [and] number 2 the content to go on them is not open access . . . for teaching and learning.” Another recommendation for practice is the use of technology in the traditional face-to-face classroom as either a platform for learning in the physical classroom or the incorporation of more hybrid courses to allow the two cultures to meet in an arena where the first culture supports the learning of the technology culture.

### **Access**

Access allows those who wish to learn online the opportunity. Two implications emerge. First, there seem to be students who do not want to take online courses or do not

have enough skills in order to positively resolve the transitional experience. Courses should be offered in all possible delivery formats to accommodate the format preference of the learner. For those who wish to learn in the online environment, the support staff for online education needs to be evaluated for effectiveness. More expert users of the technology should be made available for instructors and undergraduates as external supports to the online environment. Equipment needed for students should also be made available. One instructor discussed hesitations in expanding into synchronous discussion due to on-campus students and their lack of computer equipment. Providing a secure base will aid instructors and undergraduates in online education.

### **Faculty Satisfaction**

For this pillar of the quality framework, instructors must resolve the transitional experience positively. Based on the filters for managing transition shock, several implications exist. First, institutions need to provide training and professional development for online course development. Training should be for groups and individuals. Front-loading course design is necessary in this new paradigm. Instructors should be able to have time prior to teaching a course to develop it without the pressure of teaching.

Second, instructors should be allowed multiple semesters to teach and further develop a course. Length of time in the second culture allows for the lowering of the affective filter and acquiring the language. Keeping the same courses would allow for CALP development of the technology culture and allow instructors to continue to

improve course design for increased student learning. The confidence of the instructor could then pass to the undergraduates.

### **Student Satisfaction**

The last pillar involves student satisfaction. This may appear as undergraduates positively resolving their transitional experience and acculturating to the new paradigm of online teaching and learning. Instructors and undergraduates reported that students were the number one role of the instructor. Interaction and, more importantly, immediacy behaviors are critical (Swan, 2002). Mehrabian (1971) defined immediacy as the number of communication channels available. "Communication channels are the means by which one conveys his thoughts and feelings to another." (p. 76). Immediacy and liking are connected. A variety of ways to communicate with undergraduates needs to be in place. Interaction is a double-sided goal. The first goal is to facilitate learning through dialogue and the second goal is to communicate importance and value to students, the affective component of teaching (Swan et. al, 2008). In addition, territorialism needs to be addressed in online courses. Online education goes into undergraduates' homes and personal spheres and is available at any time. Students must negotiate the blurring of the academic and personal domains of their lives.

Another implication involves the students' role of assignments. Instructors need to evaluate the interaction and balance of student engagement, tool use, and assignments and decide what each of those components looks like in the online environment. Maddie explained, "Less is more . . . . how can we get the most learning from the least amount of

clutter.” Effective strategies are discussed in detail in the findings and recommendations for professionals.

### **Recommendations for Professionals**

The purpose of this research study was to explore instructors’ and undergraduates’ perceptions and experiences online education through the lens of someone acquiring a second culture in an attempt to begin to understand the barriers and successes in order to better inform practice and design of online education. When a construct is better understood, more effective strategies can be developed to improve practice. Three main recommendations are offered to professionals.

**Cognitive load.** The first recommendation is the reduction of cognitive load through course design in order to optimize learning. The study of cognitive load and instructional design offers five strategies that appear appropriate for online course design. The first strategy is the slow release of materials. In initial encounters with materials, instructors could make available only the necessary components for the first few weeks. This may allow students to explore the new environment. Release of all materials, assignments, and tools may be overwhelming to students and cause negative impressions or withdrawal from the student. For students who are global-thinkers, the syllabus with the semester mapped out will support these learners as well.

Strategies two and three relate to assignments. Instructors should provide worked samples and step-by-step directions. Chandler & Sweller (1991) explained that worked samples decrease cognitive load. Explicit directions and expectations decrease cognitive

load. Explicit directions show an increase in teaching presence (Sheridan & Kelly, 2010) while less explicit instructions leave much room for learner interpretation. Having both strategies in the online course design may increase the sense of teaching presence and less reliance on self. Undergraduates have questions answered immediately through examples and direction, which may increase a sense of immediacy. However, one instructor's concern was limiting creativity by giving worked samples. Offering a few examples of an end product may decrease the urge to copy the example.

The fourth strategy requires undergraduates to enroll in only one online course for the first semester to reduce the cognitive load. The last strategy involves the face-to-face courses. Face-to-face courses should begin to incorporate technology as much as possible to acclimate students to the online education Discourse. For example, using the content management system to administer tests and collect assignments. In addition, an instructor could use an interactive feature like a discussion board, blog or social networking component to acculturate students to the online environment.

Learning the technology appeared to negatively impact content learning. It doubled the amount of learning and increased the amount of time on coursework. For this reason, instructors should limit the amount of new technology incorporated in a course. Furthermore instructors could assess prior experience with technology, like a pre-test, to evaluate students' current skills in order to provide a more accurate scaffold when picking assignments and tools to use.

**Child development.** The second set of recommendations comes from the discipline of child development. Incorporating five child development strategies in online course design may help lower transition shock and promote learning by aligning with ways individuals learn. The first strategy is teaching to different learning styles. The three learning styles are auditory, visual, and tactile/kinesthetic (Koch, 2011). Course design should try to target all the learning styles throughout the course and the assignments. For example, the incorporation of videos and voice over PowerPoints combine the audio and the visual learning styles. In one child development class they used a simulation of raising a child to engage the learner while another class used SecondLife, a MUVE, in order to offer a strong interactive component.

The second strategy is environment design. With the premises students are active learners and responsibility for learning is placed in their hands, instructors should design environments for individualized learning. A prepared environment allows students access to a variety of tools, so, depending on the needs of the student, the student has access to the corresponding tool. Along the same vein, a routine should be established in online class. A class schedule allows children to have predictability in activities. A weekly, or bi-weekly routine would allow undergraduates a predictable pattern in the class and allow the course management items to become automated, allowing the students to focus on the content.

Elements of play should be incorporated into the online environment. Initial explorations and games may capture the learners' interest and have them using the technology tools. Harry has a period of low-stakes exploration.

I want them to get comfortable with using specific pieces of technology before they start . . . so I purposely set assignments up at the very beginning that have them interacting with those pieces um that way they can be a little more comfortable using them before we get into the nitty-gritty of this effects your grade

The last two strategies draw from Vygotsky's (1978) theories of scaffolding and interaction. Online education allows for individualized instruction. Instructors can evaluate the needs and skills of learners and provide activities that will scaffold them to the next skill to be developed. Scaffolding may involve an activity, specific tutorials, meeting learning styles, or direct instruction of a skill. The last strategy is interaction. Vytgotsky's theory explained how more experienced users of a language through interaction instruct less experienced users of a language. Instructors, through interactions, their teaching presence, can model learning both content knowledge and technology knowledge.

**Transitional experience.** The last recommendation comes from the transitional experience. For students with transition shock, tools of the first culture are needed to scaffold learning in the second culture. For example, educators need to explicitly explain that students can call or come by the office because these are options that are not even considered by some undergraduates. In trying to recreate the traditional classroom

atmosphere, whether through synchronous interactions or social networking tools, first culture tools may be the bridge to success in the transitional experience.

### **Recommendations for Future Research**

Through this research study, several areas for future research were found. First, small significant predictors or weak but significant correlations emerged, indicating the phenomena exist. Deeper exploration and definition of the constructs is needed in order to have more robust findings and relationships. An instrument development is needed for future research.

Second, if teachers are cultural models of teaching and learning and they are in the process of indoctrination into the culture themselves, how the social practices and identities are being negotiated in the online environment needs to be further researched. How is the new Discourse being negotiated?

Third, future research needs to continue to explore what engagement looks like in the online classroom. For students, how do they engage in the environment? This study showed undergraduates are logging in and doing work, and instructors measure their engagement by the quantity of work produced. Lurking is also an activity employed by the undergraduates. By looking at someone else's work, is the student engaged? Is this a silent period where the student is not posting in the course but absorbing the language and culture around them? In addition, what does instructor engagement look like in this paradigm? The Community of Inquiry model focuses on student's (a) social presence,

(b) teaching presence, and (c) cognitive presence. Future research should tease out how instructors receive feedback from students.

Fourth, in online education, Millennials struggled and viewed withdrawal and failure as viable options as opposed to nontraditional older students who experienced barriers but continued on in the online course. Exploration into the reasoning behind the motives of the younger students and investigating maturational issues and cultural perceptions may inform ways to better assist this population.

Lastly, future research should investigate students' and instructors' perceptions with the actual experiences in the online classroom. Undergraduates perceived less involvement of instructors and online courses as a "cop out" while instructors interviewed discussed the large quantity of work involved in course design. In addition, students comment about the lack of immediacy with teachers in regards to grading and communication, whereas instructors comment of quick responses to both. Where this discrepancy exists may inform better course design.

### **Limitations**

Several limitations existed in this study. The online questionnaire was researcher created. Though two sections of the questionnaire were component of other validated surveys, the effort of the researcher to maintain parallel construction produced wording in the instructor survey that could have been misinterpreted. For example, check grades should be changed to grade assignments or assessments. In addition, after reviewing the data a few changes should be made for future surveys in order to develop a clearer picture

of the instructor and undergraduate. For example, the demographic question, how many online courses are you currently enrolled in/teaching? should be added. This will allow future researchers to evaluate the extent of cognitive load on the respondents. Also, adding a help desk option for tools of teaching and learning needs to be added to explore the institutional supports for this new paradigm. The researcher did not include this option because it is not an avenue that she personally uses, but is a viable option for help for both undergraduates and instructors and should be explored. Lastly, the construct of social presence should be collected on instructors in order to view how connected they feel in the online classroom.

In addition the construct of second language acquisition needs to be developed to be more robust. The construct consisted of one question. More questions should be added to explore this concept.

Findings may be limited due to the population recruited for this research study. First, participants were volunteers. People who volunteer to participate may have different characteristics than person who do not volunteer. Secondly, the participants were instructors and undergraduates in online child development course in North Texas. This population may have specific characteristics other populations may not however, the sample size of 297 participants helped the generalizability of the findings. This population helped to explore new lenses to view online teaching and learning and the strategies used may inform the whole body of research.

## Conclusion

This study explored instructors' and undergraduates' perceptions and experiences in online teaching and learning through the lenses of second culture acquisition, cognitive load, and the discipline of child development. These lenses offer another perspective of the success and failures in online education. Online education can be viewed as a pidgin language of its parent languages traditional teaching/learning and technology. Online education is its own culture with its own Discourse.

“All Discourses are a product of history” (Gee, 1996, p. 132) Online teaching and learning has not had a long history. As time passes and members of this new culture interact, Discourse will develop. The roles of instructors, students, and technology will become defined. Language, social identities, customs and props will develop. Instructors are beginning to have a longer experience and more advanced knowledge of the new Discourse. This will add the modeling and scaffolding of the new culture for the undergraduates. As in any educational setting, a range of experiences from traditional teaching/learning and technology will be present. The instructor's course design, including interactions and assignments, supports the learner. Instructors and undergraduates walk through the transitional experience as they initially enter the online environment. The resolution of this experience helps determine continuance or termination of online coursework. The transitional experience will not be a one-time occurrence for either instructor or undergraduates. New content management systems and changes in the technology will cause a re-experience. Specific skill sets for

instructors and undergraduates are needed. Motivation and confidence are necessities for success in the online culture. Online teaching and learning will continue to increase in quality and quantity, and, with these new lenses to view the phenomena, more effective strategies will be developed.

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## Appendix A

### Recruitment Cover E-mail and Letter to Instructors

## Appendix A

### Recruitment Cover E-mail and Letter to Instructors

My name is Jennifer Quong, and I am a doctoral candidate in child development at Texas Woman's University. I am conducting a mixed methods research study for my dissertation that seeks to explore instructors' and undergraduate students' thoughts and experiences in online courses, and I need your assistance. During the (semester), the class schedule shows you are teaching (class) online. Attached is the recruitment letter with the specific requirement for both instructors and undergraduates and the undergraduate recruitment email.

The instructor part of the study involves:

- An online questionnaire (15-30 minutes)
- An interview (30 minutes)
- A comment wiki (your discretion)
- Emailing your students the undergraduate recruitment letter in your Blackboard courses (If applicable)

The link to the instructor online survey is: <https://www.psychdata.com/s.asp?SID=141301>

Your students' part of the study involves

- An online questionnaire (30 minutes)
- A focus group (30 minutes)

***Students will receive a participation certificate at the completion of each part of the study as documentation if you choose to give extra credit for participating in research.***

The link to the undergraduate survey is: <https://www.psychdata.com/s.asp?SID=141006>

What are your **thoughts** and **experiences** about **online teaching and learning**?

I invite you and your online students to share them with me in a research study on instructor and undergraduate students' perspectives and experiences in online courses. My name is Jennifer Quong, and I am a doctoral candidate in child development at Texas Woman's University. I am conducting a mixed methods research study for my dissertation that seeks to explore instructors' and undergraduate students' thoughts and experiences in online courses, and I need your assistance.

The instructor part of the study involves:

- An online questionnaire
- An interview
- A comment wiki

The maximum time commitment for both is 1 hour and 45 minutes.

Your students' part of the study involves

- An online questionnaire
- A focus group

The maximum time commitment for both is 1 hour and 45 minutes.

The link to the instructor online survey is: <https://www.psychdata.com/s.asp?SID=141301>

In order to be a participant in the undergraduate component of the study, the student must be

- at least 18 years of age or older AND
- be enrolled in an online undergraduate course.

The link to the undergraduate survey is: <https://www.psychdata.com/s.asp?SID=141006>

There is a potential risk of loss of confidentiality in all email, downloading, and internet transactions. All data will be kept confidential, and your name will not be attached to any information. There are no penalties for participation, or any risks or penalties for not participating. Participation is voluntary and you may withdraw at any time without penalty.

If you choose to participate in the study, your informed consent will be noted after reading the electronic consent document and clicking the "I agree to participate" button to enter the questionnaire. There will be no penalty should you decide not to participate in the study. Your participation or lack of participation will not impact your grade in this class in any way. The survey will be conducted through an online survey tool, PsychData. No identifiable information will be collected in this survey.

I can be contacted me at [jenha@twu.edu](mailto:jenha@twu.edu) or 214-924-0198 for questions.

Thanks you for your time and consideration.

100 100

## Appendix B

### Recruitment Letter for Undergraduates

What are your **thoughts** and **experiences** about **online teaching and learning**?

I invite you to share them with me in a research study on undergraduate students' perspectives and experiences in online child development courses. The study involves:

- An online questionnaire
- A focus group

The maximum time commitment for both is 1 hour and 45 minutes.

At the end of the survey, you will be asked if you would like to participate in a focus group. If you chose to participate, an additional survey will be provided to collect contact information.

In order to be a participant in this study, you must be

- at least 18 years of age or older AND
- be enrolled in an online undergraduate course.

The link to the survey is: <https://www.psychdata.com/s.asp?SID=141006>

There is a potential risk of loss of confidentiality in all email, downloading, and Internet transactions. All data will be kept confidential, and your name will not be attached to any information. There are no penalties for participation, or any risks or penalties for not participating. Participation is voluntary and you may withdraw at any time without penalty.

If you choose to participate in the study, your informed consent will be noted after reading the electronic consent document and clicking the "I agree to participate" button to enter the questionnaire. There will be no penalty should you decide not to participate in the study. Your participation or lack of participation will not impact your grade in this class in any way. The survey will be conducted through an online survey tool, PsychData. No identifiable information will be collected in this survey.

If your professor has a previously established policy for crediting participation in research, certificates will be available at the completion of both the questionnaire and focus groups, however the professors are not involved in this research. The information will be kept in a password-protected file. The data will be shredded after completion of the study.

I can be contacted at [jenha@twu.edu](mailto:jenha@twu.edu) or 214-924-0198 for questions.

Thanks you for your time and consideration.

Jennifer Quong  
TWU Doctoral Candidate  
Child Development

## Appendix C

### Informed Consent and Questionnaire for Instructors

## Instructor Questionnaire and Consent Form

Principal Investigator: Jennifer Quong.....[jenha@twu.edu](mailto:jenha@twu.edu)  
214-924-0198

Advisor: Sharla Snider, PhD..... [ssnider@twu.edu](mailto:ssnider@twu.edu)

You are being asked to participate in a dissertation research study at Texas Woman's University. The purpose of this research is to explore online instructors' and undergraduate students' thoughts and experiences in taking online courses. These responses will be examined to understand why various experiences happen in the online classroom in order to improve the quality and effectiveness of online learning. You have been asked to participate in this study because you are an instructor in an online undergraduate course.

The researcher will ask you questions about your perspective and experiences in online education. The following are a list of potential risks involved in this study as well the steps that will be taken to minimize each risk. There is a potential risk of loss of confidentiality in all email, downloading, and Internet transactions.

**Loss of confidentiality** is the first risk associated with this study. All identifiable data will be deleted from electronic sources. The principal researcher and faculty advisor will be the only ones with access to the audio tapes and the computer software program. The principal researcher, faculty advisor, and research assistants will have access to coded data. Consent forms will be stored separately from the data. When not in use, these materials will be kept in a secure locked filing cabinet in the principal investigator's home office. The participant's name will not be used in the event that the study findings are published.

The University adopted electronic survey platform, Psych Data, will be used to facilitate the online questionnaire aspect of the study. These questionnaires are securely constructed such that a completed questionnaire cannot be viewed by simply pressing the "Back" button; only the principal researcher and faculty advisor will have access to collected data. There is a potential risk of loss of confidentiality in all email, downloading, and internet transactions. Confidentiality will be protected to the extent is allowed by law.

**Loss of time** is a potential risk. The questionnaire should not take more than 30 minutes to complete. Participants can choose to withdraw at any time during the study.

**Fear of coercion** is a potential risk. Participation in the study is strictly on a voluntarily basis. Instructors do not receive any type of reward for participating or consequence for

not participating. Questionnaire data will be anonymous and volunteers will be recruited for the interviews.

The following questionnaire will be used to gain insight into student expectations of online learning. Participation in this questionnaire is strictly voluntarily. If you choose to participate in the research study you may at any time withdraw from the study without consequence.

If you choose to participate in the study, your informed consent will be noted by clicking the “I agree to participate” button and entering the questionnaire.

The following questionnaire will be used to gain insight into student expectations of online learning. Participation in this questionnaire is strictly voluntarily. If you choose to participate in the research study you may at any time withdraw from the study without consequence.

### Part I. Demographic Data

1. I am an instructor at:
  - a. Texas Woman’s University
  - b. Collin College
  - c. Grayson County College
  
2. What is your age in years on January 1, 2011? \_\_\_\_\_
  
3. What is your reason for teaching the class? (Check all that apply)
  - a. I was assigned this course
  - b. It’s the only section of the course and I am the only one who teaches it
  - c. It’s the section that best fits into my schedule
  - d. I prefer online classes
  - e. Other:
  
4. Is this your first online course?
  - A. Yes
  - B. No
  
5. If you answered no to item 4, how many online courses have you taught including this one? \_\_\_\_\_
  
6. Do you prefer to teach (select one):
  - a. online classes
  - b. Face-to-face classes
  - c. Hybrid classes (a mix of online and face-to-face)
  - d. No preference

## Part II. Technology

Part B of the questionnaire asks questions specifically related to technology in and out of the online classroom. The information will be rated on a 5 point scale with the following categories: Choose the one that best fits your thoughts about technology in and out of the online classroom.

The following questions will be rated on a 5 point scale with the following categories: 1 **not confident at all**; 2 **a little confident**; 3 **somewhat confident**; 4 **neutral**; 5 **confident**; 6 **very confident** 7 **extremely confident**, how confident do you presently feel using this technology?

7. Computer	1	2	3	4	5	6	7
8. Laptop	1	2	3	4	5	6	7
9. Tablet(e. g. iPad)	1	2	3	4	5	6	7
10. PDA	1	2	3	4	5	6	7
11. Internet	1	2	3	4	5	6	7
12. Email	1	2	3	4	5	6	7
13. Digital camera	1	2	3	4	5	6	7
14. Web browser	1	2	3	4	5	6	7
15. Blogs	1	2	3	4	5	6	7
16. Social Networking (e.g. Facebook)	1	2	3	4	5	6	7
17. Ipods/Mp3 Players	1	2	3	4	5	6	7
18. Smartphones (e.g. iPhones, Droids)	1	2	3	4	5	6	7
19. Downloading music	1	2	3	4	5	6	7
20. Uploading photos to the Internet	1	2	3	4	5	6	7
21. Playing video games	1	2	3	4	5	6	7
22. Blackboard	1	2	3	4	5	6	7
23. Online library resources	1	2	3	4	5	6	7
24. Word processing	1	2	3	4	5	6	7
25. Spreadsheets	1	2	3	4	5	6	7
26. PowerPoint	1	2	3	4	5	6	7
27. Wikis	1	2	3	4	5	6	7

## Part III. The Online Class

28. This question wants to know about the tools and their use in this online course  
Answer Present, Not Present or Don't know to the following statements about tools:

The course is easy to use and figure out?      Present      Not present      Don't know

All course materials available online?	Present	Not present	Don't know
Multimedia components? (e.g., video/audio clips, podcasts)	Present	Not present	Don't know
Interactive simulations? (e.g., virtual techniques)	Present	Not present	Don't know
Accessible from any location?	Present	Not present	Don't know
Pictures	Present	Not present	Don't know
Synchronous discussions	Present	Not present	Don't know
Asynchronous discussion	Present	Not present	Don't know
Assignments	Present	Not present	Don't know
Assessments	Present	Not present	Don't know
Emails	Present	Not present	Don't know
Group projects	Present	Not present	Don't know
Web 2.0 tools (blogs, wikis, Ning)	Present	Not present	Don't know
Social Networking	Present	Not present	Don't know
A place to ask questions	Present	Not present	Don't know
Examples of work	Present	Not present	Don't know

The following online behaviors will be rated on a 6 point scale with the following categories: 1 **never**; 2 **only when assignments are do**; 3 ; 2 **weeks only** 4 **once a week** ; 5 **every 2-3 days**; 6 **everyday**. Choose the one that best fits how often you:

29. Log in to the class	1	2	3	4	5	6
30. Read discussions	1	2	3	4	5	6
31. Write in a discussion	1	2	3	4	5	6
32. Check assignments	1	2	3	4	5	6
33. Check grades	1	2	3	4	5	6
34. Print directions	1	2	3	4	5	6
35. Print assignments	1	2	3	4	5	6
36. Print the calendar	1	2	3	4	5	6
37. Email professor	1	2	3	4	5	6
38. Email fellow students	1	2	3	4	5	6
39. Look at someone else's work for clarification	1	2	3	4	5	6

The following emotions will be rated on a 5 point scale with the following categories: 1 **never**; 2 **a little of the time**; 3 **sometimes** ; 4 **most of the time**; 5 **all the time**. Choose the one that best fits your feelings in the online class.

40. Excited	1	2	3	4	5
41. In-control	1	2	3	4	5
42. Confident	1	2	3	4	5
43. Connected	1	2	3	4	5

44. Positive	1	2	3	4	5
45. Frustrated	1	2	3	4	5
46. Confused	1	2	3	4	5
47. Overwhelmed	1	2	3	4	5
48. Negative	1	2	3	4	5
49. Distant	1	2	3	4	5

#### **Part IV. Open-ended Questions**

This section contains seven open-ended questions to be answered in narrative form.

1. What are the teacher's roles in the classroom?
2. What are the student's roles in the classroom?
3. Are the roles different in a face-to-face classroom and an online classroom? If yes, how are the roles different in an online classroom?
4. How should technology be used in education?
5. How is the online course different from a face-to-face course?
6. What is the easiest part of the online class?
7. What is the most difficult part of the online class?
8. What do you like about the online course?
9. What do you not like about the online course?
10. What were your expectations of the class?
11. Are they being met? Why or why not?
12. What was your first online experience like? Did you struggle?
13. How did you overcome it?
14. Anything else you would like to discuss about online education?

## Appendix D

### Informed Consent and Questionnaire for Undergraduates

## Student Questionnaire and Informed Consent

Principal Investigator: Jennifer Quong.....[jenha@twu.edu](mailto:jenha@twu.edu) 214-924-0198

Advisor: Sharla Snider, PhD.....[ssnider@twu.edu](mailto:ssnider@twu.edu)

You are being asked to participate in a dissertation research study at Texas Woman's University. The purpose of this research is to explore online undergraduate students' and instructors' thoughts and experiences in taking online courses. These responses will be examined to understand why various experiences happen in the online classroom in order to improve the quality and effectiveness of online learning. You have been asked to participate in this study because you are enrolled in an online undergraduate course. In order to be a participant in this study, you must be at least 18 years of age or older.

The questionnaire will ask questions about your perspective and experiences in online education. The following are a list of potential risks involved in this study as well the steps that will be taken to minimize each risk.

**Loss of confidentiality** is the first risk associated with this study. All identifiable data will be deleted from electronic sources. The principal researcher and faculty advisor will be the only ones to have access to the audio tapes and the computer software program. The principal researcher, faculty advisor, and research assistants will have access to coded data. Consent forms will be stored separately from the data. When not in use, these materials will be kept in a securely locked filing cabinet in the principal investigator's home office. The participant's name will not be used in the event that the study findings are published.

The University adopted electronic survey platform, Psych Data, will be used to facilitate the online questionnaire aspect of the study. These questionnaires are securely constructed such that a completed questionnaire cannot be viewed by simply pressing the "Back" button; only the principal researcher and faculty advisor will have access to collected data. There is a potential risk of loss of confidentiality in all email, downloading, and internet transactions. Confidentiality will be protected to the extent is allowed by law.

**Loss of time** is a potential risk. The questionnaire should take a maximum of 45 minutes to complete and the participants. Participants can choose to withdraw at any time during the study.

**Fear of coercion** is another potential risk. Participation in the study is strictly on a voluntarily basis. This is not part of the requirements for the course, nor do instructors or students receive any type of reward for participating or consequence for not participating. Questionnaire data will be anonymous.

The following questionnaire will be used to gain insight into student expectations of online learning. Participation in this questionnaire is strictly voluntarily. If you choose to participate in the research study you may at any time withdraw from the study without consequence.

If you choose to participate in the study, your informed consent will be noted by clicking the “I agree to participate” button and entering the questionnaire.

The following questionnaire will be used to gain insight into student expectations of online learning. Participation in this questionnaire is strictly voluntarily. If you choose to participate in the research study you may at any time withdraw from the study without consequence.

Part I. Demographic Data

1. I am enrolled in:

- A. Texas Woman’s University
- B. Collin College
- C. Grayson County College

2. What is your age in years on January 1, 2011? \_\_\_\_\_

The following questions will be rated on a 5 point scale with the following categories: 1 **not true**; 2 **a little true**; 3 **moderately true**; 4 **true**; 5 **very true**. Choose the one that best fits your thoughts about course expectations.

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 3. I am shy in face-to-face classrooms.                                      | 1 | 2 | 3 | 4 | 5 |
| 4. I hesitate to ask questions in front of a classroom full of peers         | 1 | 2 | 3 | 4 | 5 |
| 5. I tend to not make comments during class discussions                      | 1 | 2 | 3 | 4 | 5 |
| 6. I prefer to ask my questions to the professor before or after class.      | 1 | 2 | 3 | 4 | 5 |
| 7. I tend to not make small talk before or after class                       | 1 | 2 | 3 | 4 | 5 |
| 8. I am outgoing in face-to-face classrooms.                                 | 1 | 2 | 3 | 4 | 5 |
| 9. I feel comfortable asking questions in front of a classroom full of peers | 1 | 2 | 3 | 4 | 5 |
| 10. I tend to make comments during class discussions                         | 1 | 2 | 3 | 4 | 5 |
| 11. I tend to make small talk before or after class with peers               | 1 | 2 | 3 | 4 | 5 |

5

12. How many hours have you completed in your degree? \_\_\_\_\_ Hours

13. What is your reason for taking the class? (Check all that apply)
- a. It is required for my degree
  - b. It's the only section of the course
  - c. It's the section that best fits into my schedule
  - d. I prefer online classes
  - e. Other:
14. Is this your first online course?
- C. Yes
  - D. No
15. If you answered no to item 4, how many online courses have you taken in your undergraduate program including this one? \_\_\_\_\_
16. Do you prefer (select one):
- a. online classes
  - b. Face-to-face classes
  - c. Hybrid classes (a mix of online and face-to-face)
  - d. No preference

Answer true or false to the following statements about characteristics:

- |   |      |       |
|---|------|-------|
| 17. I took at least a semester off between high school and college  | True | False |
| 18. I attend part time for at least part of the academic year   | True | False |
| 19. I worked full time (35 hours or more per week) while enrolled in college classes  | True | False |
| 20. I am considered financially independent for purposes of determining eligibility for financial aid   | True | False |
| 21. I have dependents other than a spouse   | True | False |
| 22. I am a single parent  | True | False |
| 23. Did not have a high school diploma (completed high school with a GED or other high school completion certificate or did not finish high school) | True | False |

**Part II. Technology**

Part B of the questionnaire asks questions specifically related to technology in and out of the online classroom. The information will be rated on a 5 point scale with the following categories: Choose the one that best fits your thoughts about technology in and out of the online classroom.

The following questions will be rated on a 7-point scale with the following categories: 1 **not confident at all**; 2 **a little confident**; 3 **somewhat confident**; 4 **neutral**; 5 **confident**; 6 **very confident** 7 **extremely confident**, how confident do you presently feel using this technology?

24. Computer	1	2	3	4	5	6	7
25. Laptop	1	2	3	4	5	6	7
26. Tablet(e. g. iPad)	1	2	3	4	5	6	7
27. PDA	1	2	3	4	5	6	
28. Internet	1	2	3	4	5	6	7
29. Email	1	2	3	4	5	6	7
30. Digital camera	1	2	3	4	5	6	7
31. Web browser	1	2	3	4	5	6	7
32. Blogs	1	2	3	4	5	6	7
33. Social Networking (e.g. Facebook)	1	2	3	4	5	6	7
34. Ipods/Mp3 Players	1	2	3	4	5	6	7
35. Smartphones (e.g. Iphones, Droids)	1	2	3	4	5	6	7
36. Downloading music	1	2	3	4	5	6	7
37. Uploading photos to the Internet	1	2	3	4	5	6	7
38. Playing video games	1	2	3	4	5	6	7
39. Blackboard	1	2	3	4	5	6	7
40. Online library resources	1	2	3	4	5	6	7
41. Word processing	1	2	3	4	5	6	7
42. Spreadsheets	1	2	3	4	5	6	7
43. PowerPoint	1	2	3	4	5	6	7
44. Wikis	1	2	3	4	5	6	7

### Part III. The Online Class

45. This question wants to know about the tools and their use in this online course  
Answer Present, Not present or Don't know to the following statements about tools:

The course is easy to use and figure out?	Present	Not present	Don't know
All course materials available online?	Present	Not present	Don't know
Multimedia components? (e.g. video/audio clips, podcasts)	Present	Not present	Don't know
Interactive simulations? (e.g., virtual techniques)	Present	Not present	Don't know
Accessible from any location?	Present	Not present	Don't know
Pictures	Present	Not present	Don't know
Synchronous discussions	Present	Not present	Don't know
Asynchronous discussion	Present	Not present	Don't know
Assignments	Present	Not present	Don't know
Assessments	Present	Not present	Don't know

Emails	Present	Not present	Don't know
Group projects	Present	Not present	Don't know
Web 2.0 tools (blogs, wikis, Ning)	Present	Not present	Don't know
Social Networking	Present	Not present	Don't know
A place to ask questions	Present	Not present	Don't know
Examples of work	Present	Not present	Don't know

The following online behaviors will be rated on a 6 point scale with the following categories: 1 **never**; 2 **only when assignments are do**; 3 ; **2 weeks only** 4 **once a week** ; 5 **every 2-3 days**; 6 **everyday**. Choose the one that best fits how often you:

46. Log in to the class	1	2	3	4	5	6
47. Read discussions	1	2	3	4	5	6
48. Write in a discussion	1	2	3	4	5	6
49. Check assignments	1	2	3	4	5	6
50. Check grades	1	2	3	4	5	6
51. Print directions	1	2	3	4	5	6
52. Print assignments	1	2	3	4	5	6
53. Print the calendar	1	2	3	4	5	6
54. Email professor	1	2	3	4	5	6
55. Email fellow students	1	2	3	4	5	6
56. Look at someone else's work for clarification	1	2	3	4	5	6

57. If you have a question about an assignment, how do you seek an answer: Rate the following strategies with the following 4 point scale with the following categories: 1 – **No, and not considered**; 2 – **No, but considered**; 3 – **Yes, a couple of times**; 4- **Yes, all the time**

57. Email professor	1	2	3	4
58. Email friend	1	2	3	4
59. Post on a discussion board	1	2	3	4
60. Try and figure it out on your own	1	2	3	4
61. Ask a friend not in the class	1	2	3	4
62. Go to the teacher's office	1	2	3	4
63. Call the professor	1	2	3	4
64. look at someone's post for clarification	1	2	3	4

The following emotions will be rated on a 5 point scale with the following categories: 1 **never**; 2 **a little of the time**; 3 **sometimes** ; 4 **most of the time**; 5 **all the time**. Choose the one that best fits your feelings in the online class.

65. Excited	1	2	3	4	5
-------------	---	---	---	---	---

66. In-control	1	2	3	4	5
67. Confident	1	2	3	4	5
68. Connected	1	2	3	4	5
69. Positive	1	2	3	4	5
70. Frustrated	1	2	3	4	5
71. Confused	1	2	3	4	5
72. Overwhelmed	1	2	3	4	5
73. Negative	1	2	3	4	5
74. Distant	1	2	3	4	5

**Part IV. Personal Learning**

The following statements will be rated on a 5 point scale with the following categories: 1 **not true**; 2 **a little true**; 3 **sometimes true**; 4 **true**; 5 **true**. Choose the one that best fits your perspectives in the online class.

75. I feel confident in performing the basic functions of Microsoft Office programs (MS Word, MS Excel, and MS PowerPoint).	1	2	3	4	5
76. I feel confident in my knowledge and skills of how to manage software for online learning.	1	2	3	4	5
77. I feel confident in using the Internet (Google, Yahoo) to find or gather information for online learning.	1	2	3	4	5
78. I carry out my own study plan. (I decide when and where to study and I do it)	1	2	3	4	5
79. I seek assistance when facing learning problems.	1	2	3	4	5
80. I manage time well.	1	2	3	4	5
81. I set up my learning goals	1	2	3	4	5
82. I have higher expectations for my learning performance.	1	2	3	4	5
83. I can direct my own learning progress. (I figure out what I need to do and read to learn and I do it)	1	2	3	4	5
84. I am not distracted by other online activities when learning online (instant messages, Internet surfing).	1	2	3	4	5
85. I repeated the online instructional materials on the basis of my needs. (I go back and reread information I don't understand until I understand it.)	1	2	3	4	5
86. I am open to new ideas.	1	2	3	4	5
87. I have motivation to learn.	1	2	3	4	5
88. I improve from my mistakes.	1	2	3	4	5
89. I like to share my ideas with others.	1	2	3	4	5
90. I feel confident in using online tools (email, discussion) to effectively communicate with others.	1	2	3	4	5
91. I feel confident in expressing myself (emotions and	1	2	3	4	5

humor) through text.

92. I feel confident in posting questions in online discussions.	1	2	3	4	5
93. I feel my classmates and professor know me well	1	2	3	4	5
94. I know my classmates well	1	2	3	4	5
95. I know my professor well	1	2	3	4	5
96. I feel like I'm learning a new language	1	2	3	4	5

### Part V. Open-ended Questions

This section contains seven open-ended questions to be answered in narrative form.

1. What are the teacher's roles in the classroom?
2. What are the student's roles in the classroom?
3. Are the roles different in a face-to-face classroom and an online classroom? If yes, how are the roles different in an online classroom?
4. How should technology be used in education?
5. How is the online course different from a face-to-face course?
6. What is the easiest part of the online class?
7. What is the most difficult part of the online class?
8. What do you like about the online course?
9. What do you not like about the online course?
10. What were your expectations of the class?
11. Are they being met? Why or why not?
12. What was your first online experience like? Did you struggle?
13. How did you overcome it?
14. Anything else you would like to discuss about online education?

Would you be interested in participating in a focus group on your experiences in this online class?

Click here to for additional information and to give contact information.

### Focus Group Survey

Would you be interested in participating in a focus group on your experiences in this online class?

Name:

Email address:

Please rank your choice of focus group to attend:

#### SPRING

\_\_\_\_\_ Friday, April 22<sup>nd</sup> @ 10 am

\_\_\_\_\_ Monday April 25<sup>th</sup> @ 5pm

\_\_\_\_\_ Thursday, May 5<sup>th</sup> @ 2 pm

#### SUMMER

\_\_\_\_\_ Friday 7/22/11 @ 10am @ Texas Woman's University

\_\_\_\_\_ Monday 7/25/11 @ 5pm @ Texas Woman's University

\_\_\_\_\_ Thursday 7/28/11 @ 2 pm @ Collin College

\_\_\_\_\_ Thursday 7/28/11 @ 4:30 @ Collin College

## Appendix E

### Instructor Consent Form-Interview

TEXAS WOMAN'S UNIVERSITY  
CONSENT TO PARTICIPATE IN RESEARCH for Instructors' Interview

Title: Child development instructors' and undergraduates' perspectives and experiences in online education through second culture acquisition and cognitive load lenses: A mixed methods study

Investigator: Jennifer Quong  
Advisor: Sharla Snider, PhD

jenha@twu.edu 214.924.0198  
ssnider@twu.edu

Explanation and Purpose of the Research

You are being asked to participate in a dissertation research study at Texas Woman's University. The purpose of this research is to explore online instructors' and undergraduate students' thoughts and experiences in taking online courses. These responses will be examined to understand why various experiences happen in the online classroom in order to improve the quality and effectiveness of online learning. You have been asked to participate in this study because you are an instructor in an online undergraduate course.

Description of Procedures

You will be asked to participate in an interview which will be conducted near the end of the semester. This interview could take up to one hour to complete. A time and location will be decided upon jointly. The interview will be audio recorded and transcribed. In order to be a participant in this study, you must be the instructor of record for the course.

Immediately following the interview, an email will be sent with a link to a password-protected wiki where you can anonymously post any additional thoughts and comments on the topic, or experiences. You will have access to this wiki for posting your reflections through the end of the study in July. The instructors' wiki could take up to 5 minutes each visit. It is at the instructor's discretion for the number of visits.

Potential Risks

The researcher will ask you questions about your perspectives and experiences in online education in the interview. The following are a list of potential risks involved in this study as well the steps that will be taken to minimize each risk.

**Loss of confidentiality** is the first risk associated with this study. All identifiable data will be deleted from electronic sources. No names will be used during the interview or the transcriptions. The principal researcher and faculty advisor will be the only ones with access to the audiotapes and the computer software program. The principal researcher, faculty advisor, and research assistants will have access to coded data and research notes. Consent forms will be stored separately from the data. When not in use, these materials will be kept in a securely locked filing cabinet in the principal investigator's home office. The participant's name will not be used in the event that the study findings are published. The instructors' comment wiki is an invitation-only password-protected site available only to the instructors and the PI.

The University adopted electronic survey platform, Psych Data, will be used to facilitate the online questionnaire aspect of the study. These questionnaires are securely constructed such that a completed questionnaire cannot be viewed by simply pressing the "Back" button; only the principal researcher and faculty advisor will have access to collected data.

Please initial here: \_\_\_\_\_

Page 1 of 2

There is a potential risk of loss of confidentiality in all email, downloading, and internet transactions. Confidentiality will be protected to the extent is allowed by law.

**Fatigue or physical discomfort during the interview process** is another risk associated with the study. The interviews will be held face-to-face at the discretion of the instructor and may be stopped or take a break at any time during the interview session.

**Loss of time** is a potential risk. The interview should not take more than an hour to complete. You may withdraw from the study at anytime. The time spend on the wiki is at the discretion of the instructor.

**Fear of introspection due to interview and use of Instructors' comment wiki** is another potential risk. The instructors' comment wiki is used as a tool for self-reflection. The level of introspection is at the discretion of the instructor. Participation in the interview process and wiki is done on a voluntary basis. Participants can choose to withdraw at any time during the study.

**Fear of emotional discomfort** during the interview process is another potential risk. Participation in the interview process is done on a voluntary basis. Participants can choose to withdraw at any time during the study.

**Fear of coercion** is a potential risk. Participation in the study is strictly on a voluntarily basis. Instructors do not receive any type of reward for participating or consequence for not participating. Questionnaire data will be anonymous and volunteers will be recruited for the interviews.

#### Participation and Benefits

Your involvement in this study is completely voluntary and you may withdraw from the study at any time. The results of this study will be emailed or mailed to you as indicated on this consent form.

#### Questions Regarding the Study

You will be given a copy of this signed and dated consent form to keep. If you have any questions about the research study please contact the researchers using the contact information at the top of this form. If you have questions about your rights as a participant in this research or the way this study has been conducted, you may contact the Texas Woman's University Office of Research and Sponsored Programs at 940-898-3378 or via e-mail at [IRB@twu.edu](mailto:IRB@twu.edu).

The researchers will try to prevent any problems that could happen because of this research. You should let the researchers know at once if there is a problem and they will help you. However, TWU does not provide medical services or financial assistance for injuries that might happen because you are taking part in this research.

\_\_\_\_\_  
Signature of Participant

\_\_\_\_\_  
Date

If you would like to know the results of this study tell us where you want them to be sent:

Email: \_\_\_\_\_

Or

Address: \_\_\_\_\_

**Appendix F**  
**Interview Protocol**

## Interview Questions

The interview questions delve into the research questions. The interview questions are simple in nature and designed to encourage a flow of conversation starting with the beginning of personal online teaching experience. Not all questions will be asked depending on the interactions with the participant. The interview is deemed complete when the participant feels the topic has been exhausted.

Research Question	Interview Question
Research Question 1: What factors impact transition shock?	What types of struggles do you see in the students in the online environment? Where do they struggle?
Research Question 2: What are instructor/students' paradigms for teaching and learning?	How do you think your teaching/learning paradigm impacted your teaching online?
Research Question 3: What role does technology play in teaching/learning?	How has your pedagogy of teaching online shifted over the semesters of teaching online?  What specific skills do you feel you have that would make you successful in an online course?
Research Question 4: How does transition shock manifest in the online classroom when the two culture meet?	Tell me about how you began online teaching?  What were your emotions and reactions?  Did any barriers initially present themselves? Which ones?
Research Question 5: How do undergraduates and instructors manage the filters for learning?	Which strategies have you seen tried in order to learn?  Which strategies have worked in the online environment?  What types of skills or traits does the successful student have? the unsuccessful student have?

## Interview Protocol for Instructors

The interview questions presented below are a guide written based on the research questions proposed in the study on instructors' perspectives and experiences of online education:

1. What are instructors'/undergraduates' paradigms for teaching and learning?
2. What role does technology play in teaching/learning?
3. How does transition shock manifest in the online classroom when the two culture meet?
4. How do undergraduates and instructors mediate the filters for learning?

The interview questions are meant to be a guide during the interview process. Additional clarification questions may be asked if needed by the interviewer. These questions would occur during the interview process as a response to something the participants may have said. To maintain confidentiality, names will not be used interviews. During the initial meeting, the instructor will sign consent forms and return them to the PI.

### **Interview Protocol: Instructor**

INTERVIEWER: Thank you for participating in this research study. Again the purpose of the study is to explore the perspectives and experiences in online learning. At the beginning of the study a questionnaire was sent out to collect data on instructors' perspectives and expectations of online learning. These interviews will clarify that data and add additional information about both those topics. Do you have questions before we begin?

Question 1: What discipline do you teach?

Question 2: Tell me about how you began online teaching?

Question 3: What were your emotions and reactions?

Question 4: Did any barriers initially present themselves? Which ones?

Question 5: How do you think your teaching/learning paradigm impacted your teaching online?

- Question 6: What specific skills do you feel you have that would make you successful in an online course?
- Question 7: How has your pedagogy of teaching online shifted over the semesters of teaching online?
- Question 8: What types of struggles do you see in the students in the online environment? Where do they struggle?
- Question 9: Which strategies have you seen tried in order to learn?
- Question 10: Which strategies have worked in the online environment?
- Question 11: What types of skills or traits does the successful student have? the unsuccessful student have?
- INTERVIEWER: This concludes our interview questions. Are there any other comments you would like to make or add regarding your experience in this online course?

Thank you for taking time out of your busy schedule to participate in this interview. Upon completion of the results of the study, the findings will be made available to any instructor who wishes to see them. If you have any questions regarding the study or need further clarification, please let me know.

**Appendix G**  
**Focus Group Consent Form**

TEXAS WOMAN'S UNIVERSITY  
CONSENT TO PARTICIPATE IN RESEARCH for Student Focus Groups

Title: Child development instructors' and undergraduates' perspectives and experiences in online education through second culture acquisition and cognitive load lenses: A mixed methods study

Investigator: Jennifer Quong.....jenha@twu.edu 214.924.0198

Advisor: Sharla Snider, PhDssnider@twu.edu .....ssnider@twu.edu

Explanation and Purpose of the Research

You are being asked to participate in a dissertation research study at Texas Woman's University. The purpose of this research is to explore online undergraduate students' and instructors' thoughts and experiences in taking online courses. These responses will be examined to understand why various experiences happen in the online classroom in order to improve the quality and effectiveness of online learning. You have been asked to participate in this study because you are enrolled in an online undergraduate course. Participants must be at least 18 years old.

Description of Procedures

You will be asked to volunteer to participate in focus group that could take up to one hour. The date and time will be decided by survey, and the location will be in the HDB building on the Denton campus. The focus group will be audio recorded with research notes being taken and transcribed so that the researcher can be accurate when studying what you have said. In order to be a participant in this study, you must be at least 18 years of age or older and be enrolled in an online undergraduate course.

Potential Risks

The researcher will ask questions about undergraduates' perspectives and experiences in online education. The following are a list of potential risks involved in this study as well the steps that will be taken to minimize each risk.

**Loss of confidentiality** is the first risk associated with this study. Pseudonyms will be used during the focus group and the transcriptions. The principal researcher and faculty advisor will be the only investigators to have access to the audiotapes and the computer software program. The principal researcher, faculty advisor, and research assistants will have access to coded data and research notes. Consent forms will be stored separately from the data. When not in use, these materials will be kept in a securely locked filing cabinet in the principal investigator's home office. The participant's name will not be used in the event that the study findings are published. Confidentiality will be protected to the extent that is allowed by law.

**Fatigue or physical discomfort** during the focus group process is another risk. The focus group will be held face-to-face. You may stop or take a break at any time during the focus group session.

**Loss of time** is a potential risk. The focus group should not take more than an hour to complete and you will be allowed to take breaks if necessary. A meal will be provided. Participants can choose to withdraw at any time during the study.

Please initial here: \_\_\_\_\_

Page 1 of 2

**Fear of emotional discomfort** during the focus group process is another potential risk. Participation in the focus group process is done on a voluntary basis. Participants can choose to withdraw at any time during the study.

**Loss of anonymity** There is a potential risk of loss of anonymity in focus groups and seeing classmates face-to-face. Windows of the focus group room will be covered from outside observers, and students will be asked to pick a pseudonym during the focus group.

**Fear of coercion** is another potential risk. Participation in the study is strictly on a voluntarily basis. This is not part of the requirements for the course, nor do instructors or students receive any type of reward for participating or consequence for not participating. Volunteers will be recruited for the interviews and focus group.

Participation and Benefits

Your involvement in this study is completely voluntary and you may withdraw from the study at any time. The results of this study will be emailed or mailed to you as indicated on this consent form.

Questions Regarding the Study

You will be given a copy of this signed and dated consent form to keep. If you have any questions about the research study you should ask the researchers; their phone numbers are at the top of this form. If you have questions about your rights as a participant in this research or the way this study has been conducted, you may contact the Texas Woman's University Office of Research and Sponsored Programs at 940-898-3378 or via e-mail at [IRB@twu.edu](mailto:IRB@twu.edu).

The researchers will try to prevent any problem that could happen because of this research. You should let the researchers know at once if there is a problem and they will help you. However, TWU does not provide medical services or financial assistance for injuries that might happen because you are taking part in this research.

\_\_\_\_\_  
Signature of Participant

\_\_\_\_\_  
Date

If you would like to know the results of this study tell us where you want them to be sent:

Email: \_\_\_\_\_

or

Address: \_\_\_\_\_

\_\_\_\_\_

**Appendix H**  
**Focus Group Protocol**

## Focus Group Questions

### Research Question

Research Question 1: What factors impact transition shock?

### Focus Group Question

Tell me what is easy about the class.

Tell me about what is difficult in the class.

If you could change anything about the online class, how it is run and not the content, what would it be?

Research Question 2: What are instructor/undergraduates' paradigm for teaching and learning?

Before you took an online course, what were your expectations of the instructor? Of the class?

Were they similar to a face-to-face class? Why?

Research Question 3: What role does technology play in teaching/learning?

How much technology should be used in the classroom? The online classroom?

Give me your thoughts on this statement, "Technology is a language."

Research Question 4: How does transition shock manifest in the online classroom when the two culture meet?

How did the class meet your expectations? Not meet your expectations?

How do you feel in the online class?

What do you wish you had known prior to taking an online class?

Research Question 5: How do undergraduates and instructors mediate the filters for learning?

What do you wish there was more of?

What skills does a student need to be successful and learn in the online class?

What strategies do you use to help you learn the online class?

What advise would you give a student who was going to take their first online class?

## Focus Group Protocol for Students

The focus group questions presented below are a guide written based on the research questions proposed in the study on instructors' perspectives and experiences of online education:

1. What are instructors'/undergraduates' paradigms for teaching and learning?
2. What role does technology play in teaching/learning?
3. How does transition shock manifest in the online classroom when the two culture meet?
4. How do undergraduates and instructors mediate the filters for learning?

The questions are meant to be a guide during the focus group session. Additional clarification questions may be asked if needed by the interviewer. These questions would occur during the interview process as a response to something the participants may have said. To maintain confidentiality, students will use pseudonyms during the sessions. At the beginning of the session, the students will sign consent forms and return them to the PI.

### **Focus Group Protocol: Students**

- INTERVIEWER: Thank you for participating in this research study. Again the purpose of the study is to explore the perspectives and experiences in online learning. At the beginning of the study a questionnaire was sent out to collect data on student expectations of online learning. These focus groups will clarify that data and add additional information about whether those expectations were met. Do you have questions before we begin?
- Question 1: Before you took an online course, what were your expectations of the instructor? Of the class?
- Question 2: Were they similar to a face-to-face class? Why?
- Question 3: How do you feel in the online class?

- Question 4: How did the class meet your expectations? Not meet your expectations?
- Question 5: Tell me what is easy about the class.
- Question 6: Tell me about what is difficult in the class.
- Question 7: What do you wish you had known prior to taking an online class?
- Question 8: If you could change anything about the online class, how it is run and not the content, what would it be?
- Question 9: What do you wish there was more of?
- Question 10: What skills does a student need to be successful and learn in the online class?
- Question 11: What strategies do you use to help you learn the online class?
- Question 12: What advise would you give a student who was going to take their first online class?
- Question 13: How much technology should be used in the classroom? In the online classroom.
- Question 14: Give me your thoughts on this statement, “Technology is a language.”

INTERVIEWER: This concludes our interview questions. Are there any other comments you would like to make or add regarding your experience in this online course?

Thank you for taking time out of your busy schedule to participate in this interview. Upon completion of the results of the study, the findings will be made available to any instructor who wishes to see them. If you have any questions regarding the study or need further clarification, please let me know.

## Appendix I

### Answers to Potential Questions about the Study

## Answers to Potential Questions about the Study

Q: How long will the questionnaire take?

A: Students and instructors- no more 45 minutes.

Q: Where can I take the questionnaire?

A: Students and instructors- The questionnaire is online and it is a secure site. You may take it from any computer where you feel comfortable.

Q: What all do I need to do?

A: Student: You will take a questionnaire online and have the opportunity to participate in a focus group.

Instructor: You will take a questionnaire online and have the opportunity to participate in an interview and a comment wiki.

Q: What is the purpose of this study?

A: The purpose of this study is to look at what you (undergraduates or instructors) think about online learning and what you have experienced in your online classes.

Q: What will happen at the focus group?

A: When you arrive, refreshments will be provided. You will sign in by picking a pseudonym and writing it on a name tag. At the start of the focus group, we'll go over the procedures and get your informed consent. All the participants and the researcher, me, discuss your ideas and experiences in online classes. I have a list of questions I will ask. There will be a research assistant helping to make sure I get all your answers. The focus group will be recorded. At any time, you can take a break or leave. The focus group should last no more than one hour.

Q: Do I have to participate?

A: No. Your participation is completely voluntary. Your decision to participate or not participate will not affect your grade in any way, and at any time you feel uncomfortable and want to withdraw from the study, you can.

Appendix J  
Focus Group Email

## Focus Group Email

Summer

Thank you again for your interest in participating in a focus group about your online experiences. In order to maximize your time, each student has been assigned to one of the four focus groups. Your focus group time is

DAY @ TIME at PLACE.

Please email me back @ [jenha@twu.edu](mailto:jenha@twu.edu) to confirm your attendance.

I look forward to meeting and talking with you.

Jennifer Quong

Appendix K  
Member Checking Request

## Member Checking Request

Thank you again for your participation in my dissertation study. I have transcribed your interview verbatim. I have read through the transcripts and made notes about my interpretation of our conversation and made connections to the large theories. I have changed names in order to provide confidentiality.

Would you please read through the transcript and my notes and themes, and check the accuracy of my interpretation of your answers. If there is a misunderstanding between your statement and my interpretation, please highlight my comment, and please offer the correct interpretation of your statement.

When you are done, please email me, the revised copy of the member-checked transcript. If there are no misinterpretations, please respond to this email with, I agree.

In addition, would you mind answering the following questions to further clarify your comments and ideas that have emerged from the data?

1. How do you receive feedback from the students in your online class? For example, in a face-to-face class, a teacher can look at students' faces or the questions they ask. How do you feel that connections with your students online?

2. I feel my students know me well in the online class  
1 not true; 2 a little true; 3 sometimes true; 4 true; 5 very true

3. How do you view technology (is it a language or is it a tool or something else)?

Thanks  
Jennifer Quong