

DISTANCE LEARNING AND THE NON-NATIVE ENGLISH SPEAKER: A CORRELATIONAL
STUDY

by

Cristina Angelica Cottom

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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ABSTRACT

In higher education, there is an increasing trend of Non-native English speakers (NNESs) enrolling in courses. In addition to an increase in NNESs in higher education, online learning also continues to rise every year. While there has been research investigating NNESs in traditional higher education courses, an opportunity remains to discover how NNESs perform in online courses. The purpose of this study was to explore the correlation between non-native English speakers' (NNESs) responses on the Distance Education Learning Environments Survey (DELES) and final course grades in an online research course. The participants for this study were undergraduate NNESs enrolled in an online research course during the summer and fall of 2017. Data was compiled from the pre- and post-DELES responses and final grades for NNESs. The researcher compared NNESs' responses from the DELES pre-survey to final course grades to determine if there was a positive correlation. Likewise, the researcher compared NNESs' responses from the DELES post-survey to final course grades to explore if a positive correlation existed. To analyze the data, a Pearson Product Moment correlation coefficient was used to determine the relationship between NNESs' responses on the DELES pre-survey and final course grades as well as the DELES post-survey responses and the final course grades. The analysis showed no correlation between the DELES pre-survey and post-survey with final course grades in an online research course. Lastly, the researcher addressed the implications of the results, limitations of the research, and made recommendations for future research.

Keywords: non-native english speakers, online learning, correlation, deles, online course grades.

Dedication

This dissertation is dedicated to my family. To my husband, Steve, thank you for your patience during the hours I wasn't available for you or our daughter because I was in the office working. Your love and understanding sustained me throughout this journey. To my daughter, Amaris, thank you for bringing unending joy to my life. To my mother, Cesarina Bello, I would not have been able to do this without you. You instilled in me the values of hard work, self-discipline, and perseverance. Thank you for your prayers, encouragement, and support throughout this process. Lastly, to my grandmother, Altagracia Abreu, who was the epitome of strength, perseverance, and compassion. Thank you for passing your love of teaching and learning to your children and grandchildren.

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List of Abbreviations

Non-native English Speakers (NNEs)

English as a Second Language (ESL)

Distance Education Learning Environments Survey (DELES)

Grade Point Average (GPA)

Second Language Acquisition (SLA)

Computer-Assisted Instruction (CAI)

Mobile Learning (M-Learning)

Limited English Proficiency (LEP)

Test of English as a Foreign Language (TOEFL)

International English Language Testing System (IELTS)

Statistical Package for the Social Sciences (SPSS)

Introduction to Research Methods (RSCH 202)

WICHE Cooperative for Educational Technologies (WCET)

CHAPTER ONE: INTRODUCTION

Overview

The number of non-native English speakers (NNESs) enrolled in higher education is on the rise throughout the country; however, these students are often not properly identified and likely do not receive the linguistic support they need to be successful. NNESs can vary from international students to resident students who arrived in the United States as children or teenagers. In addition to an increase in NNESs in higher education, online learning also continues to rise every year. Online learning provides an opportunity for students to attend classes from remote locations and earn degrees in an asynchronous or synchronous environment. Although there has been research on supporting NNESs in higher education, an opportunity remains for researching NNESs in the online learning environment. Researching NNESs in the online learning environment can aid higher education administrators, faculty, and course designers to ensure NNESs are successful in online courses. Therefore, the purpose of this quantitative study was to explore if a correlation existed between NNESs' responses on the Distance Education Learning Environment Survey (DELES) and their final course grades from an online research course. The following chapter provides an overview of the background, discusses the problem, defines the purpose and significance of this study, and addresses the research questions that guided the study.

Background

The *Open Doors 2016* report states that the enrollment of international students continues to increase every year. The current data shows a 7.1% increase in the enrollment of international students from the previous year. Research states that international students make up 5.2% of all students in U.S. higher education (Institute of International Education, 2017) with the United States continuing to be a common target for students who are looking to study abroad. As the number of international students continues to grow, it is vital that higher education institutions address the needs of non-native English

speakers (NNEs) and provide the proper instruction and support to ensure they are successful in earning their degrees. NNEs can range from international study students to resident students.

International students are typically in the United States for a short-time, while resident students are those students who arrived in the U.S. either as children or during their teenage years (Andrade & Evans, 2015 p. 5). Research shows that students who speak English as a second language (ESL) benefit from higher education as well as contribute to the global, public good (Andrade & Evans, 2015). This is because NNEs bring a global perspective to higher education, which helps build a community of worldwide knowledge in the classroom (Andrade & Evans, 2015 p. 4). However, NNEs may not receive the assistance they need once admitted to a higher education institution due to faulty assumptions. These assumptions, which can be true for international and resident students, are founded on a lack of knowledge regarding the need for continued language development for NNEs after they have been admitted (Andrade & Evans, 2015, p. 4). Attainment and retention are the current foci in higher education; however, English language proficiency is not documented as a contributing factor as to why students may not be attending college or completing their degrees. This population of learners could be overlooked because NNEs are not usually tracked at the national or institutional levels (Andrade, Evans, & Hartshorn, 2015, p. 19).

Most post-secondary institutions have multiple measures in place to ensure students, who are admitted, are academically prepared for collegiate courses. These measures include GPA, SAT, or ACT scores. However, there is typically only a single measure used to assess linguistic readiness, such as country of origin or language test scores. In a study by Andrade, Evans, and Hartshorn (2014), 138 U.S. higher education institutions with large a large number of international students were studied. In this study, the researchers discovered most institutions identify NNEs during the admissions process using criteria such as country of origin or primary language spoken. Other results from the study showed that

most institutions exempt students from English language testing if English is the native language of the student's country of origin. In addition, students can also be exempt from testing if students have attended an educational institution where English was the language of instruction. Lastly, Andrade et al., (2014) found that some institutions only required a writing sample and very few required a speaking sample as part of the admittance process.

Although these systems seem sensible, there are some problems with using a single measure to determine linguistic readiness. For example, a student, who is from a country where English is the predominant language, could have been raised in a rural environment or spoken a language other than English in the home, which could lead to limited English proficiency (Andrade, Evans, & Hartshorn, 2015, p. 20). Due to this variation of English skills, NNEs often have increased needs in the post-secondary environment. This leads to the conclusion that NNEs need even more support and assistance in online learning because not only are they navigating two languages, they are also navigating technology itself (de la Varre, Keane, & Irvin, 2011).

Currently, the United States has approximately 4.2 million Americans who hold college degrees (Lumina Foundation, 2017). This information is important for higher education institutions since 65% of all jobs in the United States will require a post-secondary degree or certificate by the year 2020 (Lumina Foundation, 2017). To address this need, higher education institutions seek to prepare their students for future careers and expand worldwide knowledge by increasing their program offerings. Technology has enabled colleges to create online learning departments that allow students to learn from various locations and earn their degrees without attending a traditional brick and mortar campus (Glader, 2009).

Although there are several benefits to online learning, it is not without its challenges. There are many in the educational community that believe online education does not deliver the same quality of

education as traditional classroom-based instruction (Bernard, Brauer, Abrami, & Surkes, 2004). This belief has been founded on the notion that because there is no consistent accountability model for online courses, regarding the quality of the course and instructor expertise, students will take online courses that are of poor quality (Kossan, 2009, p. 1). In addition to the lack of quality control in the development of online courses, there is the misconception that teaching online is easier than teaching in a traditional, face-to-face classroom. However, this is not the case. Instructors teaching online courses must be willing to learning new teaching strategies to engage students in communication, which can be challenging due to the lack of social interaction in an online course (Muilenburg & Berge, 2005). Student motivation, support, time, and instructor issues can also be barriers in the online learning environment (Ashong & Commander, 2012).

Despite the challenges in online learning, it still has the potential to benefit non-native English speakers (NNESs). Although there are many studies that demonstrate how online discussion forums can aid NNESs with reading, writing, and vocabulary, there has not been adequate research to determine if NNESs' perception in an online course correlates to their final course grade. This gap in the literature implies that this study will add to the field of online learning and teaching for NNESs by beginning to identify the online learning characteristics that are needed to ensure they are successful in an online course.

Problem Statement

During recent years the demographics of higher education has changed as students have gravitated towards online learning and away from a traditional, residential education. Over the past several years the number of students taking online courses in higher education has risen despite a decrease in overall enrollments at higher education institutions (Poulin & Straut, 2016). Today, many students seek flexibility for earning a higher education degree (Ashong & Commander, 2012). To

respond to the ever-increasing demand for a flexible education, higher education institutions have strengthened their existing online education programs or have created new ones to meet the needs of today's online students. While online learning programs in higher education are growing, there is limited research regarding how non-native English speakers (NNESs) perform in the online environment. There have been several research studies focused on supporting NNESs in higher education classrooms related to reading and writing skills; however, there have been few studies focused on NNESs in the online learning environment. The studies that have explored NNESs in an online environment are typically conducted in foreign countries or use the online environment in conjunction with a traditional, face-to-face course. Additionally, although there is research exploring undergraduate students' satisfaction and perceptions of online learning using the Distance Education Learning Environment Survey (DELES), there is little research that has examined NNESs' perception of online learning. Enrollment for non-native English speakers continues to increase in higher education, which offers an opportunity to address this gap in the literature. Understanding how NNESs perceive online courses can aid administrators, instructors, and course developers with the facilitation and evaluation of online learning courses to ensure NNESs are supported and successful. This study aimed to determine the correlation between NNESs' responses on the DELES and final online course grades. The final course grades were gathered from a course titled Introduction to Research Methods (RSCH 202), a course all undergraduate students, who are enrolled at the research site, must take.

Purpose Statement

The purpose of this study was to explore if a correlation exists between non-native English speakers' (NNESs) responses on the Distance Education Learning Environment Survey (DELES) and final course grades in an online research course. This information can assist higher education institutions by providing insight into on how NNESs perceive online learning. Correlational research

studies aim to determine whether there is a relationship between variables (Gall, Gall, & Borg, 2007). In this study, the research utilized correlations to determine if NNESs' responses to the Distance Education Learning Environment Survey (DELES) could be correlated to final grades in an online research methods course. The researcher collected DELES results and final course grades from online Introduction to Research Methods courses. The criterion variable was the NNES' final course grade in an online course titled Introduction to Research Methods (RSCH 202), a required course for all undergraduate students. The predictor variable was the responses on the Distance Education Learning Environment Survey (DELES). Participants were undergraduate students, enrolled in an asynchronous RSCH 202 course during the 2017 summer and fall terms.

Significance of the Study

Teaching non-native English speakers (NNESs) will continue to be an important issue in higher education because research shows that 20% of school-aged students speak a language other than English at home (Tolanda, 2010). The purpose of this study was to determine if there was a positive correlation between NNESs' responses on the pre- and post-the DELES scales and their final course grades in an online introduction to research course. Understanding how NNESs perceive online courses can aid in online course development. In addition, learning how NNESs feel about an online course can also assist in evaluating the effectiveness of that online course to ensure that NNESs are being adequately supported. Therefore, this study is significant because there is little research on NNESs in the online learning environment. There are several studies that focus on the perceptions of online learning at the post-secondary level and some that explore different demographic groups; however, there are no studies that examine the perception of online learning for NNESs specifically. The outcomes of this study will add to the existing research on student success and online learning and may lead to further research related to NNESs in online learning. Meeting the needs of students taking online courses will continue

to be an important issue in higher education as more colleges move their degrees and programs online. Regarding English language learning, this study is vital because if the perceptions of online courses for NNEs can be identified, institutions can focus on these perceptions to address NNEs' concerns about online learning and ensure they are successful in online courses, which could increase retention and graduation rates.

Research Questions

The following research questions were investigated in this study:

RQ1: What is the strength of correlation between non-native English speakers' responses to the Distance Education Learning Environment Survey (DELES) pre-survey and final course grades in an online research course?

RQ2: What is the strength of correlation between non-native English speakers' responses to the Distance Education Learning Environment Survey (DELES) post-survey and final course grades in an online research course?

Definitions

The following is a list of definitions is necessary for full understanding as the literature uses variations of these terms.

1. *Non-native English Speakers (NNEs)*: someone whose primary language that is acquired and learned in early childhood is not English (Shaw & Molnar, 2011).
2. *Distance Education Learning Environments Survey*: a survey created and validated for purposes of measuring online learner satisfaction using six independent variables (instructor support, student interaction and collaboration, personal relevance, authentic learning, active learning, and student autonomy) and one dependent variable (student satisfaction) (Walker & Fraser, 2005).

3. *Second Language Acquisition (SLA)*: This is the process whereby the learner constructs meaning and understanding of the second language (Myles, 2010).
4. *Sociocultural Theory*: The idea that roles and participation in social interactions and culturally organized activities play an influence on psychological and learning development (Anderman, et al., 2009).
5. *Affective Filter Hypothesis*: the concept that when learners are bored, angry, frustrated, nervous, unmotivated, or stressed, they may not be receptive to language input and so they 'screen' the input. This screen is referred to as the affective filter (Krashen, 1987).
6. *Social Cognitive Theory*: refers to a psychological model of behavior and continues to emphasize that learning occurs in a social context and that much of what is learned is gained through observation (Bandura, 2011).
7. *Limited English Proficiency (LEP)*: Persons who are unable to communicate effectively in English because their primary language is not English, and they have not developed fluency in the English language (U.S. Department of Health & Human Services, 2012).
8. *Test of English as a Foreign Language (TOEFL)*: a standardized test that assesses English language skills for non-native English speaker wanting to enroll in English-speaking universities (Sulistyo, 2009).
9. *International English Language Testing System (IELTS)*: a standardized test that assesses the English language ability of non-native English speakers wanting to live, work, or study where English is used as the language of communication (Rasti, 2009).

CHAPTER TWO: LITERATURE REVIEW

Overview

In recent years, research has increased on how technology can assist teaching and learning, particularly in general education and higher education; however, the field is lacking research on student achievement for non-native English speakers (NNESs) in the online environment. With the rise of the Internet and an ever-increasing need for intercultural communication, online learning has become a link for different cultures to communicate with each other. The Internet can eliminate geographic boundaries, allow for news and information to spread worldwide, and has changed how business, communication, knowledge, and education are viewed (Bao, 2006). The literature for this study provides a theoretical framework and an analysis of the complexity of NNESs and education in online learning. The related literature explores second language acquisition, traditional teaching practices for NNESs, an overview of online learning, benefits, challenges, online learning teaching practices, online learning and NNESs, and the Distance Education Learning Environment Survey (DELES).

Theoretical Framework

The overall framework for this study was an epistemological approach. Researchers have an epistemological approach because it suggests their moral and ethical perception of the world (Denzin & Lincoln, 2000). A theoretical framework helps guide the researcher to formulate their thoughts and ideas about their research topic. For the purposes of this study the researcher utilized a combination of Bandura's Social Cognitive Learning Theory (1977), Vygotsky's Sociocultural Learning Theory (1962), and Krashen's Affective Filter Hypothesis, which comes from his Second Language Acquisition Theory (1987). The theories and hypothesis helped guide and shape the researcher's foundation for this study.

In Bandura's Social Cognitive Learning Theory (1977), he states that students must reflect on their learning process, which encourages students to become metacognitive thinkers. Bandura also

states that environment can have an impact on student learning, and lastly, that teachers need to model the behavior that they want their students to replicate. This theory is appropriate for this research study because online learning requires that the teacher explicitly model appropriate behavior for interaction and engagement in an online environment. For example, in an online course the teacher must be actively engaged in online discussions to encourage discussion among the students. In addition, Bandura's theory addresses a student's need for reflection on their learning and how the learning environment affects student learning (Shu-Ling & Lin, 2007). Often, online courses require students to submit journals or reflection logs on content covered in that week. This is imperative for online learning to ensure students are truly understanding the material. Non-native English speakers, who may have a lower English proficiency level, can struggle when trying to reflect on their learning. Due to this limitation in language ability low-level NNESs may require additional support during the reflective process.

The researcher also considered Vygotsky's Sociocultural Theory, which states knowledge is founded in social environments through interaction with others. This theory is vital when discussing non-native English speakers (NNES) because they learn best in collaborative settings (Li, Bruce, & Hugs, 2011). Furthermore, Vygotsky's Sociocultural Theory is important for this study because it states that students are social learners and learn best from each other. This is true for all students, but especially NNESs, who depend on their peers to refine their English proficiency skills.

Finally, Krashen's affective filter hypothesis, which comes from his Second Language Acquisition theory, helped shape this research study. In this hypothesis, Krashen states that students will not learn if their affective filter is too high. The affective filter is a "screen" that a student may put in place if they are feeling emotional anxiety or stress. (Krashen, 1987). Ultimately, it is the job of the teacher to make students feel safe and comfortable in their course, which can be challenging in online

learning. However, there are strategies, discussed later in this chapter that can be implemented to create a dynamic and vibrant online community right from the beginning, which can help NNESs to lower their affective filter and allow learning to take place. This hypothesis is important for this study because NNESs can feel more comfortable in an online learning environment than a traditional classroom, which in turn would lower their affective filter, because they can take their time with learning content.

Related Literature

Second Language Acquisition

As the number of non-native English speakers (NNESs) continues to increase in the United States school system so does the need for teachers to understand the difficulties that surround second language acquisition (SLA). NNESs under 18 are projected to make up 50% of the American population by 2025 (American Federation of Teachers, 2006). These statistics imply that all teachers, at all levels in education, will experience diversity in their classrooms, including in the online environment. Studies have found that NNESs are more likely to fail high school when compared to native English-speaking students. This may occur because NNESs, especially limited English proficiency (LEP) students, must work twice as hard in school. LEP students have the daily challenge of navigating the English language while learning different subjects and interpreting the information through the framework of their native language and culture (Kim & Todd, 2008). So, it is easy to see that SLA is complex. Language learning is not completed in an assembly-line progression and teachers must incorporate a variety of strategies to assist NNESs with limited language proficiency (Broom, 2011). SLA has been determined as the process where people learn a second language in addition to their native one. There are slight differences between acquiring a new language and language learning. For instance, acquiring language is when the brain can cognitively develop and process concepts, structures, and semantics in a language. Language learning is the willingness to participate and put forth

the effort to learn a new language. Language acquisition involves learning syntax, phonetics, and a broad range of vocabulary (Shine, 2011). When language has been truly acquired it can be used automatically (Andrade & Evans, 2015 p. 7). This level of language mastery can be difficult for NNESs. In English learning there are two levels of language; Basic interpersonal communication skills (BICS) and cognitive academic language proficiency (CALP). BICS tends to be easier for NNESs to learn because it is used in social situations. For example, when ordering food at a restaurant. Furthermore, BICS usually includes cues like body language, facial expression, and tone of voice, which can help a NNES with daily interaction. It typically takes NNESs two to three years to acquire BICS. The difficult task of studying complex and abstract concepts faced in a higher education course requires CALP. CALP is more difficult because it requires students to listen, speak, read, and write about subject area content. CALP can take a NNES five to seven years to acquire, and possibly longer depending on the age of the student (Cummins, 2008). So, if CALP is difficult language for NNES, they may experience challenges understanding subject area content in an online environment where there may be no “live” assistance, facial cues, or context clues through discussions to help them with comprehension.

One of the most well-known theorists regarding SLA is Stephen Krashen. Krashen’s theory of SLA includes five components: a language acquisition/learning hypothesis, the natural order hypothesis, the monitor hypothesis, the comprehensible input hypothesis, and the affective filter hypothesis (Krashen, 1987). Krashen’s first hypothesis differentiates between informal learning of a language, which he considers acquisition and the formal learning of language, which is the academic language taught in the classroom. According to this theory, language acquisition is the language students learn from talking with friends, watching T.V., and is a similar process to the acquisition of a first language. In contrast, learning academic language is when students are in a classroom and given instructions on

specific aspects of language such as, vocabulary, pronunciation, grammar, reading, writing, speaking, and listening (Jiang, 2004). The natural order hypothesis suggests that language is acquired through a certain sequence of language rules and the comprehensible input hypothesis states that language will be acquired if the comprehensible input is marginally higher than the current level of understanding. Lastly, Krashen's affective filter hypothesis ascertains that students can create a mental block in certain learning situations, which can keep them from being able to continue with language acquisition (Krashen, 1987). Understanding these hypotheses puts responsibility on the part of the teacher to ensure their classroom, residential or online, is a safe, comfortable, and engaging space to keep students' anxiety levels low and their motivation, self-esteem, and confidence high (Jiang, 2004).

Although Krashen's SLA theories have been influential in the English language learning community it tends to misjudge the effects a students' first language can have on SLA. A student's first language can assist in aiding second language comprehension. For example, students find that when a text written in a second language is accompanied by their first language understanding the text is easier. The same can be true for writing in a second language. When considering SLA, it is important to remember that prior knowledge and background experience are essential for understanding and comprehending language contexts (Yue-hai, 2008). According to Cummins (1979), certain fundamental language proficiencies are common for both first and second language learning, which means that the skills needed to develop a first language are important for learning a second. An example of these skills that are exchangeable are inferring and predicting in reading or planning and organizing information in writing.

Vocabulary Acquisition

Non-native English speakers (NNESs) require multiple exposures to a word before they can acquire it. Vocabulary acquisition is one of the biggest challenges that face NNESs. For instance,

NNESs can become overwhelmed when they must read passages repeatedly to decipher words they do not understand. To comprehend a text like a novel or a newspaper article a person must have a vocabulary of 8000-9000-word families (Nation, 2006), which some NNESs may not have. These numbers demonstrate the intimidating task that NNESs face with vocabulary acquisition. Realistically, teachers cannot explicitly teach all the vocabulary words that NNESs need to become proficient readers and writers. For a student to truly know a word they must be able to decode and spell it, define it, know its multiple meanings, how to pronounce it, and how to apply the appropriate meanings in a particular context (Nisbet, 2010). The task of understanding and learning vocabulary becomes even more daunting in online courses, which are typically texted based. To assist NNESs with academic vocabulary, online instructors must carefully choose which words they will focus on in each week of the course to assist their students in gaining vocabulary that will help them be successful. Lack of academic vocabulary can hinder reading comprehension in textbooks, which could lead to not passing a course or not graduating. Folse (2004) posits that there is a difference between the vocabulary learning strategies taught in the classroom and the strategies that students use. Teachers may overestimate how much vocabulary their students understand, particularly in an online environment. There is a plethora of strategies a teacher can implement to teach vocabulary at any grade level. Using example sentences to explicitly teach vocabulary in context is an example of one strategy that can promote vocabulary learning (Baicheng, 2009). Another strategy is encouraging NNESs to use vocabulary notebooks as a tool to help them become self-motivated in their language learning (Walters & Bozkurt, 2009). McVey (2007), recommends teachers to teach vocabulary in context while students are reading and allow students occasions to use new vocabulary words. Lastly, Nisbet (2010), suggests that teachers use a three-tiered vocabulary framework for teaching. These tiers are most basic words, high-frequency words, and low-frequency words. This system of teaching vocabulary is a valued tool for teachers to use to classify

which words to teach explicitly. Through the grouping of the words into tiers, teachers can make instructional choices and streamline their strategies for maximum impact.

Traditional Teaching Practices for Non-native English Speakers

There are several teaching strategies that can enhance working with non-native English speakers (NNESs) in a traditional, face-to-face classroom. A teacher should begin by seeking ways to increase comprehensible input, encourage social collaboration, relate the learning to real world experiences, and provide a supportive learning environment (Li, 2013). The best way a teacher can assist their student to increase comprehensible input is to practice a variety of teaching methods and approaches to guarantee NNESs understand what is being presented to them (Bylund, Abrahamsson, & Hyltenstam, 2012). To increase comprehension a teacher should allow NNESs time to think about new ideas. It is also important that a teacher provide examples and background knowledge before teaching a new concept. This is best done by talking to the students and learning about their culture and where they come from. This will allow the teacher to connect a new learning concept to their prior knowledge.

Teachers must also allow NNESs the opportunities to engage and interact with peers. This collaboration helps NNESs absorb the new concepts they are learning. So, teachers need to create lessons, which allow students to work together and use language through peer teamwork. When teachers create an environment that is communicative, students are encouraged to create and understand the language being spoken to them (Li, 2013). In addition, providing NNESs with real world experiences allows them to explore and build new perceptions of the world around them. All students benefit from authentic learning experiences; however, NNESs are able to develop critical thinking skills and make meaningful connections, which are necessary tools for English communication in real life situations. Furthermore, NNESs will be more engaged in an activity that they consider relevant for their everyday lives. Finally, it is vital that teachers create and maintain a positive learning environment. It is the

responsibility of the teacher to be aware that learning environments play a key role in learning and whether or not students will be productive learners (Muijs, Harris, Chapman, & Stoll, 2004).

Non-native English Speakers in Higher Education

The diverse population in colleges and universities will continue to trend upwards in the coming years. Higher education institutions acknowledge the benefits of a diverse population; however, many institutions do not understand or recognize the importance of post-admission support for non-native English speakers (NNESs). It seems that institutions are under the belief that once NNESs are immersed in an English-speaking environment that they will develop their academic language skills and become proficient English users by graduation (Andrade & Evans, 2015, p.5). This could not be further from the truth. Research shows that writing skills plateau for many students once they have completed their introductory English course (Ferris, 2009). Furthermore, skills taught in English language development courses may not adequately prepare students for study in specific disciplines (Benzie, 2011). This can lead to faculty frustration because they expect NNESs to be linguistically prepared to manage their coursework, but often they are not. Many faculty members recognize this issue and believe it is the responsibility of the institution to provide support services like tutoring, learning centers, and even specific English classes to support NNESs (Andrade & Evans, 2015, p. 30).

In some instances, it can be difficult to identify non-native English speakers because they may hide their linguistic ineptitude by not seeking assistance, steering clear of challenging courses and majors, not asking questions, or not participating in class (Andrade & Evans, 2015, p. 23). This is challenging because, as Kanno and Harklau (2012) stated, higher education institutions cannot support or serve a population that they are unaware of. National and Institutional data for NNESs is typically based on broad categories such as White, Black, Hispanic, and Asian, which does not specify linguistic status (Kena, Hussar, McFarland, de Brey, Musu-Gillette, Wang, Zhang, Rathbun, Wilkinson-Flicker,

Diliberti, Barner, Bullock Mann, & Dunlop Velez, 2016). Moreover, the number of NNEs, who are residential students, is unknown (Andrade & Evans, 2015, p. 23). The lack of information surrounding NNEs enrolled in higher education weakens institutional effectiveness. Furthermore, the fact that data on the success of NNEs is not easily available reveals a disregard for this population. Andrade, Evans, and Hartshorn (2014) gathered data from institutions across the country with international student enrollments to investigate to what extent they were using predictors such as GPA and retention to determine student success. Although some institutions used various methods to track the success of NNEs, 40% of the institutions were not tracking success for this population in any way.

The first step to resolving this problem is for higher education institutions to begin gathering and tracking data that identifies non-native English speakers. Without this information, change will not occur (Kanno & Harklau, 2012). Institutions can provide resident students who have been identified as NNEs coursework that will offer supplemental support through tutoring (Miele, 2003). A method well-known in secondary education is the SIOP Model. This model could support NNEs by identifying language and content objectives for each lesson and fostering learning through the simplification of content, group work, and providing opportunities for practice (Vogt & Echevarria, 2005). There are several strategies that can be implemented by institutions to support NNEs; however, if there continues to be a lack of support for this population, students will graduate lacking the English skills needed to be successful in society, which can damage institution reputation (Andrade & Evans, 2015).

Computers as Learning Tools

The use of computers in classrooms as a learning tool has become a common practice in most schools across the country; however, using computers to assist in language learning has only recently become popular. The Internet is no longer a place simply for downloading information, but as a tool to create and share content. Students do not just read, but they create using the Web, which is an effective

tool for the classroom if implemented correctly. If students are already using computers to upload videos, comment on and write blogs, and post reviews, why are teachers not embracing these strategies in their online courses? If teachers are familiar with these technologies they can incorporate them into the learning process and meet students where they are (Nakamaru, 2011). With the increase of computer use in classrooms the education field has taken an interest in online learning opportunities. Utilizing computer-assisted instruction for supplemental language learning activities assists NNEs to become technologically advanced. A teacher can use video conferencing, e-mail, blogs, online forums, or wikis to engage students. Computer-assisted instruction allows a teacher to differentiate instruction and cater to each student's needs, which a textbook does not do. In addition, a teacher is also able to target specific learning styles and accommodate students at their own pace (Nedeva, & Dimova, 2010).

When NNEs are learning new vocabulary is it critical that this vocabulary is taught in context along with visual clues to provide extra support. A study conducted by Beechler and Williams (2012) measured the results of using computer-assisted instruction in an early elementary classroom to assist students learning their sight words. During this study 26 children, K-2 were able to use computer-assisted instruction for 10 minutes every day over a two-week period to reinforce the learning of their Dolch sight words. The results of this study determined a growth in word identification skills when the computer-assisted instruction was implemented into the children's daily lessons (Beechler & Williams, 2012). Computers also offer immediate feedback and provide an opportunity for students to have extra practice reading text, which can increase reading independence (Green, 2005). It has been discussed that computers can assist NNEs in reading, vocabulary acquisition, and comprehension but one of the most important ways computers can be used with NNEs is by increasing their writing skills. NNEs writing a paper, or journal assignment on a computer can take advantage of computer-based grammar and spell checkers. This provides immediate feedback to students' written output. Although the

feedback is not always correct the grammar and spell checkers are still able to help NNESs learn to edit when they write (Zhao, 2003). When considering NNESs with limited English proficiency it is important to provide guided writing activities to keep the students from getting frustrated or giving up. By using computers beginning students can use clip art, online comic book strip makers, or graphics to help express their writing more clearly (Green, 2005). In a study completed in a secondary school in Malaysia the advantages and disadvantages of using technology to teach writing were analyzed. It was determined that the advantages of technology were that it created a supporting and encouraging environment for students to enhance their writing abilities. In addition, the students were attracted to using the computers, it expedited student learning, student vocabulary improved, and the computers aided in promoting a meaningful learning experience. However, there were several disadvantages that were found in this study. The researchers determined that when implementing computers into writing curriculum students became difficult to control and were easily distracted. Furthermore, teachers were ineffective when it came to handling problems and planning learning activities using computer technology to teach NNESs writing (Embi, Nordin, Salehi, Salehi, & Yunus, 2013). This furthers the argument that teachers must have adequate training to integrate technology properly into their curriculum.

Furthermore, NNESs can also engage in Wikis and Blogs. Blogs are easy to integrate into a writing curriculum and promote confident collaboration between the students because they are working toward a common goal. NNESs can benefit from this implementation because working with classmates is imperative to their educational success. Studies have found that using blogs in the classroom keeps students engaged and interested. Because the majority of students are at ease with communicating online they are able to interact with their classmates as well as their teacher through a class blog (Huang, Jeng, & Huang 2009). According to Leuhman and MacBride (2009), six different types of blogging

practices can be implemented in a classroom. The six practices include: sharing resources, response to teacher prompts, recorded lesson highlights, learning challenges, reflection, in class online conversations, and blogging with other students outside of the classroom. In addition, blogs can encourage several skills such as critical thinking, asking questions, and collaborative learning. Blogging can promote a feeling of classroom community, which enables NNEs to feel comfortable and express themselves using another medium besides spoken language.

Additionally, Wikis can be easily integrated into an online learning curriculum. Like a blog, creating a Wiki space can assist a student in the development of critical thinking skills (Callaway, Matthew, & Felvegi, 2009). A Wiki can allow several users to effortlessly and swiftly provide the content of their choosing to the website or “space” and when used correctly in correlation with the curriculum it can decrease many of the logistical, communication, and accountability issues that can occur with more traditional collaborative settings. In a study conducted by Wen-Chaun and Shu (2011), the use of Wikis and how they can improve reading and writing in NNEs was analyzed. The results of this study determined that Wikis are able to enhance student writing ability. They also found that students scored at an intermediate or high level on a general English proficiency test after Wikis were implemented. Wikis are also beneficial in scaffolding the language skills of NNEs. Wikis are able to present NNEs with a meaningful learning experience, creativity, and engagement. Wikis are also easy for younger NNEs to manipulate and provides teachers with the opportunity to give appropriate feedback (Woo, Chu, & Li, 2013). Lastly, Wikis allow NNEs to re-read and review discussions, research, or reflections from class on any computer that has Internet access.

Motivation is another key factor in why computer-assisted learning is so successful in classrooms. Although using computers can aid in teaching NNEs in the areas of reading, writing,

vocabulary acquisition, and interaction, it is important for teachers to remember that computers or any technology cannot take place of effective teaching.

Overview of Online Learning

Teaching and learning in higher education are typically seen as face-to-face instruction on a residential campus. Meaning, instructors stand in front of the class and lecture. Jarvis, Holford, and Griffith (2003 p. 117) describe this traditional model as “closed.” The idea of “open” models of learning using technology was first proposed by Illich in 1971 and at the time was a radical notion. However, there are arguments that the idea of distance learning has been around for some time. It can also be argued that correspondence courses, which appeared during the nineteenth century, could have set the precedence for modern distance education. During the 1960’s the notion of distance learning grew when the United Kingdom introduced the Open University model. However, with the advent of the Internet and online learning the idea of “open” and distance approaches exploded and evolved (Fincham, 2013). As technology continually advances, online learning pedagogy continues to change and grow, which has led some researchers to question the traditional model of education. For example, Burbules and Callister (2000), stated that the Internet provides a place for students to co-construct knowledge and engage in learning activities from locations all over the world.

Online learning has changed in many ways since its inception. Online learning is typically defined as learning that takes place via Internet, multimedia such as CDs, DVDs, or intranet (Smart & Cappel, 2006). Over the last 15 years, the number of students taking online courses has risen while on-campus enrollment has decreased. According to the Distance Education Enrollment report as of spring 2017, there are over approximately six million students enrolled in online classes and 30 % of all students in higher education are taking at least one class exclusively online (Allen & Searman, 2017). Research also continues to show the benefits of online learning. For example, the flexibility of the

online environment enables students to collaborate, share, and learn with peers from across town or across the world. Online learning can also encourage self-regulation by giving the students control over the content they are learning (Olojo, Adewumi, & Ajisola, 2012).

Types of Online Learning

Online learning has several different titles. For example, e-learning, virtual learning, distance education, distance learning, and cyber-learning (Russo, 2001). These titles are used interchangeably as there is no difference among them. However, there are differences in the how online courses are delivered. Online learning can be delivered in a synchronous or asynchronous format. In an asynchronous online course, students are able to log in and complete assignments on their own time (Tanner, Noser, & Totaro, 2009). In a synchronous format, however, students and teachers meet online at a specific time, which mirrors a more traditional classroom. Blended, hybrid, and video conferencing courses are additional methods for delivering online courses in a synchronous format. In the video conferencing format, the students and instructor meet in a designated online space at an assigned time (Henke-Greenwood, 2006). Adobe Connect, Zoom, WebEx, and Blackboard Collaborate are examples of a few video conferencing tools. There can be challenges with video conferencing, such as bandwidth, which can limit video conferencing in online courses. In addition, the number of students that are able to talk using their microphone at the same time can also be a barrier (Garland, 2013).

The blended or hybrid model of instruction combines online learning and traditional face-to-face interaction. The terms blended, and hybrid are used interchangeably much like online learning and e-learning. Many higher education institutions offer blended courses and students enjoy the mixture of online and traditional teaching. In a study conducted by Lopez-Perez, Perez-Lopez, and Rodriguez-Ariza (2011) it was found that blended learning helped to reduced dropout rates and improve exam scores. Serim (2007) also discovered that blended learning results in more completions and better

learning when compared to fully online courses. The blended model is popular among higher education institutions and could become the norm as more students are taking at least one online course to complement their education. Wood (2010) stated that students prefer blended learning because they want to complete their course online, but also enjoy having some face-to-face interaction, should they need help. The blended model allows the instructor to assist the students to stay on track with the online components of the course and offers the personal connection that some students may need in order to be successful (Furger, 2005).

Asynchronous Courses

Asynchronous communication and activities can be completed online at different times. The benefits of using asynchronous communication are that students do not have to be logged into the course at the same time. This is beneficial for students located in different time zones because they are able to engage in the course when it is convenient for them. Communicating in an asynchronous online course is also beneficial for non-native English speakers because it allows them time to reflect and digest the content and before they must contribute to the conversation (Gunawardena, Nolla, Wilson, Lopez-Islas, Ramirez-Angel, & Megchun-Alpizar, 2001). Asynchronous communication also allows NNEs to edit their post before they share it with others. There are other asynchronous tools available in current Learning Management Systems that allow students to chat with their peers who are online, which can support a sense of community in an online course.

In addition, file exchange is a great tool to use with students for working on group papers. For instance, when a student has added their contributions to a document they can upload the file to the Learning Management System to be reviewed (Zhang & Wang, 2005). This repository allows students to collaborate on assignments on their own time. Once all members of the group have edited the paper it can be uploaded for the instructor to review. The instructor can access the file exchange and upload

their feedback as well as other documents, articles, and resources that could assist students with their assignment.

Synchronous Courses

Synchronous communication and activities are completed when students are online at the same time, but they are usually located in different places. Synchronous communication can include utilizing tools like a chat box or video conferencing. For example, Adobe Connect is a video conferencing tool that allows participants to see, listen, and speak to one another. There is also a chat box that allows for sending messages. While these features are great and can enhance the learning experience of online learners this layout could potentially be overwhelming for a NNESs. Asking a NNES to watch, listen, speak, read, and write all at the same time could result in cognitive overload because NNESs typically read slower than native speakers (Olaniran, 2007). This communication tool can also be a challenge for those students who are not good at typing. It may be in the best interest of the NNESs if online instructors limit the number of synchronous meetings in a video conferencing environment.

Furthermore, in online learning, many Learning Management Systems offer virtual, interactive whiteboards. Students and instructors can use these whiteboards to discuss problems, change images, and display information just like a whiteboard in a traditional classroom (Zhang & Wang, 2005). For instance, an online instructor can write a math problem on the virtual whiteboard and then ask students, who are online in various location, to complete the first step to solving the problem. The instructor can then call on another student to compute the next step and so on and so on. The benefit of the whiteboard in an online learning course is that it can be used in a synchronous or asynchronous course. These virtual, interactive whiteboards offer several advantages for non-native English speakers. For example, instructors are able to record the process of completing the math equation, which an NNES can then review again on their own time if they are still confused about the problem. The ability to review

challenging content repeatedly is not only beneficial for NNEs, but for all students who need to have information repeated.

Collaborative Space

Another feature in online learning are workgroups or collaborative spaces. Collaborative spaces can differ depending on the Learning Management System (LMS), but most LMSs offer some place for students to work virtually. Students can use these collaborative spaces or workspaces to discuss group projects or use file exchange to collaborate. Providing a place for students to communicate and experience social interaction is crucial for online learning because it allows students to co-construct knowledge (McLoughlin & Oliver, 2000). The opportunity to engage in a variety of communication tools can provide non-native English speakers with a safe place to explore content. Some researchers recommend grouping students based on the language they speak to provide a space for them to co-construct knowledge (Goodfellow, Lea, Gonzales, & Mason, 2001). This can be challenging in an online course where there may not be students who speak the same language. However, grouping students together based on other commonalities can promote a similar learning environment. The tools within an LMS and online learning play an important role in this conceptual framework. This is because students must manipulate the tools in the online learning environment to successfully communicate with each other. Goodfellow (2004) posits that the various tools and features of online learning can promote the use of language. For non-native English speakers to be successful in an online learning environment they must be confident in their ability to manipulate the different tools and understand how to navigate the institution's Learning Management System (Mason, 1998).

General Online Teaching Practices

There are several teaching strategies that can enhance the online learning experience for students. Learning Management Systems (LMS) are used to design, plan, implement, and evaluate the online

learning process (Kim & Bonk, 2006). Typically, administrators decide which LMS will be chosen for online programs. As higher education institutions increase their online course offerings and programs there will be a need for faculty to be provided an LMS that can accommodate a variety of interactive activities such as groups, discussions, presentations, etc. Some of the LMSs that are used among higher education institutions are Canvas, Blackboard, Desire 2 Learn (D2L) and Moodle. Research shows that the online course design and organization can affect the success of online learners (Varney, 2009). Online instructors can create a collaborative and interactive environment by asking students to introduce themselves or share something interesting to encourage a sense of community amongst the students (Walther & Carr, 2010). Frequent interaction improves faculty-to-learner, learner-to-faculty, and learner-to-learner discussions (Bailey & Jaggars, 2010). This is best if done early in the course to promote knowledge exchange and interactivity. Another teaching practice used by online instructors is reviewing the LMS analytics which can detail the progression of the students in the course. This is beneficial because instructors can reach out to those students who may have fallen behind or are missing specific assignments (Bacow, Bowen, Guthrie, Lack, & Long, 2012).

Moreover, online instructors must also remain engaged in discussions and be present in the course by logging in every other day if not daily (Boettcher & Conrad, 2016). Another best practice for instruction in online learning is establishing clear expectations. It is recommended that faculty describe what they expect from students in the course, how the students can communicate with them, and how they will communicate with the students. For example, faculty may tell students they will respond to all emails within 24-48 hours. Creating clear guidelines from the start minimizes surprises for faculty and students (Boettcher & Conrad, 2016). Teaching online requires instructors to facilitate every aspect of the learning and guide the students through course content. This can be easily done using available tools within an LMS such as discussions, Wikis, and group work (Rickard, 2010). As online learning

continues it is important for faculty to stay abreast of current pedagogical practices because research suggests it is significant for assisting students with their degree completion (Shea & Bidjerano, 2014).

Benefits of Online Learning

There are several reasons why online learning is beneficial for instructors, institutions, and students. One of the largest benefits of online learning is its flexibility and convenience for students (Wilson, Cordry, & King, 2004). Online learning continues to flourish because it provides students with control over the course content, pace of learning, and time, which allows for a personalized learning experience (Olojo, Adewumi, & Ajisola, 2012). Online learning also provides students with the opportunity to connect with peers around the country and world, which enhances their global awareness (Berman, 1999). This global awareness provides students with an appreciation of different cultures and prepares them for careers in a global market (Pape, 2006 p. 5, Patton, 2008). Students are more inclined to work in collaborative groups because they are able to meet online as opposed to scheduling in-person meetings (Song, Singleton, Hill, & Koh, 2004). Research shows that when students collaborate with each other in an online course they have a positive learning experience (Rickard, 2010). It is also believed that the use of technology can affect the brain by increasing intelligence (Taylor, 2012). Furthermore, online testing has been proven to be beneficial for English as a Second Language students (Granger & McGarry, 2002). In the same manner, if non-native English speakers are too timid to approach an instructor due to a lack of English proficiency or cultural upbringing has taught them not to ask questions, online learning can assist by making the instructor more approachable (Coleman, 2010). Moreover, online learning can also promote greater student reflection and responses that are responsible and thoughtful (Song et al., 2004). Another advantage of online learning is that it can provide an opportunity for education to those who may not be able to access it otherwise. For example, students

living in rural areas or those students who would be unable to succeed in a traditional classroom (Barbour, & Ferdig, 2011).

Challenges of Online Learning

Although there are many advantages to online learning, there are also challenges and concerns. One challenge found by Mullen and Tallent-Runnels (2006) was how to provide effective support to students in an online environment. In addition, students who have only experienced a traditional classroom environment may struggle with online learning (Livingston, 2008). Furthermore, students who are unprepared academically may experience challenges in online learning. Research states that students who have a low GPA can potentially receive lower scores in online courses because they require more time for completing assignments, learning the content, and engaging with their peers (Akyol & Garrison, 2010). Successful online learners have a plan on when and how much they need to study, they self-monitor, and tend to be more intrinsically motivated (Bacow, Bowen, Guthrie, Lack, & Long, 2012). The lack of social interaction is another concern in online learning and was identified as the biggest barrier to student learning in a study by Mulienburg and Berge (2005).

Another challenge in online learning can be the faculty who are teaching online courses. Some faculty approach online teaching in the same way that they would teach a traditional, face-to-face class. While some of the strategies are transferable, the time it takes faculty to develop and teach an online course can exceed the time it would take to develop and teach the same course in a face-to-face setting (Bascow et al., 2012). Teaching a face-to-face class is much different than teaching in an online environment and has a unique set of challenges (Brown & Corkill, 2004). Online instructors must be willing to learn new strategies, new technology, and be present in their online course. It is a challenge to ensure instructors are not overloading the course with text, that they are engaging the students, and providing students with timely and effective feedback.

In addition, academic dishonesty is a concern in online learning. Academic dishonesty can be defined as exchanging coursework, using notes to cheat on exams, sharing answers, and plagiarism (Bell & Federman, 2013). However, there are tools available that can lessen the chances of academic dishonesty. For example, proctored exams are one-way institutions can combat academic dishonesty in online learning. Proctored exams require students to take their assessments either on campus or at an approved testing center. While this method reduces the chances of academic dishonesty it can be challenging for students to go to a physical location for their assessments. A more common method is to utilize software that can lock down a student's browser and require a web camera recording to ensure the student is not cheating.

Lastly, contradicting literature is a challenge in online learning. Some studies address skills and features needed for students to be successful in online courses, and other studies state that features and skills do not impact student success. For instance, some research discusses that student learning styles do not make a difference in online learning achievement; while others stress the importance of students being self-motivated and self-regulated. One study to support the position that students' learning style does not affect achievement was conducted by Aragon, Johnson, and Shaik (2001). In this study, the learning preferences of graduate students were compared, and the findings revealed that they can be just as successful in an online class as they can be in a face-to-face class. The research explored by Howland and Moore (2002) supports the position that learning styles can affect student achievement in an online course. In their study, 48 online college students, who were enrolled in three online courses, were surveyed. The results of the study found that motivation, self-monitoring, and self-management were crucial for success in an online course more so than a face-to-face course.

Online Learning and Non-native English Speakers

When a non-native English speaker (NNES) enrolls in an online course there is a possibility that they may experience cognitive overload (Sweller, 2005). In traditional learning environments NNESs may be overwhelmed managing two languages; however, in an online learning environment, a NNES is not only managing two languages but technology as well. This potential struggle of juggling languages and technology can lead to cognitive overload. Online courses are typically administered in English and NNESs are expected to communicate using academic language, which can take years to master (Cummins, 2008). Cummins (2008) states that a NNES who is immersed in English can communicate easily within two years, but academic language mastery can take up to seven years. Although there are challenges for NNESs enrolled in online courses they can still be successful in online learning. An example of this was found in an analysis conducted by Hlas, Schuh, and Alessi (2008) on the discourse of online and face-to-face interaction, which concluded that NNESs showed higher levels of participation in the online format than in the face-to-face. Hlas, Schuh, and Alessi (2008) stated that levels of interaction in the online format could be because the online learners had additional time to review course material and reflection. In a similar study, Chalmers and Volet (1997) interviewed students from Southeast Asia who were enrolled in online courses at an Australian university. The results of their study revealed that the Southeast Asian students were actively engaged in the online course and took their time to modify their communication to fit the Australian language-style although they were competent in reading and speaking in English.

Another finding from Chalmers and Volet's study (1997) described how some international students were scared to speak and felt their responses were ignored. Similar findings were discussed in a study by Russo and Campbell (2004), where students stated that it was difficult for them to understand idioms and slang that was used in their course. This is an important issue because communication is

becoming more casual in online learning with the use of jargon and shorten words or phrases, which could confuse a NNES. If online instructors take the time to create a sense of community and encourage global English, which minimizes the use of jargon, idioms, slang, etc., then it is less likely NNESs will be confused, which can lead to success in the online learning environment (Gunawardena, Nolla, Wilson, Lopez-Islas, Ramirez-Angel, & Megchun-Alpizar, 2001; Schell, 2007). It should never be assumed that a NNES cannot succeed in an online course because with the right support and direction they can (Ogbu, 1994).

Online Surveys Instruments

Because there are weakness and strengths in online education, researchers, administrators, instructors, and course developers need to understand how students perceive online learning. By understanding student perception of online learning, institutions can create courses that promote engagement in the learning process and active participation (Smart & Cappel, 2006). This need to understand student's point of view in online learning has resulted in the development of several research instruments designed to assess student perception of online learning. For example, the Online Learning Environment Survey (Trinidad, Aldridge, & Fraser, B. 2004), the Readiness for Online Learning Questionnaire (McVay, 2001), and the Distance Education Learning Environment Survey (Walker & Fraser 2005).

The Online Learning Environment Survey (OLES) (Trinidad, Aldridge, & Fraser, B. 2004) incorporates scales from five other instruments. This survey measures students' perceptions of online learning in nine different areas, which were derived from the five instruments. The five pre-existing instruments are: What is Happening in this Class questionnaire; the Constructivist Learning Environment Survey (CLES); the Distance Education Learning Environment Survey (DELES); the Technology-Rich Outcomes-Focused Learning Environment Instrument (TROFLEI); and the Test of

Science Related Attitudes (TOSRA). The OLES contains 54 items that are categorized into nine scales: computer usage, teacher support, student interaction and collaboration, personal relevance, authentic learning, student autonomy, equity, enjoyment, and asynchronicity (Ashong & Commander, 2012).

The Readiness for Online Learning Questionnaire is a smaller questionnaire that was developed and validated by McVay in 2001. This questionnaire has only 13 items and assesses whether students are “ready” for online learning. The items in this survey were created to explore students’ comfort level with the basic skills and components needed in online learning. The questionnaire also assesses the independence level of students. The advantage of this questionnaire is the size. This survey can be easily administered online or in paper format and only takes approximately 10 minutes to complete (Bernard, Brauer, Abrami, & Sukes, 2004).

The Distance Education Learning Environment Survey (DELES) was created and validated for the purpose of assessing the satisfaction of online learners. There are seven scales, six are psychosocial that include instructor support, student interaction and collaboration, personal relevance, authentic learning, active learning, and student autonomy. The seventh scale assesses student satisfaction (Walker & Fraser, 2005). There are 34 survey statements which correspond to the aforementioned scales. Walker and Fraser (2005) designed a study that field tested the DELES with 680 distance education students to confirm validity and reliability. Eight survey statements are associated with providing support to students by giving feedback, answering statements, encouraging participation, and be easy to contact. These are important categories because online instructors may think their students understand time management and participation in an online course, but they may not. It is up to the instructor to model how to engage in the online course, so students can be successful.

Six survey statements from the DELES address opportunities for students to compare their work, ideas, and information with their classmates. This is critical for online learning because participation in

online discussions is imperative to the success of online learning. Classroom community in online learning offers students the feeling of belonging and helps them to be engaged and successful in the course (Young & Bruce, 2011). Another area that is discussed in the DELES, is the chance for students to relate and connect their learning to their personal life and topics that interest them. Research shows that in order for students to participate, engage, and learn they must be able to relate the content they are learning to their lives and personal interests (Lee, n.d.). In addition, providing students with the real-world problems to solve is motivating and makes the content meaningful (Curtis, 2011). This relates to the five statements from the DELES that address students receiving real-world problems in their course. The eight, active learning survey statements focus on allowing students to investigate their own learning. Personalized or adaptive learning gives students the opportunity to explore how they learn (Tucker, 2007). Students need to have autonomy in their learning. When students oversee their learning process, they are likely to be more engaged and hold themselves to high standards. Students who are self-regulated learners are successful, engaged, and take charge of their learning, which is essential for online learning achievement (Jones, Valdez, Nowakowski, and Rasmussen, 1994).

Lastly, the eight survey statements that address student satisfaction from the DELES, focus on whether students are satisfied with their online course and whether they would take another online course in the future. This scale was added to the survey to investigate the relationship between the six psychosocial scales and student affective features (Walker & Fraser, 2005). The satisfaction of online learners is a crucial component for student success in online learning because instructors need to be aware of what changes need to be made in a course to ensure the students do not have a negative experience that could possibly hinder their success (Chang & Smith, 2008). In this online learning research, the aim is to investigate if there is a correlation between the DELES scales and final grades in

a higher education online research course. Although there have been several studies on satisfaction and course grades in online learning, none have been conducted with non-native English speakers.

Summary

In summary, research continues to focus on technology in higher education; however, there remains an opportunity to study student achievement for non-native English speakers (NNESs) in the online environment. The NNESs population needs continued support and attention to obtain the services needed to adequately aid students. Second language acquisition is complex and NNESs need the assistance of instructors to help them navigate language learning and the online learning environment. There are various modalities in online learning, and NNESs can be successful in them all. Although there are many benefits to online learning; however, there are also several challenges that must be considered as well. Online learning will continue to increase and although there is research on NNESs in online learning regarding communication, the research for investigating their perception of an online research course and if it correlations with their final grades, is limited.

CHAPTER THREE: METHODS

Overview

With online learning increasing in higher education, it is crucial that researchers understand how best to support students taking online courses. This is particularly important for students who are non-native English speakers and may encounter unique challenges in an online course depending on their English language proficiency. Therefore, the purpose of this correlational study was to explore if a correlation existed between non-native English speakers' responses on the Distance Education Learning Environment Survey and final grades in an online research course. The following chapter provides an overview of the research design, participants, setting, instrumentation, procedures, and data analysis.

Design

This quantitative study used a correlational research design to examine if a correlation existed between the NNEs' responses on the DELES pre- and post-surveys and their final course grades in an online research course. A correlational research design was appropriate because it investigates relationships between variables. This was a nonexperimental design. The Pearson correlation coefficient is often used in correlational research studies when a researcher seeks to explore and discuss the relationship between two variables (Gravetter & Forzano, 2009). A Pearson correlation coefficient measures the degree of a linear relationship between two continuous variables (Pagano, 2012). The predictor variable was responses on the DELES pre- and post-surveys. The criterion variable is end of course grade in an online college research course.

Research Questions

The following research questions were investigated in this study:

RQ1: What is the strength of correlation between non-native English speakers' responses to the Distance Education Learning Environment Survey (DELES) pre-survey and final course grades in an online research course?

RQ2: What is the strength of correlation between non-native English speakers' responses to the Distance Education Learning Environment Survey (DELES) post-survey and final course grades in an online research course?

Hypotheses

The above research questions were formulated based on the following hypotheses for this study:

H₀₁: Non-native English speakers' responses on the Distance Education Learning Environment Survey pre-survey are not positively correlated to final grades in an online research course.

H₀₂: Non-native English speakers' responses on the Distance Education Learning Environment Survey post-survey are not positively correlated to final grades in an online research course.

Participants and Setting

The participants for this study were undergraduate students from a private university's worldwide campus. It is important to note that this worldwide campus offers courses in various modalities, including campus locations that are located all over the world. However, for this study, the researcher only utilized students taking online classes. Online courses make up the majority of course offerings at the worldwide campus. At this university, non-native English speakers (NNES) must meet certain criteria for admittance to the college. NNESs are required to either transfer English credit from an accredited institution or submit a passing score on an English admissions test. For example, the Test of English as a Foreign Language (TOEFL). In addition to the TOEFL, the university also accepts the International English Language Testing System (IELTS) test. For the purposes of this study, the researcher used a sample of students, who were identified as a NNES based on criteria from admissions

applications. The students in this study met the following criteria: enrolled in a section of Introduction to Research Methods (RSCH 202), submitted TOEFL/IELTS scores, they have a primary language other than English, international status, visa status, and country of citizenship. Because students are required to provide the above information on their admission applications, random selection was not possible for this research study. The researcher utilized a convenience sample. A convenience sample is a population that the researcher chooses because it fits the purpose of the study and it is convenient for the researcher (Gall, Gall, & Borg, 2007). The researcher used a convenience sample because of familiarity with the research site and the population of students, as well as the location of research site.

The researcher safeguarded the sample groups and investigated study conditions by making them as similar as possible. Online classes at the research site are structured and locked-down, meaning faculty are not permitted to make changes, which assisted the researcher in ensuring there were similar conditions throughout the study. The sample size consisted of students from online RSCH 202 courses. These courses were nine weeks long and taught by various full-time and adjunct faculty members. Aspects that were taken into consideration in the class selection were gender, admission criteria, and ethnicity. The participants were undergraduate students seeking various degrees. Participants, enrolled in RSCH 202, provided TOEFL scores, IELTS scores, or identified a primary language other than English, international status, visa status, and country of citizenship on their enrollment applications, indicating they are a NNES.

The sample size consisted of 25 NNES students during the 2017 summer and fall terms. There were five, nine-week terms chosen for this study. Although over 300 students were contacted, only a small number participated in both the pre-and post-survey. Forty students completed the pre-survey; however, only 25 of the 40 students who completed the pre-survey also completed the post-survey. Furthermore, the participant's demographic information was analyzed; including age, ethnicity, gender,

and grade level. The final sample consisted of 23 males and two females. Fourteen of the participants were international students and 11 were either permanent residents (n=3) or citizens (n=8) of the United States. All 25 of the participants self-identified a birth country other than the United States. These countries included: Bangladesh (n=1), Brazil (n=1), Bulgaria (n=1), Canada (n=1), China (n=1), Costa Rica (n=1), Cuba (n=1), Dominican Republic (n=1), Ethiopia (n=1), Germany (n=3), Iceland (n=1), Iran (n=1), Kenya (n=2), Liberia (n=1), Mexico (n=1), Myanmar (n=1), Netherlands (n=1), Portugal (n=1), Russia (n=2), Singapore (n=1), and Sri Lanka (n=1). In addition, all the participants indicated that their primary language is a language other English. The languages self-identified by participants were Bengali (n=1), Burmese (n=1), Bulgarian (n=1), Dutch (n=1), Farsi (n=1), French (n=2), German (n=3), Latvian (n=1), Mandarin(n=2), Portuguese (n=2), Russian (n=2), Sinhala (n=1), Spanish (n=4), and Swahili (n=3). Of the 25 participants, four submitted TOEFL test scores and one submitted IELTS test scores. Twenty of the participants are pursuing aeronautic degrees and five are focusing on business degrees. Finally, 36% of students self-identified as White (n=9), 32% as Asian (n=8), 20% as Hispanic (n=5) and 12% as Black/African American (n=3).

Table 1 provides information on the frequencies and percentages for demographic variables. These variables include gender, race, and students who passed and failed the RSCH 202 course for the total participant sample. Most of the participants in this study were male (92%), Caucasian (36%), from the College of Aeronautics (80%), and successfully completed RSCH 202 (32%). The students involved in this research study all attend a not-for-profit, private, co-educational higher education institution's online campus. All students enrolled in the Introduction to Research course (RSCH 202), during the summer and fall of 2017. There were 25 undergraduate students involved in this study.

Table 1

Frequencies and Percentages for Categorical Variable

	Frequency	Percent
Gender (<i>N</i> =25)		
Female	2	8
Male	23	92
Race (<i>N</i> =25)		
Asian	8	32
Black	3	12
Hispanic	4	16
White	9	36
RSCH 202 Grades (<i>N</i> =25)		
Pass	24	96
Fail	1	4

The setting for this study was a not-for-profit, private, co-educational higher education institution. This university serves students who are interested in the field of aviation, aerospace, engineering, and other related fields. The university is most well-known for its reputation in the aviation industry as well as its relationship with the military. The university has two traditional, residential campuses, in addition to the worldwide campus, which offers synchronous and asynchronous courses. During the spring 2017 semester, the two residential campuses saw an increase of 13.1% in enrollment with almost 8,000 students enrolled between them (Institutional Research, 2017). The worldwide campus saw an increase of 1.6%, with a total of approximately 23,000 students enrolled. At the worldwide campus graduate enrollment slightly declined; however, undergraduate enrollment is on the rise (Worldwide, 2017). The worldwide campus has been providing distance learning options for students since 1971. This campus has three colleges, the College of Aeronautics, the College of Business, and the College of Arts and Science, with the largest college being the College of Aeronautics. Between the three colleges, there are 40 degree and certificate options for students. The worldwide campus offers courses in several different modalities, such as online, blended, hybrid, and face-to-face at

142 campus locations located around the globe. In addition, the worldwide campus offers rolling enrollments with 12 undergraduate terms and 10 graduate terms, with each term lasting for nine weeks (Worldwide, 2017). For the past two years, the worldwide campus has been named one of the nation's top online educators (U.S. News, 2017). The credentials in online learning coupled with a strong international presence made this research campus an ideal site for this study.

Instrumentation

For the purposes of this study, the researcher gathered a variety of data. This research explored if a correlation existed between non-native English speakers' responses on the pre- and post-Distance Education Learning Environment Survey (DELES) and final course grades in a higher education online research course. The DELES was provided by Scott Walker, who owns the copyright for the DELES. The DELES consists of 34 Likert statements focused on six scale areas of online learning (Appendix A). The DELES was created to assist researchers in collecting and analyzing data on how post-secondary students feel about distance learning and gain insight into their usage while engaged in distance learning. This survey was developed by bringing together research on learning environments and asynchronous online learning. The purpose of Walker and Fraser's (2005) study was to create and validate a learning environment questionnaire designed specifically for higher education online learning. Walker and Fraser were interested in investigating the connections between student enjoyment levels and the online learning environment. To develop this survey, the researchers employed a three-stage method. These three stages included, identifying the learning environment scales, writing individual items, and field testing and analyses (Walker & Fraser, 2005).

The DELES survey consists of eight statements that correspond to instructor support, six to student interaction and collaboration, seven to personal relevance, five to authentic learning, three to active learning, and five to student autonomy. The survey asks participants to mark never, seldom,

sometimes, often, and always for each statement in each scale. For this study, the responses were coded for analysis with one equaling never, two equaling seldom, three equaling sometimes, four equaling often, and five equaling always. Each participant's total value from the six DELES scales was calculated and documented. To ensure the validity of the DELES survey Walker and Fraser conducted factor analysis. In addition to running factor analysis for the survey items, the DELES was field tested among 680 participants from around the world. Through field testing and factor analysis the original 48 item questionnaire was reduced to 34 items (Walker & Fraser, 2005). Walker and Fraser (2005) also assessed each scale using internal consistency reliability analysis. For the six DELES scales, alpha reliability coefficient ranged from 0.75 to 0.94. The correlations ranged from $r = 0.12$ to 0.31. Also, it was found that the regression coefficients had a range from $B = .00$ to 0.23 (Walker & Fraser, 2005). This reliability was consistent for all 680 responses. During their study, Walker and Fraser (2005) found that all simple correlations were positive and had statistical significance ($p < 0.01$). Through this study, the DELES achieved reliability and validity. Once the DELES achieved reliability and validity it became a popular instrument to use in online learning research. The DELES has been used in many studies (e.g. Keeney, Shelton, Mason, & Young, 2017; Kosloski & Carver, 2017; Fernández-Pascual, Ferrer-Cascales, Reig-Ferrer, Albaladejo-Blázquez, & Walker, 2015). The DELES survey has also been translated into Spanish and Turkish.

The utilization of an instrument that is reliable and valid was vital to assist the researcher to gain insight into non-native English speakers' perception of an online research course. Permission to use the survey was granted and the associated fee paid by the researcher (See Appendix B for permission to use this instrument). The researcher entered the Distance Education Learning Environment Survey (DELES) items into SurveyMonkey for distribution. The researcher purchased the proper SurveyMonkey account to allow for a large number of participant responses. The link to the survey was

provided in a recruitment email to participants along with instructions. Participants were provided the pre-survey during the first module of their nine-week term and the post-survey during the last module. The survey took approximately 10-20 minutes to complete, which was explained in the informed consent email. After the DELES was administered the responses were collected, coded, calculated, and logged. The scores for the DELES can range from 34 to 170. A score of 34 would indicate that the participant marked never for all 34 items and a score of 170 would reveal that a participant chose always for all 34 items on the DELES. The DELES was scored by the researcher by totaling and calculating each participants' response to each statement. In addition to the totals from the DELES, the researcher also collected final course grades from Introduction to Research Methods. The course grades were in a numerical form ranging from 0 to 100. The highest grade that could be earned was a 100 with 60 being the lowest passing grade. NNESs that scored below a 60 were given a failing grade. For the purposes of this study, the researcher coded final letter grades as five equaled an A, four equaled a B, three equaled a C, two equaled a D, and one equaled an F.

Procedures

Prior to the study beginning the researcher obtained permission from Liberty University's Institutional Review Board (IRB) as well as the IRB committee at the research site. See Appendix C for approval. The researcher then verified enrollment numbers of non-native English speakers (NNESs) in the online Introduction to Research Methods (RSCH 202) courses. The researcher collaborated with a college administrative assistant for an email to be sent to students requesting their participation in this study. In the recruitment email, the researcher explained to the students that participation was completely voluntary, confidential, and did not impact their grade in the course or their standing with the university. See Appendix D for the recruitment email. The students were given a link to SurveyMonkey, which contained the consent form. This form described the purpose of the study,

explained the procedures, and provided a place for them to click if they agreed to participate in this research study. See Appendix E for the consent form. For the students who gave their consent, the DELES pre-survey was administered during the first week of their RSCH 202 course. The DELES was administered through SurveyMonkey and the link was provided in the recruitment email. During the last week of the term, the DELES post-survey was administered. Once all the data was obtained the researcher then analyzed the results from the DELES and final course grades. A discussion of the analysis can be found in the Results section of this paper.

Data Analysis

Upon receiving the data, statistical analyses were conducted to test the research hypotheses. Pearson correlations were used to determine if correlations existed between non-native English speakers' responses on the Distance Education Learning Environment Survey (DELES) and final course grades in an online research course. First, the researcher ran preliminary data screening to look for inconsistencies, missing scores, and other violations. Preliminary analyses were also conducted to test for violations of the assumptions of normality, linearity, and bivariate normal distribution. These analyses included box plots and scatterplots, which were used to check for the assumptions of bivariate outliers, assumption of linearity, and the assumption of bivariate normal distribution.

Descriptive statistics comprising of the mean, standard deviation, range, skewness, and kurtosis were then conducted using the IBM SPSS Statistics 25 software. Skewness and kurtosis were utilized to determine if there was sufficient normal distribution for each variable. A value of zero indicates a normal distribution with values ranging from -2 and +2 representing that there are no deviations of normality (Balanda & McGillivray, 1998; De Carlo, 1997; Groeneveld & Meeden, 1984; Kendall, Stuart, Ord, & Arnold, 2006).

Finally, a Pearson correlation coefficient analysis was utilized to determine if a correlation existed between NNESs' responses on the pre- and post- DELES and final course grades in an online research course. A Pearson correlation coefficient was the appropriate analysis because it is used to determine if a relationship exists between variables (Gall, Gall, & Borg, 2007). To test the first research hypothesis, a Pearson correlation coefficient was computed between the DELES pre-survey and the NNESs' final course grades in an online research course. Likewise, the researcher conducted a Pearson correlation coefficient between the DELES post-survey and NNESs' final course grades from the RSCH 202 course. The following chapter details the findings from these analyses.

CHAPTER FOUR: FINDINGS

Overview

This chapter provides an explanation of the statistical analyses conducted during this study as well as the results. The purpose of this study was to determine if a positive correlation existed between non-native English speakers' responses on the Distance Educational Learning Environment Survey (DELES) scales and final grades in an online research course. The DELES scales include instructor support, student interaction and collaboration, personal relevance, authentic learning, active learning, and student autonomy. Participants were NNES undergraduate students enrolled in a 9-week online RSCH 202 course. This research is needed because there are few research studies in higher education that address NNESs in online learning. Additionally, there is little research on exploring NNESs' perception of an online course and if there is a positive correlation between their perception of an online course and their success in that course. The results discussed in this chapter can offer insights to administrators, faculty members, and course developers on how to support NNESs in online courses. This chapter will address the research questions, hypotheses, descriptive statistics, and results from the statistical analyses.

Research Questions

The following research questions were investigated in this study:

RQ1: What is the strength of correlation between non-native English speakers' responses to the Distance Education Learning Environment Survey (DELES) pre-survey and final course grades in an online research course?

RQ2: What is the strength of correlation between non-native English speakers' responses to the Distance Education Learning Environment Survey (DELES) post-survey and final course grades in an online research course?

Hypotheses

The above research questions were formulated based on the following hypotheses for this study:

H₀₁: Non-native English speakers' responses on the Distance Education Learning Environment Survey pre-survey are not positively correlated to final grades in an online research course.

H₀₂: Non-native English speakers' responses on the Distance Education Learning Environment Survey post-survey are not positively correlated to final grades in an online research course.

Descriptive Statistics

Table 2 and Table 3 provide information on the frequencies and percentages for the DELES pre- and post-surveys. Table 2 shows that there were a few participants who did not have a positive perception of the online RSCH 202 course. There was one participant who marked one (never) for all 34 questions. This participant could have had a difficult beginning of the course or they may not have spent adequate time reading and responding to the DELES pre-survey questions. Table 3 reveals that all participants' average responses were three (sometimes), four (often), and five (always) on the DELES post-survey. However, it is important to note that some responses from the DELES pre-survey declined on the DELES post-survey. The course grades for RSCH 202 ranged from 0 to 100. For this study, the researcher coded final letter grades as five equaled an A, four equaled a B, three equaled a C, two equaled a D, and one equaled an F. Table 4 provides the frequencies and percentages for the final letter grades of the participants.

Table 2

Frequencies and Percentages for DELES Pre-Survey

	Frequency	Percent
Scores (N=25)		
34	1	4
63	1	4
76	1	4
119	1	4
121	1	4
124	1	4
126	1	4
127	2	8
130	1	4
131	1	4
132	2	8
136	1	4
139	1	4
141	3	12
145	2	8
146	1	4
149	1	4
152	1	4
159	1	4
164	1	4

Table 3

Frequencies and Percentages for DELES Post-Survey

	Frequency	Percent
Scores (N=25)		
115	2	8
118	1	4
121	1	4
122	1	4
123	1	4
124	1	4
126	2	8
133	1	4
135	1	4
137	3	12
143	1	4
144	3	12
147	1	4
148	1	4
149	3	12
161	1	4
170	1	4

Table 4

Frequencies and Percentages for RSCH 202 Final Grades

	Frequency	Percent
Final Grades (<i>N</i> =25)		
F	1	4
D	1	4
C	3	12
B	6	24
A	14	56

Table 5 represents descriptive statistics for the DELES pre- and post-surveys as well as the final grades from the RSCH 202 courses. Skewness and kurtosis were used to calculate and measure for normality. A value of zero shows normal distribution in skewness and kurtosis. Values ranging between -2 and +2 indicate there are no problematic deviations from normality (Balanda & MacGillivray, 1988; De Carlo, 1997; Groeneveld & Meeden, 1984; Hopkins & Weeks, 1990; Kendall, Stuart, Ord, & Arnold, 1999). All measures of skewness were within the acceptable range. However, measures of kurtosis for the DELES pre-survey and final grades were above the acceptable range, which could be due to the sample size. Histograms of each test are presented in Figures 1 – 2.

Table 5

Descriptive Statistics for DELES Pre-Survey and Post-Survey

	<i>N</i>	<i>M</i>	<i>SD</i>	Range	Skewness	Kurtosis
DELES pre-survey	25	128	29.46	130	-1.98	4.17
DELES post-survey	25	136.68	14.34	55	.307	-.318
Final grades	25	4.24	1.1	4	-1.57	2.14

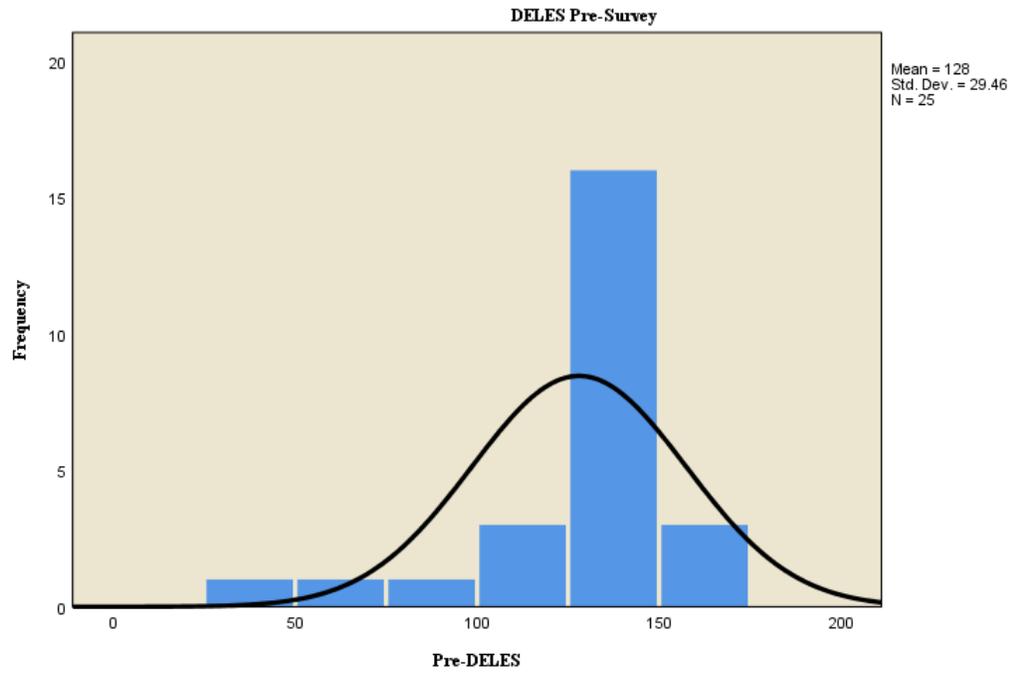


Figure 1. Histogram of DELES pre-survey.

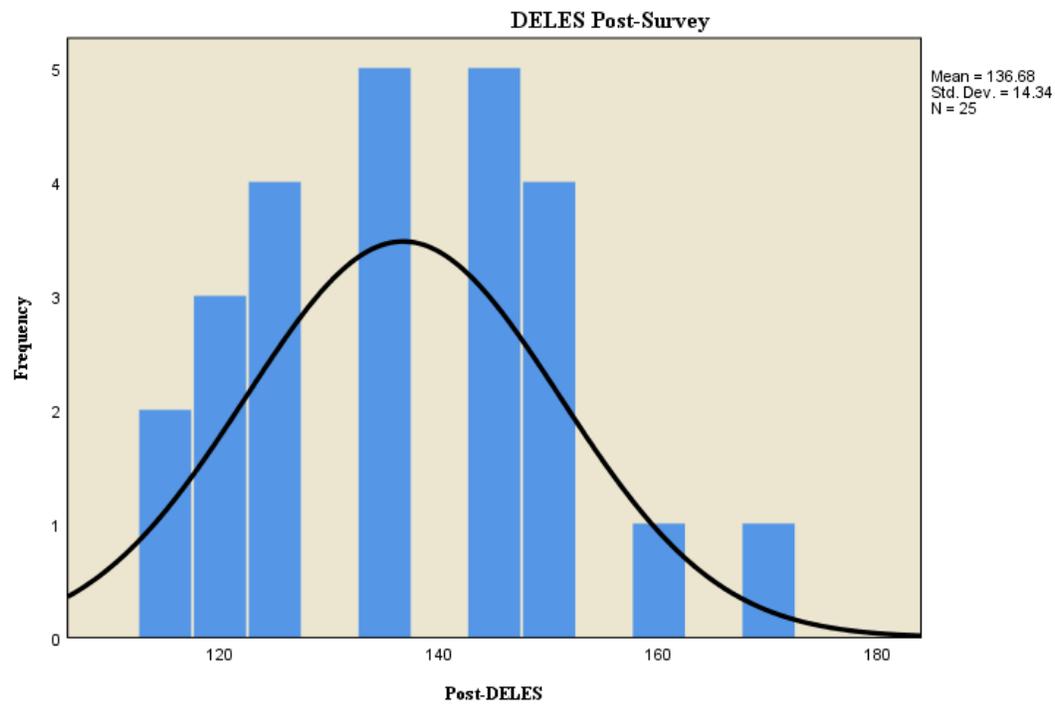


Figure 2. Histogram of DELES post-survey.

Data Screening

The researcher utilized data screening to check for missing data, outliers, and discrepancies between the predictor and criterion variables. Through the data screening process, data errors, outliers, and irregularities were identified. There was a total of 65 responses on the pre- and post-DELES. Forty of the 65 responses were on the pre-DELES survey and 25 were on the post-survey. Of the 40 participants who completed the pre-survey, there were 12 that completed the informed consent, but did not answer the questions, which lead to their pre-survey data being incomplete. In addition, these 12 participants did not complete the post-survey, which resulted in their data being removed from further analysis. This resulted in the loss of 12 data sets from this study. The researcher also utilized box plots to examine outliers for the predictor and criterion variables. As seen in Figures 3, 4, and 5, there were three participants that were coded with outliers for the DELES pre-survey, no outliers for the DELES post-survey, and two outliers for final grades. The participants that were coded with outliers were removed from the data set.

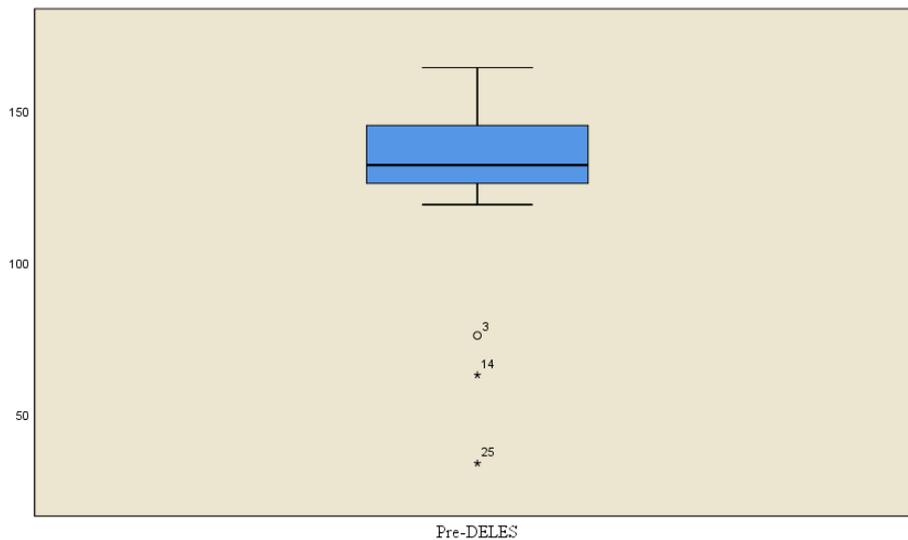


Figure 3. Box Plot of DELES pre-survey.

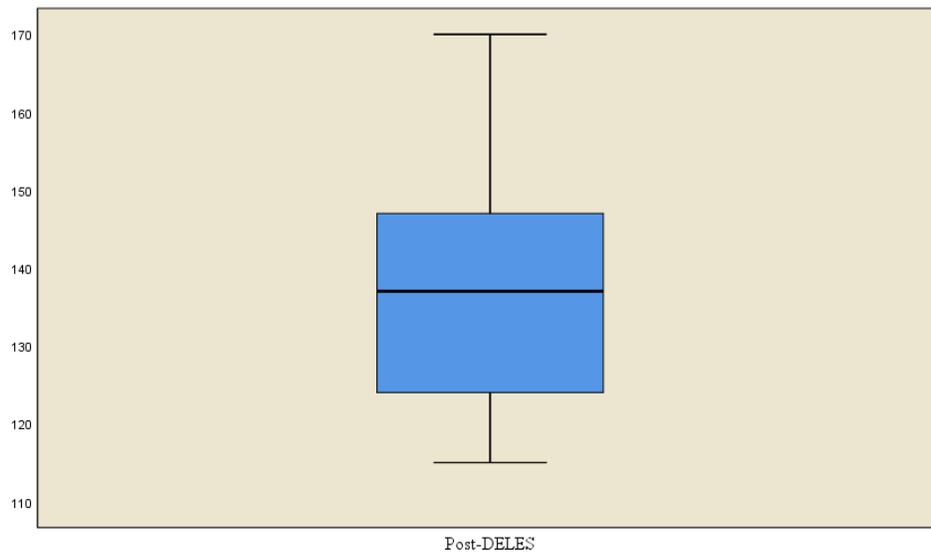


Figure 4. Box Plot of DELES post-survey.

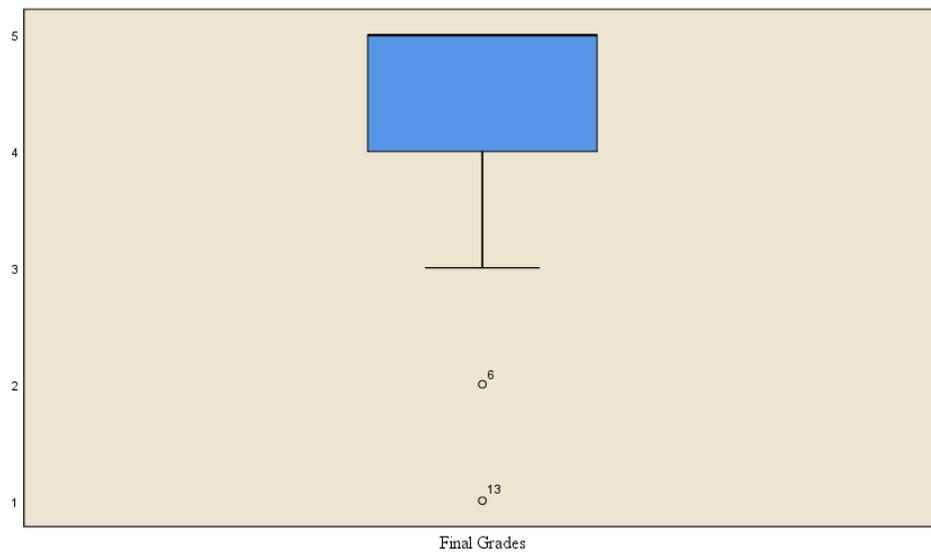


Figure 5. Box Plot of Final Grades.

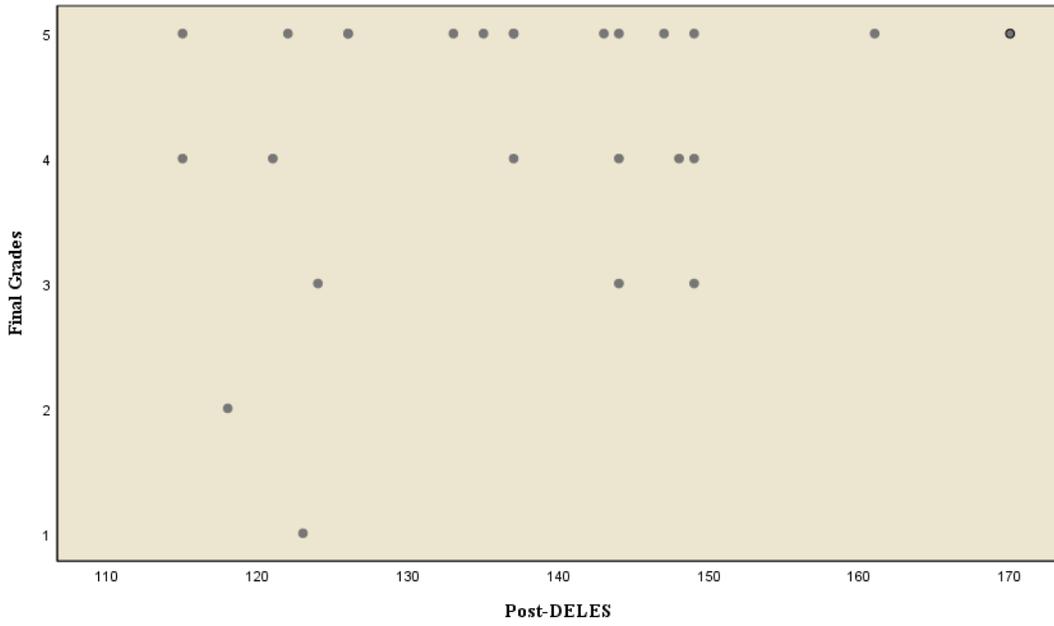
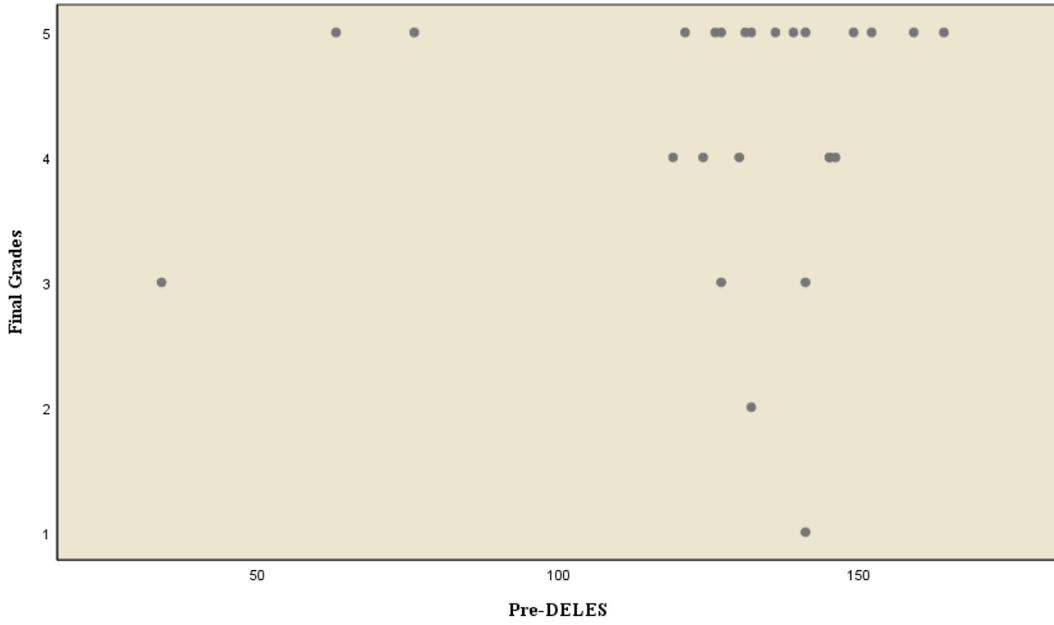
Assumption Testing

The research questions for this study sought to determine if there was a positive correlation between the DELES pre-survey and RSCH 202 final course grades, as well as the DELES post-survey

and RSCH 202 final grades for NNEs. The DELES, which consists of six-sub-scales (instructor support, student interaction and collaboration, personal relevance, authentic learning, active learning, and student autonomy) was used in this study. The six-sub-scales of the DELES are associated with student satisfaction and perception of online learning. This study used the scores from the DELES pre-survey, which was administered during the first week of a nine-week online course, to obtain NNEs' initial impression of the RSCH 202 online learning environment. The NNEs later took the DELES post-survey during the last week of that nine-week term. A Pearson correlation coefficient was utilized to test the null hypotheses.

Assumption tests are conducted prior to analysis to assist the researcher in determining if they are able to correctly draw conclusions from their analyses (Field, 2013). For this research study, four assumptions were tested prior to running the Pearson correlation coefficient. The assumption of normality was explored for each variable using Shapiro-Wilk's normality test. The Shapiro-Wilk normality test was utilized due to the small number of data points (Razali, N. M., & Wah, Y. B. (2011)). The assumption for normality was found to be acceptable at the .05 alpha level for the Pre-DELES ($p=.000$) and Final Grades ($p=.000$) variables. However, the assumption for normality was not acceptable for the Post-DELES ($p=.307$). For the assumption of linearity, bivariate normal distribution, and bivariate outliers, a scatter plot (see Figures 6) was utilized to explore the relationship between the Pre- and final course grades as well as Post-DELES and the final course grades from RSCH 202. While examining the scatter plot, no curvilinear plots were found; however, due to the number of data points, linearity was also not found. After conducting additional visual examination of the scatter plots, the researcher determined that the assumptions of bivariate normal distribution and bivariate outliers were not found to be tenable.

Figures 6. Scatter plots for assumptions



Results

Null Hypothesis One

The first hypothesis for this research study investigated if there was a positive correlation between NNEs' responses on the DELES pre-survey and final grades from an on online research course. This hypothesis was addressed by calculating a Pearson correlation coefficient between the DELES pre-survey responses and the final RSCH 202 grades. Table 6 represents this correlation. The correlation was not statistically significant $r(22) = .08, p = .72$. In addition, there was no correlation between the DELES pre-survey and the final course grades. This was a very weak relationship. These findings indicated that the researcher cannot state that there was an established relationship between the DELES pre-survey and final grades. Furthermore, due to the lack correlation and statistical significance, the researcher could not conclusively reject the null hypothesis.

Table 6

Correlations Between DELES Pre-survey and Final Grades

		DELES	
		Pre-Survey	Final Grades
DELES Pre-Survey	Pearson Correlation	1	.076
	Sig. (2-tailed)		.716
	N	25	25
Final Grades	Pearson Correlation	.076	1
	Sig. (2-tailed)	.716	
	N	25	25

Null Hypothesis Two

The second hypothesis for this research study investigated if there was a positive correlation between NNEs' responses on the DELES post-survey and final grades from an on online research

course. Similarly, to the first hypothesis, a Pearson correlation coefficient was conducted between the DELES post-survey responses and the final RSCH 202 grades. This correlation is represented in Table 7. As was the case with the DELES pre-survey, there was no statistical significance or correlation between the DELES post-survey and final course grades $r(22) = .27, p = .19$. The findings from the correlation between the DELES post-survey and final grades, as well as the lack of statistical significance, resulted in the researcher being unable to reject the null hypothesis.

Table 7

Correlations Between DELES Post-survey and Final Grades

		DELES	
		Post-Survey	Final Grades
DELES Post-Survey	Pearson Correlation	1	.274
	Sig. (2-tailed)		.185
	N	25	25
Final Grades	Pearson Correlation	.274	1
	Sig. (2-tailed)	.185	
	N	25	25

This chapter discussed the results of the data analysis of the responses from non-native English speakers on the DELES pre- and post-surveys and the final grades from an online research course. In addition, data screening, descriptive statistics, tests for assumptions, and tests of hypotheses were addressed. This study sought to address two research questions and both yielded results that lacked statistical significance and correlation. Overall, there was substantial evidence that the researcher was unable to reject the null hypotheses; NNEs' responses on the DELES pre-survey were not positively correlated to final grades in an online research course. Likewise, NNEs' responses on the DELES

post-survey were not positively correlated to final grades in an online research course. An in-depth discussion of the findings is addressed in the next chapter.

CHAPTER FIVE: CONCLUSIONS

Overview

Online learning continues to increase in higher education, which creates an opportunity for administrators and instructors to research how they can support all students taking online courses. Online education is attractive for many students because it provides learning at lower costs (Lips, 2010). The benefits of taking courses in an online environment are many, such as logging in and completing assignments at any time. However, there are disadvantages to online learning as well. For example, course quality can vary and student may not remain self-motivated to complete their work (Zwang, 2011). With the growing number of students in online education, comes the need for higher education administrators and instructors to pinpoint the variables that can contribute to success in online learning (Lips, 2010). This is imperative for all students, but even more so for students who are non-native English speakers. The following chapter offers an overview of the discussion, implications, and limitations for this study.

Discussion

This study drew upon a combination of Bandura's Social Cognitive Learning Theory (1977), Vygotsky's Sociocultural Learning Theory (1962), and Krashen's Affective Filter Hypothesis, which comes from his Second Language Acquisition Theory (1987). These theories guided this study as they support that online learning requires modeling, collaboration, as a "safe space" for NNESs to be successful. As discussed in Chapter Two, the literature reveals a wealth of research on online learning. One area that has been thoroughly explored is the flexibility that the online learning environment provides. This flexibility allows students to collaborate, share, and learn with peers from across town or across the world. In addition, researchers have found that online learning promotes self-regulation

among students because it allows them to take control over the content they are learning (Olojo, Adewumi, & Ajisola, 2012).

There are various modalities in which online courses can be taken. Online courses can be conducted in a synchronous or asynchronous format. Asynchronous courses are the most popular for an online student because they are able to log in and complete assignments at their convenience (Tanner, Noser, & Totaro, 2009). This differs from synchronous courses, which require the students and teacher to meet on a specific day and time (Henke-Greenwood, 2006). This format is similar to that of a traditional classroom environment. Video conferencing tools are utilized to offer synchronous courses in the online environment. Although online learning can be beneficial to students, there are also challenges with delivering content in this format. For example, it can be difficult for students, who are more familiar with a traditional classroom, to transition to an online course (Livingston, 2008). Research has also shown that students, who are at a low proficiency level, may be unsuccessful in an online course (Akyol & Garrison, 2010). Furthermore, instructor online teaching experience, communication to the students, feedback on assignments, and overall knowledge of the content can differ (Bacow, Bowen, Guthrie, Lack, & Long, 2012).

The diversity in higher education continues to increase each year and institutions realize the need to support and differentiate instruction for this diverse population. Although institutions recognize the need to increase support for diverse students, many do not understand the importance of providing post-admission support for non-native English speakers (NNESs). Many colleges and universities are under the belief that NNESs will develop academic language skills and/or become proficient in English through immersion. However, this is not the case (Andrade & Evans, 2015, p.5). If this is the mentality of some traditional campuses in higher education, how much thought is being given to NNESs in online courses? NNESs enrolled in online courses can experience cognitive overload, must navigate at least

two languages, and can lack the collaborative environment that can assist them with language comprehension (Sweller, 2005; de la Varre, Keane & Irvin, 2011). Despite facing unique challenges NNESs can be successful in an online course, with the right support. Online courses can provide NNESs with additional time to respond to questions and encourage deeper engagement and discourse with their classmates (Hlas, Schuh, & Alessi, 2008; Chalmers & Volet, 1997).

Although there is a plethora of research in higher education regarding online learning, there is limited research exploring NNESs in the online environment. Studies that have been conducted with NNESs in the online learning environment typically investigate reading and writing skills. In addition, these research studies tend to look at courses offered in the blended or hybrid modality, which creates an opportunity to research NNESs in the asynchronous format. Moreover, there are many studies on student satisfaction and perception of online learning, but none have explored NNESs specifically. The goal of this study was to add to this limited body of literature and continue the conversation in the higher education community about NNESs in the online learning environment.

Purpose

The purpose of this quantitative correlational relational study was to explore if a correlation existed between non-native English speakers' responses on the Distance Education Learning Environment Survey (DELES) and final course grades in an online research course. The participants from this study were undergraduate students enrolled in an introductory research course (RSCH 202). Twenty-five students, enrolled in RSCH 202 during the June, July, August, September, and October terms at a not-for-profit, private, and coeducational higher education institution, participated in this study. This institution boasts three campuses with the worldwide campus being the focus of this study. Each RSCH 202 course was nine-weeks long. These courses are developed and managed by a course

developer and faculty are not permitted to make any changes to their courses. So, although there were various instructors during the five terms, the course content was the same.

Participants

After IRB approval and with the permission of campus administration, a college administrative assistance sent an email (Appendix D), which contained a summary of the study as well as a link to the informed consent (Appendix E) and Distance Education Learning Environment Survey (DELES), to students. A total of 400 students were contacted over five months. The participants were enrolled in a section of Introduction to Research Methods (RSCH 202) during the five terms in which the researcher gathered data. In addition, the participants met the following criteria based on their admission applications: submitted TOEFL/IELTS scores, their primary language (other than English), international status, visa status, and country of citizenship. A total of 25 participants responded to the pre- and post-survey during the first and last week of their course. There were 23 males and two female participants with representation from two of the campuses three colleges. Upon coordination with the institution's IT department, data from the surveys were linked to participants' final grades. This data was then stripped of identifiers and sent to the researcher. The survey data, as well as final grades, were then reviewed and organized in Microsoft Excel. The data was then entered and analyzed using IBM SPSS Statistics 25 software. The statistical tests conducted for this study were descriptive statistics and a standard Pearson correlation coefficient. In addition, preliminary data screening and assumption tests were conducted. The results are discussed in Chapter Four.

Methods

This quantitative study used a correlational research design to examine if a correlation existed between NNEs' responses on the DELES pre- and post-surveys and their final course grades in an online research course. The DELES is a validated and reliable survey instrument that has been utilized

in numerous research studies. This instrument was designed as a learning environment survey for higher education online learning courses (Walker & Fraser, 2005). Scott Walker, the owner of the copyright for the DELES, provided approval for the DELES to be utilized in this study.

The researcher received approval from Liberty University's IRB committee as well as the IRB committee at the research site. College administration assisted the researcher by identifying students enrolled in RSCH 202 during the summer and fall terms of 2017. The researcher then worked with the technology department at the research site to discuss stripping the data to ensure participants' identifying information was removed. During the first week of the RSCH 202 courses, the college administrative assistant sent the recruitment email to students enrolled in that section who met the study criteria. The college administrative assistant then sent the email with the post-survey to the same participants during the last week of the RSCH 202 courses. The participants' survey information was sent to the IT department for the data to be linked to final course grades, as well as to have all identifying information stripped. This data was then sent back to the researcher for analysis.

The researcher gathered the data from each RSCH 202 term (June, July, August, September, October) and organized it into a Microsoft Excel spreadsheet. This data was then copied into IBM SPSS Statistics 25 for further analysis. A correlational design was utilized for this study because the researcher sought to determine if there was a relationship between the DELES pre- and post-survey with the final course grades in an online research course. The statistical tests that were conducted included data screening, descriptive statistics, tests for assumptions, as well as a Pearson correlation coefficient. Correlational studies often use a Pearson correlation coefficient to determine if a relationship exists between two variables (Gravetter & Forzano, 2009).

Research Questions

The following research questions were investigated in this study:

RQ1: What is the strength of correlation between non-native English speakers' responses to the Distance Education Learning Environment Survey (DELES) pre-survey and final course grades in an online research course?

RQ2: What is the strength of correlation between non-native English speakers' responses to the Distance Education Learning Environment Survey (DELES) post-survey and final course grades in an online research course?

Null Hypotheses

The above research questions were formulated based on the following hypotheses for this study:

H₀₁: Non-native English speakers' responses to the Distance Education Learning Environment Survey pre-survey are not positively correlated to final grades in an online research course.

H₀₂: Non-native English speakers' responses to the Distance Education Learning Environment Survey post-survey are not positively correlated to final grades in an online research course.

Summary of the Research

The results of this study provided information to determine if a correlation existed between the DELES pre- and post-survey responses and final course grades for NNEs. Prior to conducting analysis of the research questions, the researcher ran preliminary screening of the data to look for inconsistencies in the data. In addition, multiple tests for assumptions to explore normality, linearity, and bivariate outliers were conducted.

The first research question asked if there was a correlation between non-native English speakers' responses to the Distance Education Learning Environment Survey (DELES) pre-survey and final course grades in an online research course. After calculating a Pearson correlation coefficient, it was determined that there was no correlation between the DELES pre-survey and final course grades in RSCH 202. The second research question explored if there was a correlation between non-native

English speakers' responses to the Distance Education Learning Environment Survey (DELES) post-survey and final course grades in an online research course. As with the first research question, a Pearson correlation coefficient was calculated. The results of this analysis found there was no correlation between the DELES post-survey and the final course grades.

The researcher suggests that additional research be conducted to investigate perception of online achievement and satisfaction for NNEs. As previously stated, current research on NNEs in the online learning environment is limited. The results of this study, although not statistically significant, can begin a conversation on how to adequately support NNEs in online courses. However, additional research needs to be conducted to determine how best to support NNEs in the online learning environment.

Implications

Though the results from this study were unable to show a correlation between the DELES and final course grades, the findings from this research can still add to the literature on NNEs in online learning. Although not related to the research questions or hypotheses, the researcher found valuable information in the responses on the DELES. The DELES' six-sub-scales were reviewed during analysis and yielded information important to NNEs' success in online learning. While the results of this study concluded that there was no correlation between the DELES pre- and post-survey and final course grades, participant responses on the surveys were enlightening. Most participants had high scores on the DELES and most passed the RSCH 202 course. This suggests that NNEs who have a good perception about online learning may do well in online courses. While reviewing the data, the researcher noted that the average responses on the DELES scales of instructor support, student interaction and collaboration, personal relevance, authentic learning, active learning, and student autonomy ranged from three to five.

For the purposes of this study, 1 = never, 2 = seldom, 3 = sometimes, 4 = often, and 5 = always. These findings imply that the participants, involved in this study, were satisfied with the online learning environment in their RSCH 202 course. A sub-scale that was of particular interest to the researcher was that of instructor support. Instructors vary in their online teaching experience, knowledge of the content, and other areas that can impact student learning.

As stated, the research site has a large number of online adjunct faculty who teach the majority of the online courses. However, while compiling the data, the researcher noted that this particular category had an average of 4.1. This suggests that the instructors in the RSCH 202 courses, provided timely feedback, communicated quickly, answered questions, and engaged in the content. These findings correspond with a study conducted by Hiltz (1993) where it was found that the students who were more satisfied with their online learning experience had higher scores for instructor support. Likewise, a research study by Adbous and Yen (2010) revealed that student to instructor interactions resulted in the prediction of student satisfaction and final grades in an online course. This research implies that how students perceive their instructor, impacts their satisfaction in an online learning environment (Artino, 2007).

The six-sub-scales from the DELES are telling because they indicate that students can have meaningful online learning experiences. Maki and Maki (2003) stated that online learning experiences can be better than traditional face-to-face courses because students are able to receive immediate feedback, which creates a more engaging learning environment. Online learning in higher education continues to increase at a more rapid pace than traditional residential campuses (Allen and Seaman, 2010), so it is important for instructor support and student autonomy in the online learning environment to be considered as these elements can increase a student's perception and outcome in an online course (Mullen & Tallent-Runnel, 2006; Smith, 2000; Vonderwell, Liang, & Alderman, 2007). Although the

intent of this study was to investigate if a correlation existed between NNESs' responses on the DELES and final course grades, the results showed differently. Despite this, the results from the NNESs' response on the DELES can ignite a discussion and provide information to administrators, educators, course developers, and researchers on NNESs' perception of online learning.

Limitations

All research studies have their limitations and there have been several identified in this study. These limitations include, but are not limited to, sample size, grade subjectivity, outside variables, quality of the instructor, and accurate identification of NNESs. In addition, the researcher understands that this study is only applicable to those institutions with a large number of non-native English speakers as well as a large online learning presence. The discussion of these limitations is crucial to future research in this field.

First, the researcher believes the sample size was a limitation for this study. With only 25 participants engaging in this research, it was challenging for the researcher to gather an accurate picture of online learning for NNESs. Typically, in quantitative research, larger sample sizes are desired. Quantitative research is modeled to stress the importance of generalization and reliability, which allows the researcher to share the results with the general population (Henn, Weinstein, & Foard, p. 16). According to Gall, Gall, and Borg (2007), a correlation research design investigating the relationship between variables should have a sample size of at least 66. In quantitative research, the sample size affects the quality of the data. The type of data analysis method used will dictate the sample size requirement; however, there are differing opinions about sample size requirements. For example, Gall, Gall, and Borg (2007) state that a sample size of 66 or more suggests normal distribution, while Wilcox (2010, p. 40) proposes the sample size should be more than 100, depending on the context. Although this research study only had a sample size of 25, not meeting the necessary requirements as suggested by

Gall, Gall, and Borg (2007) or Wilcox (2010), the participants were representative of the overall non-native English-speaking student population at the research site.

Furthermore, this study could be limited because the results may only be applicable to universities with a large online education program. The research site has a unique structure with undergraduate terms beginning every nine weeks. This leads the researcher to assume that this study is only applicable to other universities with similar online program structures. In addition to this study only applying to other institutions with a similar online learning model, this study would only be interesting to higher education institutions with a comparable non-native English speaker (NNES) population that are enrolled in online courses.

Moreover, currently, there is no clear process to identify NNESs at the participant's campus, which could have led to NNESs being overlooked or misidentified. As discussed, higher education institutions typically do not track NNESs once they are admitted to the institution. The researcher recognized that there was difficulty in accurately identifying all of the non-native English speakers at the research site. It is possible that there were students who were not included in this study because their admissions application did not have the identifying information that was used to narrow down the participant pool. For example, there may be students who were born in the United States, speak a language other than English, and speak English as well, that did not state on their admissions applications that they were non-native English speakers, thus they were not included in this study. Additionally, the researcher was unable to determine the participants' prior English language education, which may have impacted their perception and comfort level of the online learning environment. This is important to consider because many international students study English prior to enrolling in American higher education institutions.

In addition, 82% of courses taught at the research site are taught by adjunct instructors (Institutional Research, 2017). This is significant because adjunct faculty members may not have the opportunity to attend faculty development training to further their knowledge on how to support NNEs in an online environment. Next, the professional development that the faculty, full-time and adjunct, may have attended could differ, which could lead to a variation in teaching strategies. Also, the researcher must take into account that students' grades are based on teacher discretion, although all instructors utilized the same templates and rubrics for these online courses. At the research site, online courses are nine-weeks long and require multiple assignments and discussions each week. Mandated courses, such as RSCH 202, can have 25-30 students per section. The high number of students, short terms, and amount of grading can present challenges for faculty. The researcher recognizes that some faculty may not adequately read or grade assignments due to these constraints, which could result in grade inflation. Finally, although course content was the same for each RSCH 202 course during the summer and fall 2017 terms, the instructors were not. This difference of instructors may have resulted in unique experiences for the NNEs, which may have impacted their responses on the DELES.

Also, the researcher must consider that there were students who completed the DELES pre-survey but not the DELES post-survey. There was a total of 65 responses on the DELES pre-and post-survey. There were 40 responses on the pre-survey and 25 on the post-survey. Interestingly, there were participants who agreed to the informed consent and began the DELES pre-survey but did not complete it. However, all participants who logged into the DELES post-survey completed it. As is common with survey design studies, a small percentage, of the overall participants who were contacted, engaged in the research study. This could be due to personal circumstances, professional obligations, class course load, and/or other outside variables. In addition, the college administration that assisted the researcher stated that there were emails for participants that were inactive, and the recruitment email was unable to be

sent. Lastly, the researcher did not provide an incentive to participant in the study, which may have led the lack of participation. Finally, although the correlational study design has advantages, there are also limitations that must be kept in mind. These limitations are lack of randomization and manipulation, lack of researcher control, the apparent cause and effect relationship may not be what it seems, results may be tentative, and/or repeated measures may be needed for definitive results (Gall et al., 2007).

Recommendations for Future Research

Based on the results of this study, the researcher has several recommendations. The first recommendation would be to expand this research. This research was only conducted at one institution with one online course. To scale up this research, it would be beneficial to recruit participants from both the undergraduate and graduate levels. Also, it would be intriguing to research all online courses and not focus on only one course. This would expand the sample size and provide additional data for a more thorough analysis.

Furthermore, it is recommended that data be collected at multiple points throughout the term. Responses at the beginning, middle, and end of an online course would provide data for an in-depth analysis of NNEs' perception and satisfaction with the overall online learning environment in an online course. In addition, conducting data analyses with the DELES sub-scales could yield interesting insight into what specific sub-scales are correlated with NNEs' success in an online course. These analyses could include *t*-tests and correlations. Moreover, it would be interesting to engage faculty in the conversation of NNEs' in the online learning environment. Additional research could survey NNEs' as well as faculty as to what elements are important for an online course. This research would provide a comparison between the different views of the online learning environment and what is perceived as important in online learning for students and faculty.

Another recommendation is to conduct a qualitative analysis about non-native English speakers' perceptions of online learning. Focus interviews or a case study could offer valuable insight into what is needed in online courses to ensure NNEs are successful. Other considerations for additional research designs include comparison groups, such as comparing online and face-to-face courses, as well as other quantitative or mixed-methods designs. Furthermore, future research in this area should consider whether the student is a freshman, if the course is their first online course, if the student is a first-time in college student, if they student has disabilities, and other characteristics that could impact perception of online learning. Moreover, a cross-institutional study would be advantageous as it would provide a more holistic view of NNEs in online learning. Lastly, additional research should be conducted to determine if the online research course experience resulted in the DELES post-survey responses increasing or decreasing.

Summary

The purpose of this study was to explore if a correlation existed between NNEs' responses on the DELES pre- and post-survey and final course grades in an online research course. The participants included 25 undergraduate students enrolled in an online research course (RSCH 202) during the summer and fall terms of 2017. The participants completed the RSCH 202 course in nine-weeks with the pre- and post-survey being administered during the first and last week. As with any study, several limitations were identified including sample size, quality of the instructor, and grade subjectivity. For this study, it was found that the DELES pre- and post-survey were not correlated to the final course grades, prompting the researcher to reject the null hypotheses. Additional research is necessary in order to further investigate how NNEs perceive online learning as well as determine the predictors of success in an online course for non-native English speakers. Although the researcher was unable to reject the null hypotheses, interesting data was gathered and analyzed. As online courses and the NNEs in these

courses continues to grow, it is vital that higher education administration, faculty, and online course developers emphasize an increase in support for non-native English speakers. This increase will have a positive impact on these students and their overall learning and satisfaction in the online learning environment.

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APPENDIX A**Distance Education Learning Environment Survey (DELES)**

“Removed due to copyright”

APPENDIX B

DELES Permission Letter

Scott L. Walker, ScEdD

397 S. Willow Ave.

New Braunfels, TX 78130 USA

walkstx@gmail.com

DELES Permission Letter

Cristina Cottom has been granted permission to use the Distance Education Learning Environments Survey (DELES) for the purpose of the proposed doctoral study:

DISTANCE LEARNING AND THE NON-NATIVE ENGLISH SPEAKER: A CORRELATIONAL STUDY

through Liberty University, with the following usage rights being granted.

- One time U.S. rights for e-mail distribution of the Preferred, Actual, and Instructor forms of the DELES.
- One time U.S. rights for Web posting of the Preferred, Actual, and Instructor forms of the DELES to be removed from the Web no later than June 31, 2018.

The DELES and its versions and derivatives are copyright protected. When the DELES is published or presented in non-commercial use, you must mention Scott L. Walker as the copyright holder of the instrument in this format:

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April 15, 2017

APPENDIX C

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

June 13, 2017

Cristina A Cottom

IRB Approval 2878.061317: Distance Learning and Non-native English Speaker: A Correlational Study

Dear Cristina A Cottom,

We are pleased to inform you that your study has been approved by the Liberty University IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year, or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

G. Michele Baker, MA, CIP

Administrative Chair of Institutional Research

The Graduate School

LIBERTY
UNIVERSITY.

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Embry-Riddle Aeronautical University

Application for IRB Approval

Exempt Determination

Principle Investigator: Cristina Cottom **Other Investigators:**

Role: Staff/Administrator **Campus:** World Wide **College:** CTLE

Project Title: Distance Learning and the non-native English speaker: A Correlational Study

Submission Date: 5/17/2017 **Determination Date:** 6/9/2017

Review Board Use Only

Initial Reviewer: Dr. Robin Roberts/M.B. McLatchey

Exempt: Yes

Approved:

		June 8, 2017
Dr. Robin A. Roberts	M.B. McLatchey	Expires: June 7, 2018
Pre-Reviewer Signature	Chair of the IRB Signature	Date of Approval /

Brief Description: The purpose of this study is to explore if there is a correlation between non-native English speakers (NNESs) responses on the Distance Education Learning Environment Survey and final grades in an online research course. Participants will be students enrolled in RSCH 202 Introduction to Research Methods and the investigator is asking for the student's final course grade as well as conducting a Pre-survey and Post-survey for the course.

This research falls under the **exempt** category as per 45 CFR 46.101(b) under:

- (1) Research conducted in established or commonly accepted educational settings,

involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

(2) Research involving **only** the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures (of adults), interview procedures (of adults) or observation of public behavior. Participant information obtained will remain anonymous or confidential.

(3) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (b)(2) of this section if: (i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

(4) Research involving the collection or study of **existing** data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

(5) Research and demonstration projects which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine: (i) Public benefit or service programs; (ii) procedures for obtaining benefits or services under those

programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.

(6) Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

An exempt research project does not require ongoing review by the IRB, unless the project is amended in such a way that it no longer meets the exemption criteria.

APPENDIX D

Dear Student:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree in curriculum and instruction. The purpose of my research is to explore if there is a correlational between the Distance Education Learning Survey and final course grades for non-native English speakers' (NNEs), and I am writing to invite you to participate in my study.

If you are 18 years of age or older, are a student enrolled at ERAU-Worldwide, speak a language other than English, have taken the TOEFL or IELTS, have International status, Visas, or listed your birth country as one other than the U.S., and are willing to participate, you will be asked to complete a pre-survey and a post-survey. It should take approximately 10-15 minutes for you to complete the survey. Your final course grade will be requested in addition the survey, but all information gathered will be kept confidential.

If you participated in the pre-survey, please go to the provided webpage and click on the link provided and complete the post-survey.

A consent document is provided as the first page you will see after you click on the survey link.

Please choose Yes, I consent to participate in the survey to indicate that you have read the consent information and would like to take part in the survey.

Sincerely,

Cristina Cottom

Ed.D Candidate

APPENDIX E

CONSENT FORM

Distance learning and the non-native English speaker: A Correlational Study

Cristina Cottom

Liberty

University School

of Education

You are invited to be in a research study exploring the relationship between final grades in an online research course and non-native English speakers' responses on the Distance Education Learning Environment Survey. You were selected as a possible participant because you have listed your primary language as a language other than English and you are currently enrolled in an online, undergraduate course at Embry-Riddle Aeronautical University's Worldwide campus. Please read this form and ask any questions you may have before agreeing to be in the study.

Cristina Cottom, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information: The purpose of this study is to explore if a correlation exists between non-native English speakers' (NNESs) responses on the Distance Education Learning Environment Survey and final grades in an online research course.

Procedures: If you agree to be in this study, I would ask you to do the following things:

1. Allow the researcher to gather your final course grade.
2. During the first week of your online course you will complete a pre-survey. This should only take you around 10-15 minutes to complete.
3. During the last week of your online course you will complete a post-survey. This should only take you around 10-15 minutes to complete.

Risks and Benefits of Participation: The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

Participants should not expect to receive a direct benefit from taking part in this study.

Benefits to society include assisting administrators, instructors, and course developers with the facilitation and evaluation of online learning courses to ensure non-native English speakers are supported and successful.

Compensation: Participants will not be compensated for participating in this study.

Confidentiality: The records of this study will be kept private. In any sort of report, the researcher might publish, will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the researcher will have access to the initial survey data. Once the pre-and post-surveys are completed the researcher will send

the survey data to the IT department. The IT department will then link the survey data to the students' final course grades, strip all identifying information, and then send the data back to the researcher. Survey data will be stored with identifying data will be stored securely prior to being sent to the IT department. Academic achievement data will be linked to the survey data by the IT department and all identifying information will be stripped prior to analysis by the researcher. The data may be used for future research projects, but no identifying data will be used in any publication, product, or future research that may extend from this study. All retained data will be stored on the researcher's password protected computer in password protected documents.

The data from this study may be used for future research projects, but no identifying information will be used in any publication, product, or future research that may extend from this study. All information will be stored in password protected documents on a password protected computer. Per federal regulations, data must be retained for three years upon completion of the study; however, this data will be deleted.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw from the study.

How to Withdraw from the Study: You are able to withdraw from this study up until the survey data is submitted to the IT department. If you choose to withdraw from the study,

please contact the researcher at the email address/phone number included in the next paragraph prior to completing the post-survey.

Contacts and Questions: The researcher conducting this study is Cristina Cottom. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at Cristina.Cottom@gmail.com. You may also contact the researcher's faculty advisor, Dr. Gary Kimball, at glkimball@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 1887, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information for your records.

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

SIGNAUTURE OF PARTICIPANT

Date

SIGNAUTURE OF INVESTIGATOR

Date