ONLINE AND FACE-TO-FACE ACTIVITIES OF
NON-NATIVE ENGLISH SPEAKERS

by

CARMEN SUSANNE WINTER

VIVIAN H. WRIGHT, COMMITTEE CHAIR
KEITH J. CHAPMAN
MARGARET L. RICE
MARILYN J. STAFFO
JOHN C. TARTER

A DISSERTATION

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ABSTRACT

The purpose of this study was to examine non-native English speaking students’ activity in face-to-face versus online learning environments. The amount of foreign students in the United States increased by 3% in the academic year 2009-2010 (Open Doors, 2010). Adding close to $20 billion to the USA economy, “higher education is among the United States’ top service sector exports” (Open Doors, 2010, ¶ 13). Globalization and “academic mobility” (Gürütz, 2011, p. 20) need a common language. English has developed as lingua franca for higher education (Björkman, 2011; Ferguson, Pérez-Llantada, & Plo, 2011; Kaur, 2010; Matsuda & Friedrich, 2011). The social and economic globalization as well as new technology influence education.

This research is embedded in multiple fields, the global environment and “academic mobility” (Gürütz, 2011, p. 20), trends and requirements in education, and intercultural communication and languages. The researcher chose a mixed method approach to address the multiple dimensions of this topic. Four research questions and two hypotheses evaluated the activity of non-native English speakers in English based courses. The researcher observed and collected data in online and face-to-face courses. This researcher had the unique opportunity to observe two graduate courses with the same topic (Statistical Data Management), one online and one face-to-face, taught by the same instructor in the same semester. Participants were graduate students and included native and non-native English speakers.
The findings of this study indicate that the activity of non-native English speakers increases in the online environment compared to the face-to-face education environment. Asynchronous online education offers advantages, especially for non-native English speakers. Nevertheless, non-native English speaking students preferred face-to-face courses for higher education.

Higher education must find ways to motivate students toward new ways of education to teach global skills. Global education should balance content, pedagogy, technology, and culture. This study provides recommendations for those in international higher education to engage students actively in English-based education independent of their native language. The goal is to incorporate the rich opportunities of international diversity for all students, and to contribute to the education of global citizens.
DEDICATION

This dissertation is dedicated to my husband, Roland, and my son, Julian.
LIST OF ABBREVIATIONS AND SYMBOLS

*alpha* “Alpha is a threshold value used to judge whether a test statistic is statistically significant” (Noymer, 2012, ¶ 1)

F2F Face-to-face course in higher education

*M* “Mean is the arithmetic average of some set of number” (Hoy, 2010, p. 124).

NNS Non-native English speaker

NS Native English speaker

*p* “*p* Values are numbers that indicate the probability that the result is a function of chance” (Hoy, 2010, p. 125).

SD “Standard derivation is the typical derivation from the mean for a set of scores” (Hoy, 2010, p. 126).

*t Test* “*t* Test is a statistical test to determine whether the difference between two means is likely a function of chance” (Hoy, 2010, p. 127).

*t* “*t* Value is the value computed using a *t* test; it is an index of the departure from the chance model” (Hoy, 2010, p. 127).
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CHAPTER 1

INTRODUCTION

Introduction

Stewart (2007) pointed out that we live in an increasingly globalized society. The author described four trends that will influence future generations: “(1) economic globalization, . . . (2) science and technology, . . . (3) international health and security questions, . . . [and] (4) future demographics requiring international migrations” (pp. 8-10). Education must consider these trends to prepare students as global citizens for a future in the globalized society.

Online education has become a central pillar in global higher education. Pelton (1996) propagated lifelong learning and saw online education as a necessary addition to the existing education system. Most educational institutions in the United States offer some form of online education as an addition, or alternative, to traditional face-to-face courses. The National Science Foundation (NSF) defined the concept of online education as “the use of networked computing and communications technologies to support learning” (NSF, 2008, p. 5). More than half of the degree-granting postsecondary institutions in the United States offered online education by 2001 (National Center for Education Statistics NCES, 2003). Ten years later, a survey with a sample of 1,055 colleges and university presidents found that 77% of U.S. higher education institutions offered online education in 2011 (Parker, Lenhart, & Moore, 2011).

Educational institutions, students, and instructors benefit from the flexibility of online offerings. Technological advancements support online education. The educational facility, instructors, and students can cooperate and collaborate independently of their geographical
location and time constraints. The possibilities and options in online education seem almost limitless (Parrish & Linder-VanBerschot, 2010).

International students, many of them non-native English speaking students and scholars, will travel to the USA to participate in higher education. Others will prefer to stay in their home countries, or participate from varying geographical locations in online programs based in the United States (Gürüz, 2011). “The outcome is internationalization of higher education as an end in itself, and a historically unprecedented number of students attending institutions of higher education in foreign countries” (Gürüz, 2011, p. 19). This growing international diversity results in challenges and opportunities for “global learning” (Gibson, Rimmington, & Landwehr-Brown, 2008, p. 11). Teaching foreign languages and foreign cultures, as well as international and intercultural collaboration, will be a key to a successful global education (Gibson et al., 2008; Gürüz, 2011).

The economic globalization will continue to influence education. Among other aspects, this is an economic opportunity for the United States to position higher education offerings in the global education market.

**Statement of the Problem**

Today, English is a well-established language in the global business and academic world. Many scholars agree that English has developed as lingua franca in higher education (Björkman, 2011; Ferguson et al., 2011; Kaur, 2010; Matsuda & Friedrich, 2011). Articles have been published in scholarly journals like *World Englishes*. These articles discuss aspects of teaching English as a foreign language, and the challenges of English-based education.
The Open Doors “2011 Fast Facts” reported a total of 723,277 international students in the United States for the academic year of 2010-2011; in the last 10 years, this population has increased by 32% (Open Doors, 2012). “Academic mobility” refers to “scientists and scholars carrying out research and teaching in other countries, and students studying abroad for a full degree or as part of their degree requirements back home” (Gürüz, 2011, pp. 19-20).

Online education is one option to meet these rising international educational demands. Online education can draw from many teaching methods. In order to achieve high quality learning, the academic lecture, reading, and writing should be enhanced with interactive teaching methods (e.g., discussions; Bonwell & Eison, 1991). “Discussion methods are among the most valuable tools in the teacher’s repertoire” (McKeachie & Svinicki, 2011, p. 36). Brookfield and Preskill (2005) argued that, “virtually everything we know about good face-to-face discussion also applies online” (p. 220). With today’s technology (e.g., Internet, smart phones), participants may be located in geographically different places, while they still participate in the same online course. The challenge of geographical distance and even difference in time can be solved with technology (Gibson et al., 2008).

“Intercultural communication competence” (Lussier, 2007, p. 310) is a central element in higher education with a national and international student population. “For learners, it requires the development of certain knowledge, skills, and attitudes” (Lussier, p. 310). Non-native English speaking students and scholars come with a variety of cultural worldviews and expectations. This influences the communication in traditional and online educational environments. “Leaders in a globalized world need skills that allow them to collaborate, communicate, negotiate, think critically, and gain multiple perspectives through dialogic co-
construction of meaning with individuals from different cultures” (Gibson et al., 2008, p. 12). Education should aim to teach and practice the skills needed in this globalized world.

**Framework**

This study built on two frameworks. Active learning was the theoretical/conceptual framework for this study. For the qualitative analysis, the definitions and categories of Hlas, Schuh, and Alessi (2008) provided the methodological framework.

**Theoretical/Conceptual Framework**

Active learning was the theoretical/conceptual framework for this study. Scholars like Jerome Bruner and Lev Vygotsky emphasized the importance of the social environment and social context for learning. The learner interacts with the instructor and the peer students. The learner receives feedback from the social environment to learn (Driscoll, 2005).

Teaching is “a highly complex activity that draws many kinds of knowledge” (Mishra & Koehler, 2006, p. 1020). Learning theories like “active learning,” based on Bonwell and Eison (1991), require active interaction for learning. “Students must do more than just listen: They must read, write, discuss, or be engaged in solving problems. Most important, to be actively involved, students must engage in such higher-order thinking tasks as analysis, synthesis, and evaluation “ (Bonwell & Eison, 1991, p. iii). Bonwell and Eison (1991) agreed with McKeachie and Svinicki (2011) that discussion is an active teaching method to engage students actively in their learning and archive long-term retention of information. The amount of the student activity in online and face-to-face courses was a central part of this study.
Distance education, as well as traditional classroom education, should activate students and support interaction to provide the base for life-long leaning. The instructor has to find the best-fit teaching method for the circumstances and requirements.

Methodological Framework

For the qualitative analysis of this study, the definitions and categories of Hlas, Schuh, and Alessi (2008) build the methodological framework. The authors developed a methodology to categorize conversation elements, or “speech acts” (p. 342). Based on data and through negotiation between researchers in the data analysis, they developed 14 categories for conversation elements. Conversation elements are “prompt to continue, question to teacher, question to others, signal (e.g., requesting approval to talk), disclaimer, student leadership, certainty, affective talk, agreeing, suggestion, own/different view, acknowledged gained perspective, check for understanding, and example” (Hlas et al., 2008, pp. 346-347). These categories build a methodological basis for the qualitative analysis.

Statement of Purpose

A national and international challenge of 21st century education is to prepare students for the increasingly globalized society. It will be critical to integrate and to leverage cultural and language diversity in educational environments. The purpose of this study was to examine non-native English speaking students’ activity in face-to-face versus online learning environments.

In this study, data were collected from graduate students in higher education to look for patterns, activities, attitudes, advantages, and disadvantages in face-to-face and online teaching settings. This study anticipated providing considerations and recommendations for those in
international higher education to engage students actively in English-based education independent of their native language.

**Significance of the Problem**

A rising number of students and scholars are coming to the United States. The University of Alabama has experienced a steady increase in the number of international students. According to The University of Alabama Graduate School’s 2010 annual report, the number of international students that applied to the graduate school for the fall semester of 2010 was 1,554. The Graduate School accepted 386 international students into the graduate student community. Overall, The University of Alabama admitted (or re-admitted) 968 new students in 2010 to the Graduate School; of which 40% were international students. Including the newly added students, 4,574 graduate students were enrolled in the Fall 2010, with 518 students (11%) being international students.

The University of Alabama, like many other universities in the United States, must meet the challenges of this globalization in higher education. Intercultural communication and understanding in global education is particularly important and challenging. Kaur (2010) addressed the topic of “achieving mutual understanding in world Englishes.” He looked at “non-understanding” (p. 195), where at least one communication partner is aware of a problem in communication, and at “misunderstanding” (p. 195), where the communication partners are not aware of a communication problem. A proficient non-native English speaker will not have “native-like usage” (Melchers & Shaw, 2011, p. 197). Nevertheless, he or she is proficient communicating in contexts. Native English speakers will easily understand the meaning. These
“native-like” speakers are able to understand the context related professional jargon (Melchers & Shaw, 2011).

In face-to-face courses, communication is synchronous (at the same time) and in the same geographical location, mostly the same classroom. Communication takes place via spoken language. The research study of Hlas et al. (2008) found an imbalance in spoken face-to-face communication between native and non-native English speakers. Non-native English speakers participated less than native speakers in face-to-face courses. On the other hand, “the online environment balanced the conversation between native and non-native speaker participation both in quantity and quality” (Hlas et al., 2008, p. 364). Online courses can be synchronous, or asynchronous (independent of time, but usually within a given timeframe). Asynchronous online discussions are the most common teaching method in online or hybrid (face-to-face and online) education. Here, communication happens via written text. In asynchronous online courses, participants have the freedom to participate at different times in the same course. Students can take their time to compose their contributions. The findings of Hlas et al. (2008) supported that the course method (online or face-to-face) has an influence on the quality and quantity of communication contributions of non-native English speakers.

Research Questions and Hypotheses

The research questions aimed to explore how non-native English speakers cope with English-based higher education courses. The earlier study of Hlas et al. (2008) provided the first two questions. The study of Hlas et al. focused on the interaction and activity between native and non-native English speaking students. The researchers gave permission to use the study design (Hlas et al., e-mail, April 6, 2012). Additional research questions in this current study
addressed students’ perception as well as advantages and disadvantages of the two course methods (online and face-to-face courses) for non-native English speaking students.

**Research Questions**

The study of native and non-native English speakers in online and face-to-face courses by Hlas et al. (2008) provided the base for the first two questions. This current study analyzed the two questions and added two additional questions to further explore the purpose of this study.

The first quantitative question asked, “How does the amount of student discussion vary for students using English as their native language versus students using English as a foreign language in traditional (face-to-face) courses versus asynchronous online college courses?” (p. 341). The second question was a qualitative approach to the topic, “How does the nature (e.g. types, patterns, purposes) of student discussion vary for students using English as their native language versus students using English as a foreign language in traditional (face-to-face) courses versus asynchronous online college courses?” (p. 341). In their research study, Hlas et al. (2008) compared two courses, one online course and one face-to-face course. “Web-Based Learning” (p. 342) was the topic of the online course. “Constructivism and the Design of Instruction” (p. 343) was the face-to-face course. The two courses had different instructors. This current study changed the original 2008 study design by applying the research questions to courses with the same topic, one online course and one face-to-face course “Statistical Data Management.” The same instructor taught both courses. This was a unique research opportunity.

Additionally, “Statistical Methods for Research I,” an online course, served as a pilot-study for this research. Statistical Methods for Research I had a different instructor.
To explore further how non-native English speakers cope with English-based higher education courses, this current research study additionally addressed two more questions. The first question was, “What are the changes in perceptions throughout the course for non-native English speaking students?” The second question was, “Are there advantages in online versus face-to-face courses for non-native English speaking students?”

**Hypotheses**

This research tested two hypotheses. The unit of analysis was the “speech act” (Hlas et al., 2008, p. 342). A “speech act, a speaking turn in the face-to-face class and an entry in the online class” (Hlas et al., p. 342) consisted of a number of written or spoken words. The number of words per speech act was the sum of the words in one speech act.

H1: In the case of non-native English speakers, students in online courses produce more speech acts than students in face-to-face courses.

H2: In the case of non-native English speakers, students in online courses produce more words per speech act than students in face-to-face courses.

**Assumptions of the Study**

One assumption was that the information of the student responses in the surveys and interviews would be honest and accurate. A second assumption was that the level of English of the non-native English speakers would be sufficient to understand the questions in the online survey and interview. The answers should reflect the personal opinions and attitudes of the students.
For the observation in the face-to-face and online course, the assumption was that the observation did not affect the course. The student activity presented a regular course interaction.

**Limitations of the Study**

The distinguishing characteristics of the students were native or non-native English speaker. This distinction served to gather information about the influence of a student’s non-native English language background in an English-based education. A limitation of the study was that it did not specifically look at the cultural background of each participant. Notwithstanding, culture influences any form of communication.

Another limitation was the assumption that the level of English of the non-native English speaker would be sufficient to understand the questions in the online survey and interview. There might have been misunderstandings of the questions of the non-native English speakers, especially in the online-survey. In the interview situation, a confirmation of a common understanding via rephrasing and negotiation of a common meaning seemed feasible (Kaur, 2010).

The nature of the courses was another limitation. Statistics and statistical analysis are very theoretical subjects and can create “fear” in students (Bui & Alearo, 2011; Dykeman, 2011). The professional language is highly theoretical and mathematical. Both aspects could have limited students’ activity in both research settings (online and face-to-face).

The student population within the two “Statistical Data Analysis” courses and “Statistical Methods for Research I” did not exceed 130 students. Only 14 students were identified as non-native English speakers. The relatively small number of students was a limitation to generalizing the findings accurately to other international educational environments, especially from a
quantitative perspective. However, the opportunity to analyze the same course content (statistical data analysis), taught by the same instructor, in the same semester, in two different environments (online and face-to-face), and with native and non-native English speakers was a rare research opportunity. This research added a closer look at students’ activities in the courses and more information to the knowledge base about non-native English speaking students. The researcher hopes to inspire more ideas for further qualitative and quantitative research about English-based (global) higher education.

**Operational Definition of Terms**

*Global citizen:*

Global citizenship is an umbrella term for the social, political, environmental, or economic actions of globally-minded individuals and communities on a worldwide scale. The term can refer to the belief that, rather than actors affecting isolated societies, individuals are members of multiple, diverse, local and non-local networks. (United Nations Academic Impact, 2012, ¶ 1)

*Native English speaker (NS):* “A speaker of a particular language [English] who has spoken that language since earliest childhood” (The Free Dictionary, 2012, ¶ 2). For this study, a person integrated in an English speaking country for at least six years was considered a “native English speaker.”

*Non-native English speaker (NNS):* A person who has learned English as a foreign language, and had been living in an English speaking country for less than six years.

*Speech act:* One written or verbal contribution to a course. A “speech act, [is] a speaking turn in the face-to-face class and an entry in the online class” (Hlas et al., 2008. p. 342).

*Students’ activity:* Based on Bonwell and Eison’s (1991) research, students need to be actively involved in learning and think about what they are learning. Students’ questions,
activity in discussions, and answers to instructors’ questions are examples of activities that show engagement in learning. This study quantified activity by counting students’ communication contributions (or speech acts) to a course.

**Course methods:** The course methods researched in this study were a face-to-face (F2F) course and an asynchronous online course.

**Summary**

Chapter 1 introduced the topic, provides background information, and the environment for the research study. This dissertation about online and face-to-face courses with non-native English speakers addressed an important topic of global education. The research questions addressed the relationship of course methods (online and face-to-face course) to students’ activity for non-native English speaking students in an English-based education. The purpose of this research was to examine the non-native English students’ activity in face-to-face versus online learning environments. This research sought to gather information to use the rich opportunities of international diversity for all students, native and non-native English speakers, and contribute to the education of global citizens.

Chapter 2 presents a review of the related literature. The literature covered the global environment and the resulting implications for education. The educational framework was active learning (Bonwell & Eison, 1991). The context of this research connected higher education, native language and foreign language, and technology in education. This literature review included national and international publications and communications.
Chapter 3, methods, describes settings, participants, limitations, and instruments. This research collected data in three statistics courses in the College of Commerce and Business Administration at The University of Alabama.

This mixed method study researched four research questions and tested two hypotheses. Chapter 4 illustrates the results and analysis of data. The chapter describes the access to the research participants, and addresses the research questions and hypotheses.

The final chapter, Chapter 5 discusses the findings, implications, and conclusions. The researcher offers recommendations for instructional designers, instructors, and students.
CHAPTER 2
REVIEW OF RELATED LITERATURE

Introduction

For this study, the review of the literature covered many interrelated topics and themes. The review regarded the global environment and the consequences for education, native language and foreign language, active learning as a framework for higher education, and technology in education.

The globalization fosters academic mobility of students and scholars. Language and language learning are essential to communicate in a global environment. A common language would enable a common understanding. English has developed as lingua franca in global communication and academia (Björkman, 2011; Ferguson et al., 2011; Kaur, 2010; Matsuda & Friedrich, 2011). Education supports language learning and assesses language skill levels. Understanding is a vital element for learning. Higher education should define university entry-level requirements for academic skills and language skills.

The Global Environment and the Imperative for Global Education

The global environment is constantly changing. The “economic globalization, . . . science and technology, . . . international health and security questions, . . . [and] the future demographics requiring international migrations” (Stewart, 2007, pp. 9-10) will influence future generations. The global economic interconnection surfaced in 2008, when the first banks in the United States struggled and had to close. The financial crisis became an international versus a
national crisis. “Spillover to other countries was initially small, but several emerging economies are now being hit hard -- assumptions about a ‘decoupling’ of these economies have indeed proved wrong” (International Labor Office, 2009, p. v). The current worldwide concern about the European financial crisis shows the economic interconnection once again.

**The Global Environment**

The world has become a globalized village with technological advances and Internet technology. “Global village[;] A term coined by Marshall McLuhan in the 1960s that refers to a world in which communication technology unites people in remote parts of the world” (Martin & Nakayama, 2010, p. 21). Technology has changed the way we interact and with whom we communicate. “As a result of the Internet, people around the world . . . have become more critical consumers of, and contributors to, news and information systems, and more in touch with each other” (Gibson et al., 2008, p. 11). Our environment becomes increasingly interconnected. According to the statistics of the U.S. Census Bureau (2009), 22% of the jobs in the United States already depend on international businesses. For the future, the forecasts predict that this percentage will continue to rise.

**Academic Mobility**

“Aademic mobility” (Gürüz, 2011, p. 20) referred to “scientists and scholars carrying out research and teaching in other countries, and students studying abroad for a full degree or as part of their degree requirements back home” (Gürüz, 2011, pp. 19-20). According to the Open Doors (2010) report, the number of foreign students in the United States increased by 3% in the academic year 2009-2010. The country of origin of international students that has exhibited the
highest raise is China (30% increase). This makes China the country sending the most international students to the United States (Open Doors, 2011). The Open Doors “2011 Fast Facts” reported a total of 723,277 international students in the United States for the academic year of 2010-2011. In the last 10 years, the population of international students has increased by 32% (Open Doors, 2012).

In the same time, the number of U.S. students studying abroad also rose. In the 2009-2010 academic year, 270,604 students studied abroad. About half of these students went to Europe, with the United Kingdom being the preferred country in Europe with 32,682 international students from the United States (Open Doors, 2012).

**Imperative for Global Education and Global Citizenship**

The interconnected environment requires new competencies. Gibson et al. (2008) stated, “One important component of global learning is preparing students to participate as citizens in a globalized world” (p.17). Additions and changes of national education curriculum become necessary. Governments and education representatives discussed and defined these additional competencies (European Parliament, 2006; Stanley Foundation, 1996).

The American Council on International Intercultural Education (ACIIE), in cooperation with the Stanley Foundation, identified “fifty-eight global competencies” (Stanley Foundation, 1996). The following list shows a few competencies with a close connection to this study: “Ability to communicate with non-English speaking persons; awareness of diversity, similarities, and interdependencies; ability to work in diverse teams; accept responsibility for global citizenship; [and] understand that your community may become endangered without global competence” (Stanley Foundation, 1996, pp. 36-37).
In Europe, the European Parliament (2006) defined eight key competencies for what they called “lifelong learning”: “Communication in the mother tongue, communication in foreign languages, mathematical competence and basic competences in science and technology, digital competence, learning to learn, social and civic competences, sense of initiative and entrepreneurship, [and] cultural awareness and expression” (¶ 7). The European Parliament pointed out that these eight key competencies should be learned by young people within their education as well as by “adults throughout their lives, through a process of developing and updating skills” (European Parliament, 2006, ¶ 5).

There are many opportunities for globalization in education, especially in the United States with its multicultural background. If students cannot travel to another country, they can meet foreign cultures and learn foreign languages within the United States (Lutz, 2010). The last item on the Stanley Foundation list of global competencies was “seek exposure to other cultures locally, including dining in ethnic restaurants whenever possible” (Stanley Foundation, 1996, p. 37).

**Implementations of International Education**

The University of Rhode Island has implemented a dual degree program with the Technical University Braunschweig in Germany (Berka, 2011). The University of Rhode Island, along with many other U.S. universities, developed strategies and models for internationalization. They recognized “the need to equip their graduates with the right skills to stay globally competitive . . .” (Berka, 2011, p. 2). These university strategies aimed “to increase the percentage of engineering students going abroad as well as the percentage of international engineering students they are receiving” (Berka, 2011, p. 2). Berka reported the following
benefits: “Broadened scope of research skills or methods” (p. 9) that resulted from the challenges of coping with different national and cultural aspects of the two university systems. The support of faculty and peers in both university systems helped “leveraging gains abroad for engineering success at home” (p. 9), as well as “being prepared for the global work place” (p. 9) and “strengthening self-efficacy” (p. 9).

The National Science Foundation (NSF) supported a national summit meeting in November 2008 on “Globalization of Engineering Education” (Grandin & Hirleman, 2009, p. 2), with the title “Educating Engineers as Global Citizens: A Call for Action” (Grandin & Hirleman, 2009, p. 2). The summit developed a number of recommendations and a call for action for global education in engineering (Grandin & Hirleman, 2009).

Lutz (2010) stated a serious concern: “Becoming a global citizen does not make them unpatriotic . . . [but] empowers them with new and expanded skills for living in a shrinking world” (p. 716). Therefore, global citizenship is not asking students to decide between a national or a global citizenship, instead global citizenship is a win-win opportunity, and will add more perspectives and skills for a successful life in the global world. Stewart (2007) summarized the objective, to become “successful global citizens, workers, and leaders, students will need to be knowledgeable about the world, be able to communicate in languages other than English, and be informed and active citizens” (p. 10).

**Language and Foreign Language**

Language is a key element in communication and education. Communication and negotiation of a common understanding is critical in education and learning (Kaur, 2010).
Students must learn the context specific language and culture, if they want to become a member in a group or society (Sibold, 2011).

**Studying a Foreign Language**

Studying a foreign language is a complex learning task. The components of a language are “semantics, syntactics, pragmatics, [and] phonetics” (Martin & Nakayama, 2010, p. 221).

Semantics describe the meaning each word communicates. This meaning may be context related. Syntax or syntactics is the grammar and structure of a language (Martin & Nakayama, 2010). In vocabulary training, a learner learns to connect the syntax of one language element (e.g., word) with its semantic, or its meaning. Sibold (2011) provided practical advice and tips for vocabulary teaching and learning. She presented the “Three Tier Model” (p. 24) based on Beck, McKeown, and Kucan (2002): Words of “Tier One” are basic words and used often. Usually, these are the words most students will know first. Instructions use “Tier Two” words across the curriculum. They can be multiple meaning words and are not often used in everyday-language. “Tier Three” words are content-specific. They are limited to particular domains. “Tier Three” words are the most difficult to learn. Their meaning can be different depending on the domain and context. Therefore, these words are learned best when applied in the main context (Sibold, 2011).

Pragmatics adds another dimension to language. Pragmatics of language is defined as “a branch of linguistics concerned with the use of language in social contexts and the ways in which people produce and comprehend meanings through language” (Nordquist, 2013, ¶ 1). The (social) context and/or intended receiver construct the meaning of the word.
Phonetics describes the sounds of language elements or combination of language elements. Phonetics is part of the spoken language and not present in written language (Martin & Nakayama, 2010).

**Assessment of English as a Foreign Language**

In 2012, the American Council on the Teaching of Foreign Languages (ACTFL) published the proficiency guidelines for speaking, writing, listening and reading. The proficiency guidelines provided a degree or hierarchy of language proficiency for English language learners’ skills in speaking, writing, listening, and reading. The guidelines presented tasks in regard to content, context, accuracy, and discourse types for each of the four skill areas. The five major levels were “Distinguished, Superior, Advanced, Intermediate, and Novice” (ACTFL, 2012, p. 4). The main levels were “Advanced,” “Intermediate,” and “Novice.” They were further detailed into “high,” “middle,” and “low.” The descriptions included the range of skill proficiency. The guideline included challenges and typical mistakes for learners at each specific level. These guidelines can be used to evaluate language skills for global assessment. The 2012 proficiency guidelines aimed to provide a rubric for K-12 education, higher education, and language assessment in the workplace.

The University of Alabama requires an official English language test score for the admission of all international graduate students “whose first language is not English” (The University of Alabama Graduate Catalog, n.d., ¶ 6). The accepted tests are “the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS) or the Pearson Test of English (PTE)” (The University of Alabama Graduate Catalog, n.d., ¶ 6).
ETS (Educational Testing Service) is a U.S. based business that serves as a testing service for a variety of assessments, including the TOEFL® (Test Of English as a Foreign Language). ETS claimed on their TOEFL® web-site “the TOEFL® test is the most widely respected English-language test in the world, recognized by more than 8,500 colleges, universities and agencies in more than 130 countries. Wherever you want to study, the TOEFL test can help you get there” (ETS, n.d., retrieved on July 30, 2012 from http://www.ets.org/toefl, ¶ 2). The minimum TOEFL test score to be accepted to The University of Alabama Graduate School is “550 on the paper-based TOEFL or 79 on the iBT” (The University of Alabama Graduate Catalog, n.d., ¶ 6). A ‘provisional language admission’ is possible.

An alternative language assessment is a language proficiency portfolio. The Common European Framework of Reference for Languages (CEF): Learning, Teaching, Assessment, is a framework for languages based on scientific research. By combining the CEF with the European Language Portfolio (ELP), a foundation for a portfolio was established (Mansilla & Roldán Riejos, 2007). Assessment and communication of proficiency of language skills was the intention of the framework. The European Language Portfolio connects to CEF and consists of three components: The Passport, the language biography, and the dossier (Council of Europe, 2011). The passport shows the formal and informal language training and practice based on the CEF levels. The language biography describes “the owner’s experiences in each language and is designed to guide the learner in planning and assessing progress” (Council of Europe, 2011, ¶ 4). The dossier holds examples of personal work and shows the individuals’ language knowledge and intercultural competency. The ELP may be developed on the Council of Europe ELP web page (http://www.coe.int/t/dg4/education/elp/).
The World Englishes and English as a Lingua Franca

The need for international communication is the driving force for shared languages. For the global world, English has become the “global language,” “international language,” or “English as a lingua franca (ELF)” (Björkman, 2011; Ferguson et al., 2011; Kaur, 2010; Matsuda & Friedrich, 2011; Melchers & Shaw, 2011). Kaur (2010) pointed out that “English is increasingly becoming the chosen medium to facilitate communication among people of diverse linguistic and cultural backgrounds” (p. 192). Also, in higher education English has become the lingua franca in many countries (Kaur, 2010; Matsuda & Friedrich, 2011). Global and academic communications and publications commonly use English language. “Globalization has made English-medium higher education a common feature of many academic institutions in northern Europe and elsewhere” (Björkman, 2011, p. 82).

English is the language for the academic communication and international publications (Ferguson et al., 2011). English has become the “language of the scholars.”

Studying in a Foreign Language

China, India, and South Korea were in the top five countries of origin of international students coming to the United States in the academic year 2010-2011 (Open Doors, 2012). All of these countries do not use English as their first language. Many other international students studying in a variety of disciplines in the United States did not learn English as their first language.

Knowledge about academic vocabulary, academic processes and procedures, as well as academic culture, is vital for academic success. Research supports that lower academic language skills relate to lower academic performance (Sibold, 2011). “Both native English speakers and
ELLs [English Language Learners] need support in learning the language that is used in the classroom as part of instruction, reading, discussion, and assignments” (Sibold, 2011, p. 24).

Native and non-native speakers need to acquire the language used in the context specific to their academic environment (Sibold, 2011). “Academic vocabulary, however, is notably more difficult to learn than conversational language because it is more specific and sometimes abstract, making it difficult to grasp” (Sibold, 2011, p. 24). International students need to be prepared to use English in written and spoken form in academic and discipline specific contexts (Björkman, 2011). Academic language skills influence communication and academic success. “Communication barriers can be minimized by [paying] attention to language and community building” (Murphy, Gazi, & Cifuentes, 2007, p. 51). National and international students need to immerse in the academic and host culture. Martin and Nakayama (2010) defined culture as “learned patterns of behavior and attitudes shared by a group of people” (p. 84). Hall (1981) described his perspective of culture even broader as,

how people express themselves (including shows of emotion), the way they think, how they move, how problems are solved, how their cities are planned and laid out, how transportation systems function and are organized, as well as how economic and government systems are put together and function. (pp. 16-17)

Students’ contact with another culture often results in a phase of culture shock. Martin and Nakayama (2010) defined culture shock as “a relatively short-term feeling of disorientation and discomfort due to the lack of familiar cues in the environment” (p. 328). The more a person emerges in a new culture, the more the culture shock increases. As a result, the learning experience becomes more intense and memorable (Gibson et al., 2008). Howe (2008) presented a common challenge, “many scholars struggle with self-identity as they leave their homelands . . .” (p. 76). Allowing oneself to learn from mistakes is highly valuable in adjusting to another culture. The literature agreed that one critical factor for the success of intercultural and
international collaborations was the cross-cultural interaction (Gibson et al., 2008; Howe, 2008; Martin & Nakayama, 2010; Murphy et al., 2007).

There is work to do for all stakeholders. Intercultural interaction requires language skills and cultural competence, defined by Howard (2009) as “[the] ability to form authentic and effective relationships across differences” (p.18). An open mind and tolerance or curiosity towards diversity is a fundamental attitude.

**Communication of Native and Non-native English Speakers in Higher Education**

An international student population in higher education requires a focus on communication with native and non-native English speakers. Communication takes place in the universities or in virtual online education environments using the Internet.

The most common communication and teaching method in higher education is lecture supplemented with discussion (Bonwell & Eison, 1991; McKeachie & Svinicki, 2011). The instructor communicates with students and students communicate with instructors as well as communicate among themselves.

Face-to-face communication, usually in the same classroom, takes place via spoken language. Because lecture is the most commonly used teaching method, students listen, ask questions, or sometimes discuss topics (Bonwell & Eison, 1991). The communication is synchronous and instant.

Communication in online educational environments is embedded in so-called e-Learning systems or learning management systems (Tiene, 2000). Generally, instructors record video-lectures or provide course information material online via the e-Learning system. Written language and/or listening to/viewing of a recorded lecture constitute the course communication.
Additionally, students participate in asynchronous online discussions. Asynchronous online discussions are common in online education. Here, communication happens via written text (Tiene, 2000).

Hlas et al. (2008) conducted a research study about “native and non-native speakers in online and face-to-face discussions.” The research identified an imbalance in spoken face-to-face discussions between native and non-native speakers. In face-to-face communication, non-native English speakers were less active. However, “the online environment balanced the conversation between native and non-native speaker participation both in quantity and quality” (Hlas et al., 2008, p. 364). A qualitative research study by Bailey and Wright (2000) analyzed the perception and experience with online discussion threads of 10 faculty members from a variety of disciplines. Bailey and Wright concluded the following: “As the review of the literature indicated, the majority of the respondents agreed that students who typically did not participate in class tended to participate more in online discussions” (p. 10). These findings suggest that the communication method (spoken or asynchronous written communication) has an influence on the quantity of the communication, or activity of students.

Kaur (2010) analyzed 15 hours of transcribed conversation of 22 non-native English speakers to examine negotiations and strategies to achieve understanding in international communication. The findings reported that successful participants have communication strategies. They repeat, paraphrase, and negotiate the confirmation and clarification of meanings. They address problems right away. Kaur observed “non-understanding” (p. 195), where at least one communication partner was aware of a problem in communication, and “misunderstanding” (p. 195), where the communication partners were unaware of a problem. Findings included that non-native speakers work on “mutual understanding” and do not take
understanding for granted. In communication among non-native speakers, an understanding of shared language incompetence enabled even more collaborative effort toward understanding (Kaur, 2010).

Challenges in World Englishes, English as a Lingua Franca, and English as a Foreign Language

English as a lingua franca and World Englishes are two global movements and scholarly fields of study besides English as a foreign language. There are commonalities in the fields, but also controversy in the details (Jenkins, 2006).

“World Englishes focuses on and celebrates the differences between and individuality of varieties [of English], as used on their home grounds within a community of speakers” (Melchers & Shaw, 2011, p. 214). World Englishes and English as a lingua franca allow new word creations and “interlanguage” (Melchers & Shaw, 2011, p. 214). “Interlanguage” is defined as “a kind of communication that emerges when speakers of one language are speaking in another language. The native language’s semantics, syntactics, pragmatics, phonetics, and language styles often overlap and create a third way of communicating” (Martin & Nakayama, 2010, p. 242). Studying the communication of non-native English speakers, Kaur (2010) found variations of English. He called the variations “lexico-grammatical innovations” (p. 206) and attributed the new forms to more efficiency in communication. One example was the dropping of the ‘s’ for the third person in the singular form of the verb. In English as a lingua franca the aim is to achieve a common understanding in communication. English as a lingua franca is flexible to some extent and allows creativity regarding new language-creations and “interlanguage” (Jenkins, 2006).
English as a foreign language aims for proficiency toward the “correct” or “best” form of English (Jenkins, 2006; Melchers & Shaw, 2011). The “best” form of any language is usually associated with the educated upper class of native speakers. Therefore, “the ‘best’ [English] is spoken by educated natives of Harvard or Oxford or perhaps Los Angeles” (Melchers & Shaw, 2011, p. 213).

Academia welcomes English as one international language for practical reasons. On the other side, there are fears in the non-native English speaking academic communities. The fear concerns loss of cultural domains and effects of inequality regarding international mostly English publications (Ferguson et al., 2011; Melchers & Shaw, 2011).

Ferguson et al. (2011) sent a survey to 3,000 potential participants of one Spanish university. With a response rate of 10%, they analyzed answers of 300 native Spanish speaking academic staff members. Findings were that 96% of the participants agreed that the dominance of English is an advantage for native English speakers. The study repeated the question about the advantage for native English speakers with the accentuation of “unfairly advantaged” (Ferguson et al., 2011, p. 45). Almost half of the participants (48%) agreed that they believed this advantage is unfair. However, most participants felt “more advantaged than disadvantaged in their work by the DoE [dominance of English] in scientific communication” (Ferguson et al., 2011, p. 52). Of all the respondents, a majority (83%) saw the necessity for one common language of science (Ferguson et al., 2011).

Language represents culture and identity (Martin & Nakayama, 2010). To achieve a global base for global communication, we have to balance all interests and find a global solution.
Active Learning as a Framework for Higher Education

In higher education throughout the world, lecture is the widely used teaching method (Bonwell & Eison, 1991; McKeachie & Svinicki, 2011). Teaching via “traditional lecture methods, in which professors talk and students listen, dominate college and university classrooms” (Bonwell & Eison, 1991, iii).

There are advantages and disadvantages in lecture as a teaching method. According to Bonwell and Eison (1991), “lecture is virtually synonymous with teaching” (p. 7), based on their own experience of most academic faculty. “It was the dominant method by which we were taught--and it is the dominant method by which most of us teach” (Bonwell & Eison, 1991, p. 7). Nevertheless, lecture is not the only teaching method. Discussions and other methods for “active learning” (Bonwell & Eison, 1991, iii) are alternative teaching methods. In active learning, students are involved and actively engaged in activities while thinking about what they are learning. Active learning may be the best choice of teaching methods for a specific learning goal (Bonwell, & Eison, 1991; McKeachie & Svinicki, 2011).

Teaching and Learning in Theory

Many scholars have studied how human beings learn. Early experimental research about learning in the 19th century by Ebbinghaus and Thorndike as well as B.F. Skinner’s research developed the behaviorist learning theories. In the behaviorist’s theory, all learning could be measured by the observation of behavior (Driscoll, 2005).

There are many theories and assumptions about learning. Driscoll (2005) summarized two common assumptions in theories about learning: “first, they refer to learning as a persisting change in human performance or performance potential” (p. 9) and “second, to be considered
learning, a change in performance or performance potential must come about as a result of the learner’s experience and interaction with the world” (p. 9). Driscoll continued, “a learning theory, therefore, comprises a set of constructs linking observed changes in performance with what is thought to bring about those changes” (p. 9). A more recent learning theory is the cognitive theory of learning and memory (McKeachie & Svinicki, 2011). Cognitivism and modern learning theories “think of knowledge as being stored in structures such as networks with linked concepts, facts, and principles” (McKeachie & Svinicki, 2011, p. 57). Modern learning theories see a significant role in the existing knowledge and the brain with memory structures in the learning process. The constructivist learning theory was based on the assumption that the learner actively wants to make sense of his or her experience. Scholars like Jerome Bruner and Lev Vygotsky emphasized the importance of the social environment and social context for learning. The learner has to interact with the instructor and peer students. The learner has to receive feedback from the social environment to learn (Driscoll, 2005).

**Principles of Active Learning (Framework)**

The principles of active learning go beyond the activity of paying attention and listening to a lecture. In Bonwell and Eison’s working definition of a higher education context, active learning was “anything that ‘involves students in doing things and thinking about the things they are doing’” (p. 2).

In active learning, students solve problems. Instruction engages them in reading, writing, and discussions. Students perform higher order thinking tasks. They analyze, synthesize, and evaluate the study material and learning subjects (Bonwell & Eison, 1991). In the beginning of the 20th century, Dewey (1916) said,
We can and do supply ready-made ‘ideas’ by the thousand; we do not usually take much pains to see that the one learning engages in significant situations where his own activities generate, support, and clinch ideas—that is, perceived meanings or connections. (p. 89)

Bonwell and Eison (1991) proposed alternative forms of lecture. “The Modified Lecture” (p. 7) is where a lecture is halted after 12-18 minutes for a discussion among students. In the 2-to 3-minute interval, the students get a chance to clarify questions and process the lecture information. Research supported improvement of retention and understanding of the material. Other methods to increase students’ activity include questioning and discussion, writing in class, cooperative learning, debates, drama, role-play, simulation, games, and peer teaching (Bonwell & Eison, 1991).

Bonwell and Eison (1991) agreed with McKeachie and Svinicki (2011) about the importance of assessment in learning. McKeachie and Svinicki argued, “what students learn depends as much on your tests and methods of assessment as on your teaching, maybe even more” (p. 72).

Of the choices of methods recommended for active learning, a well-prepared discussion is the preferred teaching method (Bonwell & Eison, 1991; Brookfield & Preskill, 2005; McKeachie & Svinicki, 2011). Choosing discussion as a method served many benefits. Brookfield and Preskill (2005) saw at least 15 benefits in a good discussion. Many were directly or indirectly related to active learning: “[Discussion] encourages attentive and respectful listening . . . helps students to become connected to a topic . . . [and] affirms students as co-creators of knowledge” (pp. 21-22).
Discussion as a Teaching Method

Discussion is a long established and active teaching method in education. Famous teachers like Socrates (469 BC-399 BC) used discussion via student questioning in ancient times. According to McKeachie and Svinicki (2011), “discussion methods are among the most valuable tools in the teacher’s repertoire” (p. 36).

McKeachie and Svinicki dedicated a whole chapter to “facilitating discussions: Posing problems, listening, questioning” (pp. 36) in their 13th edition of McKeachie’s Teaching Tips: Strategies, Research, and Theory for College and University Teachers. They summarized the discussion method with the following statements: “teaching by discussion differs from lecturing because you never know what is going to happen” (p. 54) and pointed out “it provides constant challenges and opportunities for both you [the instructor] and the student to learn” (p. 54).

Research about learning emphasized the importance of discussion and active engagement with the learning material (Bonwell & Eison, 1991; Brookfield & Preskill, 2005; McKeachie & Svinicki, 2011). Classic studies, according to McKeachie and Svinicki (2011), supported “that, in discussion, students pay attention and think more actively” (p. 37).

Online Discussions

Online education added one more option in education. There will be no “one fits all instructional approach.” Nevertheless, the discussion of “traditional face-to-face discussions versus online discussions” emerged.

Tiene (2000) addressed the research question “what are the inherent advantages and disadvantages in the online discussion experience” (p. 371) from the students’ perspective. He designed a survey based on his own experience with online discussions. The survey was
administered to 66 graduate students. His main findings about advantages and disadvantages in online discussions were as follows: Computer hardware and Internet access was needed, and technical issues had to be solved. “Students gave positive feedback about the asynchronous characteristic of online discussions . . . [and] the involvement with written words was perceived positive” (pp. 381). A disadvantage of online discussions compared to face-to-face discussions was less visual information. Overall, students welcomed online discussions as an addition, but not as an alternative to face-to-face discussions (Tiene, 2000).

Bailey and Wright (2000) conducted a qualitative study about faculty members’ perceptions and experiences with online discussions. The 10 faculty members taught in a variety of disciplines. The participants answered a survey, which consisted of 11 open-ended questions. This research found that most instructors did not specify how the discussion board should be used. Seven instructors posted in the discussions, and three took a passive position. The main disadvantage of online discussions from the faculty perspective was the time investment. Most participants commented that they would improve the design and use more structure and guidelines as well as forms of assessment for future online discussions (Bailey & Wright, 2000).

Design factors in online courses, with particular focus on the role of online discussions for the social development of online learning communities, were the main area of the study by Swan (2002). The study collected data from 73 courses offered at the State University of New York Learning Network (SLN). There were 1,406 participants who answered the survey. Three main topics emerged as important for a positive student perception: “Clarity and consistency in course design, contact with and feedback from the course instructor, active and valued discussions” (p. 23). The “interaction with the course content, interaction with course instructor,
and interaction among course participants” (Swan, 2002, p. 44) was important for perceived learning and satisfaction with the online course.

The increasing number of international students in higher education added another perspective to online education and online discussions. In 2008, Hlas et al. studied “native and non-native speakers in online and face-to-face discussions.” Their mixed method study addressed two research questions: (1) “How does the amount of student discussion vary for students using English as their native language versus students using English as a foreign language in traditional (face-to-face) courses versus asynchronous online college courses?” (p. 341), and “How does the nature (e.g., types, patterns, purposes) of student discussion vary for students using English as their native language versus students using English as a foreign language in traditional (face-to-face) courses versus asynchronous online college courses?” (p. 341). The data were collected from two courses. One was an online course with 11 participants, four native and seven non-native English speakers. The second course was a face-to-face course with six students, three native and three non-native English speakers. The research of Hlas et al. (2008) found an imbalance in spoken face-to-face discussions between native and non-native English speakers. The non-native English speakers did not participate as much in the face-to-face discussions compared to native English speakers. The native English speakers even interpreted this lower participation with less interest and/or commitment to contribute to the course. Interestingly, “the online environment balanced the conversation between native and non-native speaker participation both in quantity and quality” (p. 364). These findings supported that the language of the learner has an influence on the participation and activity of students in face-to-face environments and does not have an influence on the participation and activity in the online environment.
Brookfield and Preskill (2005) argued, “virtually everything we know about good face-to-face discussion also applies online” (p. 220). A skillful and well-planned discussion will accomplish the best results (Bennett, Hogarth, Lubben, Campbell, & Robinson, 2010; Brookfield & Preskill, 2005). Research about online discussions supported “when instructors ground their choice of technology tools in individual course goals, personal teaching philosophy, and disciplinary values, technology tools are capable of enhancing teaching and learning” (McKeachie & Svinicki, 2011, p. 235).

**Research about Discussion as a Teaching Method**

Murphy, Wilkinson, Soter, Hennessey, and Alexander (2009) conducted a quantitative meta-analysis about “examining the effects of classroom discussion on students’ comprehension of text” (pp. 740). Major findings were that discussion teaching increases student talk and decreases the amount of teacher’s talk. Nevertheless, the “increases in student talk did not necessarily result in concomitant increases in student comprehension” (p. 760). Still, the researchers agreed that talking is a fundamental component in learning and understanding texts.

Focusing on small group discussions in science teaching, the study of Bennett et al. (2010), “talking science” (pp. 69), looked at 24 qualifying studies in a meta-analysis. The researchers grouped the findings according to “substantive features” (p. 90) and “methodology features” (p. 90). The substantive findings found that groups did not engage in the tasks by itself. It depended on the group leaders. They had to be inclusive and to promote reflection for more engaging discussions. If a discussion stimulus provided internal and external conflict, understanding within the group improved.
Bennett et al. (2010) agreed with the findings of Murphy et al. (2009): that it is not just any discussion. A skillful and well-planned discussion will accomplish the best results. Problems or challenges for instructors in discussions were, for example, “Getting participation in the discussion . . ., making progress (or making students aware of the progress) towards the course objective . . ., handling emotional reactions of students . . ., [and] listening to students supportively” (McKeachie & Svinicki, 2011, p. 37). Based on the knowledge about the group, or the missing knowledge about the group, other problems have to be anticipated. Teachers and students should train and practice discussion methods to achieve the best learning outcome (Bennett et al., 2010).

Overall research supported the discussion method as an important element in teaching and learning. The effects depended on the alignment of the discussion methods with the objectives of teaching, as well as the discussion skills of the instructor and the discussion participants (Bennett et al., 2010; Brookfield & Preskill, 2005; McKeachie & Svinicki, 2011; Murphy et al., 2009). Murphy et al. (2009) summarized “simply putting students into groups and encouraging them to talk is not enough to enhance comprehension and learning; it is but a step in the process” (p. 761).

**Technology in Education**

Science and technology have and are continuing to influence education. The ECP-EPN Podcast (2008) “Evolution Web 1.0, Web 2.0 to Web 3.0.” gave an overview about the Web-generations. Starting with the passive Web 1.0, which basically provided information, followed by the interactive and user dependent Web 2.0, which took user feedback information into account (e.g., feedback about products), leading to the next generation Web 3.0. Web 3.0 is an
intelligent and omnipresent Internet, also called the semantic Web (ECP-EPN, 2008). On June 6, 2011, former Apple Inc. CEO Steve Jobs presented the company’s version of cloud computing “Apple iCloud” as reported by many media channels. This technology added technological options for education and online education.

In 2003, the National Center for Education Statistics (NCES) defined online education as “education or training courses delivered to remote (off-campus) sites via audio, video (live or prerecorded), or computer technologies, including both synchronous (i.e., simultaneous) and asynchronous (i.e., not simultaneous) instruction” (Introduction, ¶ 3). In 2005, The University of Alabama promoted its online education programs with the statement “distance programs are convenient, flexible, and designed to meet the needs of career-focused individuals. Get a quality education in a variety of non-traditional formats” (The University of Alabama, 2005, Distance Education, ¶ 1). In 2012, The University of Western Australia described online education, or online learning in a very inclusive way, “online learning (often referred to as e-learning) is a subset of flexible teaching and learning that seeks to provide greater access to learning for all students” (The University of Western Australia, 2012, Online Learning, ¶ 1). They advertised that “an online learning environment is one that goes beyond the replication of learning events that have traditionally occurred in the classroom and are now made available through the internet” (The University of Western Australia, 2012, Online Learning, ¶ 2), and continued to explain that “it provides for different ways of learning and the construction of a potentially richer learning environment that provides for fresh approaches to learning, caters for different learning styles as well as allowing for greater diversification in learning and greater access to learning” (The University of Western Australia, 2012, Online Learning, ¶ 2).
These definitions and explanations reflect the change in online education, starting from descriptions of the technical implementations, when the technology was relatively new and later promoting the possibilities, access, and advantages of online education. This research used the short version of the U.S. Department of Education (2010) that defined online education or online learning “as learning that takes place partly or entirely over the Internet” (p. 9).

The amount of research and number of publications about online education is endless. There are traditional paper publications as well as uncounted online web sites, online-articles, blogs, wikis, etc. One strategy to explain, “what is online education” involves discussing “what it is not.” Njenga and Fourie (2010) published an article about “the myths about e-learning in higher education,” in which they discussed 10 myths. The three most commonly spread myths are (1) “e-learning is a savior: its redemptive is overreaching and every educational institution should adopt it” (p. 202). The question should not start with “e-learning versus no e-learning.” It should be “how can we best facilitate learning according to our specific requirements.” This question needs evaluation regarding the intended learner and education environment. There will be reasons for and against online education that have to be considered. (2) “e-learning can replace human interaction” (p. 203). Njenga and Fourie pointed to learning theories, and the connection of new knowledge to prior knowledge to archive learning. They summarized their viewpoint by stating, “human interaction required for meaningful learning cannot be limited to the use of computers only” (p. 203). However, they saw a “need for reform . . . in the light of new technology” (p. 203). (3) “e-learning cuts the costs of education, for instance, e-learning courses are cheaper to deliver than traditional face-to-face or distance learning” (p. 204). This myth is very powerful, and was created when online education was introduced. This myth did not become reality. If all costs for the initial investment, system- and software-upgrades and
professional development, were taken into account, a quality, up-to-date online education environment can be very expensive. Njenga and Fourie concluded, “technology is just a medium, a means to archive something and not an end in itself” (p. 209). McKeachie and Svinicki (2011) agreed and advised, “when instructors ground their choice of technology tools in individual course goals, personal teaching philosophy, and disciplinary values, technology tools are capable of enhancing teaching and learning” (p. 235).

**Intercultural Aspects in Online Education**

Teaching becomes more complex when the educational environment is online and internationally diverse. Parrish and Linder-VanBerschot (2010) introduced a framework to include cultural aspects in online environments. They presented an important combination of instructional technology and cultural dimensions based on Hofstede and Hofstede (2005, as cited in Parrish & Linder-VanBerschot, 2010, p. 3). The authors looked at instructional design in relation to eight cultural parameters of the Cultural Dimensions of Learning Framework (CDLF). These cultural dimensions were “equality and authority, individualism and collectivism, nurture and challenge, stability seeking and uncertainty acceptance, logic argumentation and being reasonable, causality and complex systems, clock time and event time, linear time and cyclical time” (p. 7).

In higher education within an international online education environment, two circumstances connected, according to Murphy et al. (2007): “(a) online learning, which frequently requires new ways of interaction and collaborating with others; and (b) intercultural learning, which may include learners and instructors with differing worldviews, communication practices, and technological issues” (p. 51). McKeachie and Svinicki (2011) argued, “our
teaching is always influenced by our values” (p. 12) and gave the advice “students have a fairer chance to evaluate our biases or to accept our model if we are explicit about it” (p. 12). The instructor supports learning, if he/she is open about his/her personal understanding of learning and worldview, as well as the purpose and learning goals (McKeachie & Svinicki, 2011). It will be an advantage in the global world to be able “to deliver culturally sensitive and culturally adaptive instructions” (Parrish & Linder-VanBerschot, 2010, p. 1).

Summary

Today’s environment is interconnected and global. Global education should prepare students as global citizens to meet the challenges of the future. Language and foreign languages are essential skills and core elements of global communication. The scholarly fields of World Englishes, English as a lingua franca, and English as a foreign language contribute to global communication and understanding.

Students need global skills and competencies to become global citizens. Active learning “involves students in doing things and thinking about the things they are doing” (Bonwell & Eison, 1991, p. 2). One form of active learning methods is discussion. New forms of education have evolved with the advancements of technology and the Internet. Online education is one addition to (traditional) face-to face classroom education.
CHAPTER 3

METHODS

Introduction

The student body in U.S. higher education includes an increasing number of non-native English speakers. Technology for education extends the range of teaching methods and options. Higher education must learn more about the growing group of non-native English speaking students to enable opportunities for global learning for all students independent of the students’ characteristic (first) language. Teaching has to engage students in their learning to improve retention and perform higher order thinking tasks (Bonwell & Eison, 1991). This research sought to gather information to use the rich opportunities of the international diversity for all students, native and non-native English speakers.

The purpose of this study was to examine non-native English speaking students’ activity in face-to-face versus online learning environments. The design was a mixed method approach to address the multiple dimensions of the research. To evaluate the activity of non-native English speakers in English-based courses, the researcher observed online and face-to-face courses. The active learning concept of Bonwell and Eison (1991) built the theoretical framework.

With the permission of Hlas et al., this research utilized parts of their 2008 study design. Quantitative research explored the activity of non-native English speakers in different course settings (online and face-to-face). Qualitative research explored the individual students’ attitudes and interpretations in an international education environment at The University of Alabama.
**Settings**

This research chose two settings. One setting was a physical classroom in the College of Commerce and Business Administration at The University of Alabama in Tuscaloosa. The second research setting was in the virtual environment of the Blackboard e-Learning system of The University of Alabama. The researcher observed courses in both environments.

The annual report 2011 of The University of Alabama Graduate School (the central graduate student administration) showed that most international graduate students study in the colleges of Arts and Sciences, Engineering, and Commerce and Business Administration. The researcher contacted the Graduate School and the College of Continuing Studies to inquire about face-to-face and online courses with national and international graduate students. Both colleges recommended the College of Commerce and Business Administration for this research.

The College of Commerce and Business Administration teaches courses face-to-face and online. This was an excellent environment to observe classroom and online courses with national and international graduate students. The researcher approached the College of Commerce and Business Administration to get access to graduate courses with native and non-native English speakers for this study.

This study collected data from three courses. The courses were Statistical Methods for Research I (ST 560), which was an online course taught in the summer of 2012, and two parallel Statistical Data Management courses (ST 521) in the fall of 2012. The same instructor taught one Statistical Data Management course face-to-face in a classroom, and a second parallel Statistical Data Management course in the Blackboard online education environment of The University of Alabama. Both course instructors and the teaching assistant were native English
speakers. The instructors gave their permission to study the courses according to IRB (internal review board) approval.

**Statistical Methods for Research I (ST 560)--Online Course**

The course Statistical Methods for Research I was a 3-hour graduate course. The course was an online course taught in The University of Alabama online education environment “Blackboard Learn.”

Fourteen learning modules presented the course content. There were video lectures, homework, and assignments. The learning modules were as follows: “Introduction to ST 560 - Statistical Methods, Data Types and Graphical Analyses; Numerical Data Analysis; Simple Linear Regression; Introduction to Probability; Discrete Probabilities Distributions; Normal Probabilities Distributions; Sampling Distributions; Confidence Intervals for the Population Mean; Hypothesis Testing; Inference for Two Means; Inference for the Variation; Inference for Proportions; and Analysis of Variance (ANOVA)” (ST 560, 2012, Learning Module Table of Contents).

There were 19 discussion forums or online discussions. Besides a discussion for introductions, and one for general questions and answers, there were 14 discussions, one for each module. Special topics like grading, statistic software, and graph interpretation each received a separate discussion (ST 560, 2012). In the introduction, the instructor explicitly advertised the use of the communication tools like E-mail and discussions (ST 560, 2012, Module 1, Instructors welcome video, 3:08).
Statistical Data Management (ST 521)--Online Course

The course Statistical Data Management was a 3-hour graduate course. The course was an online course taught in The University of Alabama online education environment “Blackboard Learn.”

The course content of “Introduction to the management of data using SAS” (The University of Alabama Graduate Catalog, n.d., ¶ 2) was structured in 13 learning modules: Introduction Module; SAS Introduction and Getting Started; SAS Environment; Data, Data, Data; More Data; Manipulating and Combining Data; Producing and Enhancing Reports; Input, Output, Summary Data!; Raw Data Transformations; Debugging Techniques and Restructuring a Data Set; Access Observations and SAS Language; Using Lookup Tables for Data Arrays and Hash Objects; and More Lookup Table Techniques” (ST 521, 2012, Learning Module Table of Contents).

There were four discussion forums, or online discussions, offered. Besides a discussion for introductions, there were two mandatory module discussions: module 3 and module 6 (ST 521, 2012). A “help wanted” online discussion (ST 521, 2012, Discussions) offered another optional course-wide communication platform for the students and the instructor.

Statistical Data Management (ST 521)--Face-to-Face Course

The course Statistical Data Management’ was a 3-hour graduate course. The course was a face-to-face course taught on The University of Alabama campus in Tuscaloosa, Alabama. According to The University of Alabama Graduate Catalog, Statistical Data Management was an “Introduction to the management of data using SAS” (n.d., ¶ 2).
In addition to the face-to-face course meetings, students could come to optional computer laboratory sessions on the Tuscaloosa campus. The laboratory gave students access to the software. Either the instructor or the teaching assistant answered questions and worked with students one-on-one. Online students of Statistical Data Management (ST 521) could also use these laboratory sessions.

Participants

The researcher collected data from graduate students of different nationalities registered for the courses Statistical Methods for Research I (ST 560) and/or Statistical Data Management (ST 521) in the College of Commerce and Business Administration at The University of Alabama. In recent years, students in these courses were almost evenly distributed between native English speakers and non-native English speakers. The focus of this study was non-native English speakers. However, the researcher invited all students of the courses Statistical Methods for Research I (ST 560) and Statistical Data Management (ST 521) to participate in this study. Data from native English speakers served for comparison and analysis of data from non-native English speakers. For this study, a student, living in the United States for more than 6 years, was associated to the native speaker group. This assumed that the student had acquired “advanced proficiency,” according to the ACTFL Proficiency Guidelines (2012).

In the summer semester 2012, the College of Commerce and Business Administration offered the online course Statistical Methods for Research I (ST 560) for up to 70 students. The final number of students in the course was 64 students. Six native English-speaking students agreed to participate in the study. Four students may have been non-native English speakers
based on their names. Unfortunately, none of the non-native English speakers in ST 560 agreed to participate in this study in any form.

According to the College of Commerce and Business Administration a maximum number of 40 students were able to register for each of the two Statistical Data Management (ST 521) courses for fall 2012, one online and one face-to-face course. The actual number of students in the online course was 19 students. Two students were non-native English speakers. Two native and two non-native English speakers of the ST 521 online course gave consent to participate in this study. In the face-to-face course, 47 students registered (with permission of the instructor). The number of students in the face-to-face course exceeded the maximum registration by seven students, or 18%. Twelve students could be identified as non-native English speakers. All non-native English speakers and 27 native English speakers of ST 521 face-to-face course agreed to participate. Table 1 shows an overview of the participation.

Table 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Method</th>
<th>Non-Native English Speakers</th>
<th>Native English Speakers</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST 560</td>
<td>online</td>
<td>up to 4</td>
<td>60+ (6*)</td>
<td>64 (6*)</td>
</tr>
<tr>
<td>ST 521</td>
<td>online</td>
<td>2 (2*)</td>
<td>17 (2*)</td>
<td>19 (4*)</td>
</tr>
<tr>
<td>ST 521</td>
<td>face-to-face</td>
<td>12 (12*)</td>
<td>35 (27*)</td>
<td>47 (39*)</td>
</tr>
</tbody>
</table>

*Note. *Number of students that chose to participate in this study

All 14 non-native English speakers in ST 521 (online and face-to-face) were students from Asia. The countries of origin were Bangladesh, China, India, and Vietnam. In the beginning of this study, the participating non-native English speakers had spent one month up to six years in the United States of America.
Limitations

The distinguishing characteristic of the students was native or non-native English speaker. This distinction served the purpose to gather information about the influence of students’ non-native English language background in an English-based education. A limitation of the study was that it did not specifically look at the cultural background of each participant. Notwithstanding, culture influences any form of communication.

One limitation was that the researcher could not verify that the level of English of the non-native English speaker was sufficient to understand the questions in the online survey. In the interviews, the German accent of the researcher and the level of English of the non-native English speakers caused communication problems. There were cases of non-understanding or misunderstanding (Kaur, 2010); however, the researcher achieved a confirmation of a common understanding in the interview situation via rephrasing and negotiation of a common meaning for those cases.

The nature of the courses was another limitation. Statistics and statistical analysis are very theoretical subjects and can create “fear” in students (Bui & Alearo, 2011; Dykeman, 2011). The professional language was highly theoretical and mathematical. Both aspects could have limited activity in both course settings (face-to-face and online).

The number of all students within the two “Statistical Data Analysis” courses (66 students) and Statistical Methods for Research I (64 students) was 130 students. Only 14 students could be identified as non-native English speakers, based on their returned consent forms. The anonymity of the online environment created a challenge. The response rate for the online environment was low. The amount of responses to the survey was a limitation. The relatively small number of non-native English speaking students is a limitation to generalize the
findings accurately to other international educational environments, especially from a quantitative perspective.

**Researcher Positionality**

The researcher has a university degree in computer science and a Master of Arts in education. She worked in professional teams in industry and in academia. Members of the teams came from the United States, Brazil, Canada, China, France, Great Britain, Greece, India, Italy, Japan, Mexico, Russia, South Africa, Sweden, Turkey, and Vietnam. The intercultural communication was in English or German as a common language.

At The University of Alabama, the researcher was an international and non-native English speaking graduate student from Germany. In Germany, the researcher taught two courses as an adjunct instructor, one face-to-face seminar and one online course in the School of Engineering at a German university. Although the audience was German, both courses were in English language.

Based on such a broad and diverse experience, the researcher was an insider to many groups and situations as well as an outsider. As an international student from Germany, she was an insider to the group of international, non-native English speakers. Studying in a foreign language has a lot of challenges. With English as a foreign language, the researcher was aware of the struggle to find the right words. It is extraordinarily difficult to express something in a foreign language as sophisticated as in the native language. The German accent was part of her identity and easily detected when she spoke. The researcher was socially well integrated in The University of Alabama academic community (personally and via volunteer opportunities). Still, for the students who are national students, the researcher was an outsider.
The non-native English speaking and European background of the researcher bore a risk of researcher bias. However, non-native English speaking research participants may have felt more comfortable to participate in this research with a non-native English speaker. The researcher’s background was an advantage to get access to international English and German based information. Triangulation and member check supported the credibility of the information (Marshall & Rossmann, 2011).

**Instrumentation**

For the survey instrument, the researcher analyzed available surveys; however, no survey was suited for the purpose of this study. Eventually, the related literature and the researcher’s experience with online courses became the basis for the survey instrument and the interview guideline.

The survey was administered twice, once in the beginning and again at the end at the course (Appendix A). The last four digits of the campus wide identification (CWID) enabled the connection between both surveys. With this connection, the researcher wanted to learn about changes in students’ perceptions between the beginning and the end of the courses.

The instrument was a 5-point Likert-type scale online survey consisting of 10 items. Eight items were choices of *strongly disagree, disagree, neutral, agree,* and *strongly agree.* Two items were open-ended questions. The survey collected the participants’ opinions and experience with online and face-to-face education, specifically focusing on activity in the discussion teaching method. Items 1 and 2 asked if the students have taken an online course and participated in online discussions. The following eight items gathered information about participants’ opinions about discussion as a teaching method in higher education, preference of
face-to-face or online discussions, and preference of written or verbal contributions to courses. The next question asked if they would recommend online discussions to a friend. Participants were asked in an open-ended question, why they like either face-to-face or online discussion? The last question was open-ended to provide a space to add anything regarding online or face-to-face discussions. In the second part of the online survey, six items collected personal information of the participants. The survey asked for gender, nationality, time lived in the United States, native language, and if the student took the TOEFL test (Test of English as a Foreign Language). The last item was an open-ended question to add any additional personal information.

The interview guide for the qualitative interviews guided the semi-structured conversation (Appendix B). In the interview, the researcher started with the questions, why did the student enroll in the course, and why did he/she choose the form face-to-face or online. There were questions about advantages and disadvantages from the perspective of the students’ characteristic, native or non-native English speakers. The last question was an open-ended question enabling a study-oriented and individual conversation.

An observation guide with the step-by-step procedure guided the face-to-face course observations (Appendix C). Before the instruction, a numbered seating chart rotated through the classroom. Students who consented added their name to the seating chart. Students, who did not agree to participate, added an “X” in their position of the seating chart. The challenge of the face-to-face course observation was that the researcher had to keep an overview of students’ contributions in a classroom with up to 50 persons. Throughout the course, the researcher kept track of the course contributions of students by writing down recording time and student number (position in the seating chart). The transcription did not include students’ names. The
distinguishing characteristics were native (NS) or non-native (NNS) English speaker. Based on the seating chart and information provided in the consent form, the researcher transcribed communication contributions (speech acts) of students who agreed to participate in the research.

**Data Collection**

Data were collected from graduate students participating in the courses Statistical Methods for Research I (ST 560) and Statistical Data Management (ST 521) in the College of Commerce Business Administration at The University of Alabama. The researcher administered online surveys, conducted interviews, and observed the interaction between instructor and students, and among the students in both research settings (face-to-face classes and in the e-Learning environment).

The researcher invited all students via the Blackboard Learn e-Learning environment to take two voluntary surveys. Students received the invitation via E-mail with the link to an online survey. Those students, who agreed to participate, completed the survey online. In the survey, they were asked questions about their perception of discussion activities as well as demographics like nationality and native language. The students received the same online-survey twice, once at the beginning of the course and a second time at the end of the course. The last four digits of the CWID (campus wide identification number) joined the two surveys for comparison (beginning versus end of course). With the data of the two surveys, the researcher studied changes in the students’ attitudes and perceptions.

Additionally, in the Statistical Methods for Research I (ST 560) and Statistical Data Management (ST 521) online courses, data were collected in the online discussions. Students needed to agree to the IRB (Internal Review Board) approved consent form. With participant
consent, the researcher collected data in the online courses. Data consisted of students’ activity in terms of the number of discussion posts (written speech act) and the amount of words for each discussion contribution, or online speech act.

In the Statistical Data Management (ST 521) face-to-face course, the researcher observed and transcribed three in-class meetings. The recorded and transcribed observations occurred throughout the semester. One observation was in the beginning, one observation before the midterm, and one observation toward the end of the semester. Additionally, the researcher observed one optional computer laboratory session of ST 521 without recording. The intention was to concentrate on the general interaction between students, and student and instructors (professor and teaching assistant).

The transcribed class meetings, field notes from class observations, and the data collected in the online courses were the basis for the data analysis. The unit of analysis was the verbal, or written student contribution (speech act). The researcher quantified students’ activity via the number of speech acts and the number of words per speech act (Hlas et al., 2008).

For the interviews, the researcher invited students of the Statistical Methods for Research I (ST 560) online course, Statistical Data Management (ST 521) online course, and Statistical Data Management (ST 521) face-to-face course to participate. The researcher contacted students based on the characteristics “native or non-native English speaker” and “online or face-to-face course.” The preferred location for the interview was the campus of The University of Alabama. However, the researcher also offered meetings via Skype conference, telephone, or any other media that would not require physical presence. With the permission of the participants, all interviews were audio recorded and transcribed.
Data from the online library of The University of Alabama provided an overview of library resources in foreign languages. The researcher also collected observations and conversations in field notes and kept a reflective journal throughout the study. Data available in the Internet, information from The University of Alabama student resources (http://mybama.ua.edu), the field notes, and the reflective journal added additional data to this study.

Data Analysis

The researcher used statistical analysis and grounded theory (Charmaz, 2010) to analyze the data. The researcher wanted to comprehend more about the relationship of course method (online or face-to-face) and non-native English speaking students’ activity. Active learning was the theoretical framework (Bonwell & Eison, 1991). The categories for conversation elements of Hlas et al. (2008) built the methodological framework. Data from face-to-face and online courses was analyzed.

Quantitative Analysis

This study quantified the number of communication contributions of non-native English speakers in online and face-to-face courses. The researcher developed two hypotheses based on findings of imbalance in online and face-to-face course participation (Hlas et al., 2008). The researcher implemented parts of the design of the 2008 study of Hlas et al. The unit of analysis was the single “speech act” (Hlas et al., 2008, p. 342). A speech act consisted of a number of written or spoken words. The independent variables were “speaker-type” and “course-method.” A speaker was one student that could be either a “speaker-type” of native English speaker (NS)
or a non-native English speaker (NNS). “Speaker-type” was a dichotomous variable. The variable “course method” defined the method chosen to teach the course. This variable had two values: “online” or “face-to-face (F2F).”

The dependent variables were the number of speech acts and the amount of words per speech act. The number of speech acts was a continuous variable, counting each verbal or written contribution to the course. The amount of words per speech act was continuous and consisted of counting each word of one speech act. $T$ tests were used to analyze the difference in the mean.

Based on the methodological framework (Hlas et al., 2008), each speech act was categorized according to a conversation category. Hlas et al. (2008) developed a methodology to categorize conversation elements, or speech acts. They developed 14 categories for conversation elements. Conversation elements were “prompt to continue, question to teacher, question to others, signal [e.g., asking for permission to speak], disclaimer, student leadership, certainty, affective talk, agreeing, suggestion, own/different view, acknowledged gained perspective, check for understanding, and example” (Hlas et al., 2008, pp. 346-347). The researcher used these categories to qualify the communication contributions or speech acts of native and non-native English speakers. Each speech act was sorted into one of these 14 categories.

**Qualitative Analysis**

The researcher based the qualitative data analysis on grounded theory. Charmaz (2010) introduced grounded theory methods that “consist of systematic, yet flexible guidelines for collecting and analyzing qualitative data to construct theories ‘grounded’ in the data themselves” (p. 2). Grounded theory guided the analysis of the transcribed interviews and course
observations. The researcher included the reflective journal and the field notes in the qualitative analysis. “Grounded theorists start with data. They construct data through the observations, interactions, and materials that they gather about the topic or setting” (Charmaz, 2010, p. 3). The researcher coded and analyzed the collected data. Based on codes and memos, themes and categories emerged.

The researcher observed and studied the courses and met students, professors, and teaching assistant. The researcher had to consider, “neither observer nor observed come to a scene untouched by the world” (Charmaz, 2010, p. 15).

Kvale and Brinkmann (1996) described “interviewing is an active process where interviewer and interviewee through their relationship produce knowledge” (p. 17). They emphasized the goal “interview research through producing knowledge worth knowing--knowledge that makes a difference to a discipline and those who depend on it” (Kvale & Brinkmann, 1996, p. 20).

Koro-Ljungberg (2010) promoted scientific and academic responsibilities to connect “questions of credibility, trustworthiness, and significance of qualitative research” (p. 604). The researcher used triangulation and member checking to support the credibility of the information (Marshall & Rossmann, 2011).

Summary

This study used a mixed method design to address the multiple dimensions of the topic. The research question explored asked, what is the relationship of course method (face-to-face or online course) to students’ activity for non-native English speakers?
The active learning framework for higher education (Bonwell & Eison, 1991) was the theoretical framework for this study. The researcher invited graduate students of different nationalities from the College of Commerce and Business Administration at The University of Alabama. Participants were registered in three statistics courses, two online courses, and one face-to-face course.

Intercultural communication and English language communication with non-native English speakers was a challenge. The researcher negotiated a common understanding and used triangulation and member checking to support the credibility of the information (Marshall & Rossmann, 2011).

Quantitative research explored and counted the activity of non-native English speakers in courses (online or face-to-face). Qualitative research investigated the individual students’ perceptions in an international English-based education environment.

In this study, data were collected with surveys, observations, and interviews. The settings were the Blackboard Learn online learning environment and the Tuscaloosa campus of The University of Alabama.
CHAPTER 4
RESULTS AND ANALYSIS OF DATA

Introduction

The purpose of this study was to examine non-native English speaking students’ activity in face-to-face versus online learning environments. To evaluate the activity of non-native English speakers in English-based courses, the researcher observed and collected data in online and face-to-face courses. The researcher had the unique opportunity to observe two graduate courses with the same topic (Statistical Data Management), one online and one face-to-face, taught by the same instructor in the same semester. Participants were graduate students and included non-native English speakers and native English speakers.

Marshall and Rossman (2011) described the process of data analysis, as “bringing meaning to raw, inexpressive data that is necessary, whether the researcher’s language is standard derivations and means or a rich description of ordinary events” (p. 210). This mixed method study researched four research questions and tested two hypotheses. In this chapter, the researcher describes the access to the research participants, and then addresses the research questions and hypotheses. For the first research question, one section presents the course observations, followed by the section with the quantitative analysis.

Access to the Research Participants and Resulting Target Sample Population

The target sample population was non-native English speakers. However, the researcher invited all students in the courses Statistical Methods for Research I (ST 560), and Statistical
Data Management (ST 521) to participate in the study. Data from native English speakers served for comparison and analysis of data from non-native English speakers.

All online students received an E-mail with an IRB (Internal Review Board) approved introduction to the study and request for consent. The face-to-face students received the same information in the first course meeting with the researcher.

Overall, access to students with consent to participate in this study was more difficult for the online courses. Face-to-face communication and requests to participate via personal communication were more successful than E-mails or any other online communication.

**Access to Online Students**

Nineteen students enrolled in the Statistical Data Management (ST 521) online course. Four agreed to participate in this study, resulting in an overall participation rate of 21%. Two students were non-native English speakers, and two were native English speakers. In consideration of the fact that there were only two non-native English-speaking students registered for ST 521 online, the participation rate was 100% for the target sample population of non-native English speakers. The researcher obtained access to the two non-native English speakers only after recommendations of students of the same nationality enrolled in the ST 521 face-to-face course. After the personal communication with someone within their social network, the non-native English speakers reacted to E-mail invitations of the researcher and agreed to participate in this study. For the interview, the two students met with the researcher face-to-face in locations at The University of Alabama. The researcher also offered meetings via Skype-conference, telephone, or any other media that would not require physical presence.
Nevertheless, all native English speakers in the ST 521 online course ignored the interview requests via E-mail.

In the online course, Statistical Methods for Research I (ST 560), 6 out of 64 students agreed to participate in the study—a participation rate of 9% for ST 560. One native English speaker of ST 560 gave an interview. Unfortunately, none of the non-native English speakers agreed to participate in any form. Four students may have been non-native English speakers based on their names. The researcher solicited these students individually via E-mail. The E-mails were ignored. The researcher did not get access to the target population of non-native English speakers in ST 560. However, the researcher kept the ST 560 course in this study for two reasons: (1) realizing the difficulties to get access to online students who were non-native English speakers was an important finding of this study and (2) the interview with the native English speaker of ST 560 was early in the research process. The interview analysis inspired the researcher to ask about the time students spent writing online discussion posts or E-Mails, in the subsequent interviews.

For the quantitative analysis, data analysis considered only contributions (speech acts) from students in the two ST 521 courses. Data were from the ST 521 online course and the ST 521 face-to-face course.

**Access to Students in Face-to-Face Course**

Forty-seven students registered for the Statistical Data Management (ST 521) face-to-face course. The actual number of students in the ST 521 face-to-face course exceeded the maximum enrollment of 40 by seven students. All non-native English speakers in ST 521 face-to-face course agreed to participate in the study.
The course meetings were mid-day on Mondays and Wednesdays. The researcher observed and transcribed three course meetings, one in the beginning, one in the middle, and one at the end of the semester. The number of students varied slightly for the three classes. The lecture on August 29, 2012, was the second lecture of the semester. Present at this lecture were 46 students, the professor, and the teaching assistant. Of the students who agreed to participate, 12 students were non-native English speakers, 27 students were native English speakers, and 7 students chose not to participate. The lecture on September 26, 2012, was in the middle of the semester, shortly before the midterm exam. Present were 42 students, the professor, and the teaching assistant. Of the students who agreed to participate, 10 students were non-native English speakers, 26 students were native English speakers, and 6 students chose not to participate. On November 12, 2012, there were 38 students. Of the students, who agreed to participate, 12 students were non-native English speakers, 20 students were native English speakers, and 6 students chose not to participate. The teaching assistant taught the class (the professor was absent).

Five non-native English speakers and six native English speakers in the Statistical Data Management (ST 521) face-to-face course agreed to an interview. The researcher conducted the interviews on the campus of The University of Alabama, in most cases immediately after the course meetings.

**Responses to the Survey Invitation via E-Mail**

Of the target population, non-native English speakers, only four students in Statistical Data Management (ST 521) responded to the first survey invitation with a valid completed survey. Of these four, only two students answered the survey a second time at the end of the
semester. The initial response rate was 29% based on the confirmed non-native English speakers of 14 in the two ST 521 courses. The initial response rate dropped to 14% for the second survey. There was no survey participation of non-native English speakers in the Statistical Methods for Research I (ST 560) online course.

**Observations of Communication Contributions and Activities of Native and Non-native English Speaking Students**

The first research question asked, “How does the amount of student discussion vary for students using English as their native language versus students using English as a foreign language in traditional (face-to-face) courses versus asynchronous online college courses?” (Hlas et al., 2008, p. 341). To collect data for the first research question, the researcher observed three online discussions of the ST 521 online course and three face-to-face course meetings of the ST 521 course on the campus of The University of Alabama. The unit of analysis was the speech act. A “speech act, a speaking turn in the face-to-face class, and an entry in the online class” (Hlas et al., 2008, p. 342) consisted of a number of written or spoken words. The number of words per speech act was the sum of the words in one speech act. This section presents the observations of the courses. The next section reports the results of the quantitative analysis.

**Communication Contributions and Activities in the Online Course**

In the first online discussion of Statistical Data Management (ST 521), the instructions asked each student to post one initial introduction contribution, or speech act. The instructions proposed an introduction with about 200-300 words.

Table 2 shows the number of words per speech act distinguishing native and non-native English speakers in the first online discussion (introduction). Four students, who had agreed to
participate in the study, contributed one speech act each. There were two native and two non-native English speakers. The average number of words per speech act was lower for the non-native English speakers (157 words) compared to the native English speakers (166 words).

Table 2

*Number of Words in the First Online Discussion (Introduction) for ST 521*

<table>
<thead>
<tr>
<th>Course</th>
<th>Native English Speaker (n = 2)</th>
<th>Non-native English Speaker (n = 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST 521</td>
<td>227</td>
<td>110</td>
</tr>
<tr>
<td>ST 521</td>
<td>147</td>
<td>166</td>
</tr>
</tbody>
</table>

The second mandatory online discussion was in Learning Module 3. The instructions asked the students to “find a video on *business analytics* that relates to your organization and/or industry” (ST 521 online course, 2012, Module 3, ¶ 1). In the online discussion, all students had to write one initial post, sharing the link to the video and present why they chose this video. Each student had to reply to at least two posts of their peer students. The two native English speakers fulfilled the minimum number of three posts. For the non-native English speakers, one student posted the minimum requirement, and the other student posted one additional optional reply to a peer posting. The average number of words for each post was 123 words for the two non-native English speakers compared to 96 words for the two native English speakers. Table 3 shows the number of words per post.
Table 3

Number of Words in the Online Discussion in ST 521 for Learning Module 3

<table>
<thead>
<tr>
<th>Student Type</th>
<th>Initial Post</th>
<th>Mandatory Reply</th>
<th>Mandatory Reply</th>
<th>Additional Reply</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS</td>
<td>80</td>
<td>74</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>55</td>
<td>88</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td>NNS</td>
<td>137</td>
<td>154</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>NNS</td>
<td>150</td>
<td>96</td>
<td>159</td>
<td>52</td>
</tr>
</tbody>
</table>

Note. NS = Native English speaker and NNS = Non-native English speaker.

In the mandatory online discussion for Learning Module 6, once again, all students had to write one initial post, and reply to at least two posts of their peer students. The instructor posted an article about the connection between analytics and ROI (Return of Invest) asking students to “describe how analytics has impacted the ROI in your organization and/or experience” (ST 521 online course, 2012, Module 6, ¶ 1). A similar pattern as in the discussion for Learning Module 3 developed. The two native English speakers fulfilled the minimum number of required postings. For the two non-native English speakers, one student posted the minimum amount, and the other student posted one additional optional reply to a peer posting. The average number of words for each post for the two non-native English speakers was 98 words compared to 126 words for the two native English speakers. Table 4 shows the number of words per post for Learning Module 6.
Table 4

*Number of Words in the Online Discussion in ST 521 for Learning Module 6*

<table>
<thead>
<tr>
<th>Student Type</th>
<th>Initial Post</th>
<th>Mandatory Reply</th>
<th>Mandatory Reply</th>
<th>Additional Reply</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS</td>
<td>205</td>
<td>154</td>
<td>166</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>137</td>
<td>54</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>NNS</td>
<td>154</td>
<td>46</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>NNS</td>
<td>122</td>
<td>103</td>
<td>106</td>
<td>117</td>
</tr>
</tbody>
</table>

*Note.* NS = Native English speaker and NNS = Non-native English speaker.

Non-native English speaker produced more speech acts (discussion posts) in the three online discussions. The number of words per speech act varied for the native and non-native English speakers for the posts in the online discussions (NS: 42-227 words; NNS 39-166 words).

**Communication Contributions in the Face-to-Face Course**

Before each observation of the Statistical Data Management (ST 521) face-to-face course, the researcher passed a numbered seating chart around the classroom. Students confirmed their permission to participate by entering their name. All non-native English speakers agreed to participate each time. In the face-to-face course observation, the challenge was to keep track of students’ contributions in a classroom with up to 50 persons. Throughout the course, the researcher documented the course contributions of students by writing down recording time and student number (position in the seating chart). Transcription and documentation only distinguished native and non-native English speakers (omitting the names). The lecture of the ST 521 face-to-face course on August 29, 2012, was the second lecture of the semester. This lecture introduced students to the core software program, SAS, of the course. SAS is a business analytics software program from the SAS Institute Inc. (SAS Institute, n.d.).
In addition to the researcher, present were 46 students, the professor, and the teaching assistant. Of the students who agreed to participate, 12 students were non-native English speakers, 27 students were native English speakers, and 7 students chose not to participate (an overview of the seating chart is available in Appendix D).

The professor started the lecture and distributed a handout with a step-by-step guide for this class to each student. About five minutes into the lecture, the professor handed the speaker position over to the teaching assistant. The lecture went on for 20 minutes. After 20 minutes, the professor and the teaching assistant went around the classroom working with students one-on-one.

Table 5 shows an overview of speech acts of the students in the first 20 minutes of this lecture, before the change from lecture to the one-on-one and group communications. The average number of speech acts per student was higher for non-native English speakers (0.3) compared to native English speakers (0.2). The average number of words per speech act was similar for all students independent of the native language.

Table 5

<table>
<thead>
<tr>
<th>Speech Act</th>
<th>Native English Speaker (N = 27)</th>
<th>Non-native English Speaker (N = 12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Speech Acts</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Average Number of Speech Acts per Student</td>
<td>0.2</td>
<td>0.3</td>
</tr>
<tr>
<td>Average Number of Words per Speech Act</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

The lecture of the ST 521 face-to-face course on September 26, 2012, was in the middle of the semester, shortly before the midterm exam. The professor and a student (native English
speaker) introduced two different companies that were looking for analysts, and could become potential employers for the students of this class. Afterwards, the professor demonstrated analysis procedures in the SAS software. The professor gave each student a handout with a step-by-step guide to accompany the lecture. Toward the end of the lecture, students could ask questions about the midterm exam.

There were 42 students, the professor, and the teaching assistant present, in addition to the researcher. Of the students who agreed to participate, 10 students were non-native English speakers, 26 students were native English speakers, and 6 students chose not to participate (an overview of the seating chart is available in Appendix E).

Table 6 shows the summary of speech acts and average words per speech act of the students in this lecture. The number of speech acts per student was lower for non-native English speakers; also, the average number of words per speech act was lower for the non-native English speakers compared to native English speakers.

Table 6

*Face-to-Face Class Meeting on September 26, 2012 for ST 521 (50 Minutes)*

<table>
<thead>
<tr>
<th></th>
<th>Native English Speaker (N = 26)</th>
<th>Non-native English Speaker (N = 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Speech Acts</td>
<td>19</td>
<td>5</td>
</tr>
<tr>
<td>Average Number of Speech Acts per Student</td>
<td>0.7</td>
<td>0.5</td>
</tr>
<tr>
<td>Average Number of Words per Speech Act</td>
<td>10</td>
<td>3</td>
</tr>
</tbody>
</table>

*Note: A short part of this lecture (2 minutes) could not be transcribed due to noise.*

On November 12, 2012, the teaching assistant (native English speaker) taught the lecture for the ST 521 face-to-face course. The professor was not present. This class was toward the end of the semester starting the 11th of 12 learning modules. The topic of module 11 was
“Using Lookup Tables for Data Arrays and Hash Objects” (ST 521 face-to-face course in Blackboard Learn, 2012, Course Home Page, ¶ 12). The teaching assistant demonstrated the steps for a homework assignment in SAS and answered questions. She taught the class in an interactive way. For example, she asked questions about procedures and possible steps toward a solution, and students suggested the next steps. Sometimes the class answered as a group (these contributions did not count as individual speech acts). The lecture went on for about one hour.

There were 38 students and the teaching assistant present, in addition to the researcher. Of the students who agreed to participate, 12 students were non-native English speakers, 20 students were native English speakers, and six students chose not to participate (an overview of the seating chart is available in Appendix F).

Table 7 shows the summary of speech acts and average words per speech act of the students in this lecture. The average number of speech acts per students was higher for the non-native English speakers (1.3). The average number of words per speech act was lower for non-native English speakers (4 words) than native English speakers (5 words).

Table 7

*Face-to-Face Class Meeting on November 12, 2012 in ST 521 (60 Minutes)*

<table>
<thead>
<tr>
<th></th>
<th>Native English Speaker (N = 0)</th>
<th>Non-native English Speaker (N = 12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Speech Acts</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>Average Number of Speech Acts per Student</td>
<td>0.7</td>
<td>1.3</td>
</tr>
<tr>
<td>Average Number of Words per Speech Act</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

In this lecture toward the end of the semester, the average number of speech acts was highest of all recorded course meetings. Non-native English speakers produced 1.3 speech acts per student.
Quantitative Analysis of Communication Contributions and Activities of Native and Non-native English Speaking Students

This section presents the quantitative analysis for the first research question and the tests of the two hypotheses. The first research question asked, “How does the amount of student discussion vary for students using English as their native language versus students using English as a foreign language in traditional (face-to-face) courses versus asynchronous online college courses?” (Hlas et al., 2008, p. 341).

The unit of analysis was the speech act. A “speech act, a speaking turn in the face-to-face class and an entry in the online class” (Hlas et al., 2008, p. 342) consisted of a number of written or spoken words. The number of words per speech act was the sum of the words in one speech act. Student-type was one student that could be either a native English speaker (NS) or a non-native English speaker (NNS). The course method had two categories, either “online” or “face-to-face (F2F).” All statistical tests used an alpha of .05 as level of significance.

Number of Speech Acts

For the quantitative analysis, two t tests compared the number of speech acts between native and non-native English speakers in each of the two course environments: face-to-face course: A t test, $t(106) = -0.639, p = .693$, comparing the number of speech acts in the three face-to-face courses found no significant difference between the non-native English speakers ($M = 0.67, SD = 1.34$) and native English speakers ($M = 0.51, SD = 1.13$). Online Course: A second t test, $t(10) = -0.477, p = .644$, revealed no significant difference in the number of speech acts in the three online discussions between the non-native English speakers ($M = 2.67, SD = 1.37$) and native English speakers ($M = 2.33, SD = 1.03$). Figure 1 shows an overview of the
online and face-to-face means for the two types of students, native and non-native English speakers.

Figure 1. Speech acts for ST 521 online and face-to-face courses.

There was no significant difference in the amount of speech acts within each of the two course environments between native and non-native English speakers. Based on the graph, there was more activity (speech acts) per student in the online environment.

**Number of Words per Speech Act**

A closer look at the number of words per speech act showed the following results: face-to-face course, a $t$ test, $t(21.534) = 2.395, p = .026$, comparing the number of words per speech act in the three face-to-face courses found a significant difference between the non-native
English speakers ($M = 4.48$, $SD = 2.82$) and native English speakers ($M = 10.04$, $SD = 8.65$). For the online course discussions, the second $t$ test, $t(10) = 0.179$, $p = .861$, revealed no significant difference in the number of words per speech act between the non-native English speakers ($M = 125.49$, $SD = 30.28$) and native English speakers ($M = 130.28$, $SD = 58.15$). Figure 2 presents the findings.

![Figure 2. Words per speech act in the ST 521 online and face-to-face courses.](image)

There was a significant difference in the number of words per speech act in the face-to-face course; non-native English speakers produced fewer words per speech act. No significant difference was found in the online environment.
Test of the Hypotheses: Comparison of Non-native English Speakers’ Activity in Online versus Face-to-Face Courses

The researcher developed two hypothesis based on the literature review and the findings of the study of Hlas et al. (2008). This study also found an imbalance in students’ activity depending on the course method, either face-to-face or online. The main focus of this current study was online and face-to-face activities of non-native English speakers. Therefore, the two hypotheses tested the relationships between non-native English speakers’ activities and course methods. The unit of analysis was the speech act. All statistical tests used an alpha of .05 as level of significance.

Hypothesis 1 predicted that in the case of non-native English speakers, students in online courses produce more speech acts than students in face-to-face courses. For Hypothesis 1, an independent t test revealed that there was a significant difference, \( t(37) = -3.357, p = .002 \), in the number of speech acts for non-native English speakers between the online course (\( M = 2.67, SD = 1.37 \)) and the face-to-face course (\( M = 0.67, SD = 1.34 \)). Therefore, the null hypothesis could be rejected. Hypothesis 1 was accepted. There were more speech acts of non-native English speakers in the online course than in the face-to-face course.

Hypothesis 2 predicted that in the case of non-native English speakers, students in online courses produce more words per speech act than students in face-to-face courses. An independent t test found that there was a significant difference, \( t(5.065) = -9.757, p < .001 \), in the number of words per speech act for non-native English speakers between the online course (\( M = 125.49, SD = 30.28 \)) and face-to-face course (\( M = 4.48, SD = 2.82 \)). These findings support Hypothesis 2. The amount of words per speech act was higher in the online course than the face-to-face course for non-native English speakers.
Findings of the Quantitative Analysis

In summary, the quantitative findings for the first research question were an imbalance between the online and the face-to-face course. “How does the amount of student discussion vary for students using English as their native language versus students using English as a foreign language in traditional (face-to-face) courses versus asynchronous online college courses?” (Hlas et al., 2008, p. 341).

Comparing native and non-native English speakers in the face-to-face course, non-native English speakers produced a similar amount of speech acts. Remarkably, there was a significant difference between the number of words per speech act. The non-native English speakers produced fewer words per speech act than native English speakers in the face-to-face course.

In the online environment, native and non-native English speakers produced a similar amount of speech acts. There was no significant difference between the number of words per speech act in the online environment.

The two hypotheses tested relationships of the activities (number of speech acts and words per speech act) of non-native English speakers between the online and face-to-face courses. The analysis found that there were more speech acts and more words per speech act in the online course than the face-to-face course for non-native English speakers. Based on the findings, the online course environment was more favorable for non-native English speakers.

Categories of Students’ Communication Contributions and Activities

The second research question asked, “How does the nature (e.g., types, patterns, purposes) of student discussion vary for students using English as their native language versus students using English as a foreign language in traditional (face-to-face) courses versus
asynchronous online college courses?” (Hlas et al., 2008, p. 341). For the analysis, the definitions and categories of Hlas et al. (2008) build the methodological framework. Table 8 lists 14 categories for conversation elements, or speech acts, based on Hlas et al.

Table 8

*Categories for Conversation Elements, Speech Acts, (Hlas et al., 2008, pp. 346-347)*

<table>
<thead>
<tr>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prompt to Continue</td>
</tr>
<tr>
<td>Question to Teacher</td>
</tr>
<tr>
<td>Question to Others</td>
</tr>
<tr>
<td>Signal [e.g. requesting approval to talk]</td>
</tr>
<tr>
<td>Disclaimer [expressing uncertainty]</td>
</tr>
<tr>
<td>Student Leadership</td>
</tr>
<tr>
<td>Certainty</td>
</tr>
<tr>
<td>Affective Talk</td>
</tr>
<tr>
<td>Agreeing</td>
</tr>
<tr>
<td>Suggestion</td>
</tr>
<tr>
<td>Own/Different View</td>
</tr>
<tr>
<td>Acknowledged Gained Perspective</td>
</tr>
<tr>
<td>Check for Understanding</td>
</tr>
<tr>
<td>Example</td>
</tr>
</tbody>
</table>

The researcher categorized each speech act in the three online discussions and the face-to-face course meetings of Statistical Data Management (ST 521) according to the 14 categories. In the data analysis, the researcher compared categories of speech acts between native and non-native English speakers within the same education environment. In the face-to-face course, the top three qualitative categories for speech acts were “Suggestion,” “Question to Teacher,” and “Certainty” for native and non-native English speakers. On average, the non-native English speakers asked a similar amount of questions to the teacher as the native English speakers (NNS: 0.5, NS: 0.6), and there was an equal amount of
“Certainty” (NNS: 0.2, NS: 0.2). However, there were more “Suggestion[s]” (NNS: 0.8, NS: 0.3) from the non-native English speakers. Figure 3 illustrates the findings.

![Top Three Categories of Speech Acts in the Face-to-Face Course](image)

**Figure 3.** Face-to-face course: Top three categories for speech acts of non-native English speakers.

In the online course environment, the top three categories for the non-native English speakers were “Certainty” (NNS: 2), “Agreeing” (NNS: 2), and “Question to Others” (NNS: 1.5). In comparison, the native English speakers asked twice as many “Question to Others” (NS: 3), expressed less “Certainty” (NS: 1), and even had fewer contributions “Agreeing” (NS: 0.5). The professor did not participate in the online discussions; therefore, there were no “Questions to Teacher” documented in the asynchronous online discussions. Figure 4 presents the findings for the ST 521 online course.
Figure 4. Online discussions: Top three categories for speech acts of non-native English speakers.

The researcher did not compare categories of speech acts between online and face-to-face courses. The difference in number of words per speech acts between the online course (M: NNS = 125.49, NS = 130.28), and the face-to-face course (M: NNS = 4.48, NS = 10.04) was too high. In the Statistical Data Management (ST 521) courses, the category for one speech act with a mean of 4 to 10 words (face-to-face) was not comparable to the category of one speech act with a mean of 125 to 130 words online. Therefore, categorizing and comparing categories of speech acts between the two education environments (online and face-to-face) were not applicable for the Statistical Data Management (ST 521) courses.
Perceptions of Non-native English Speaking Students toward Online and Face-to-Face Courses

To explore further how non-native English speakers cope with English-based courses, this research study asked the following question: What are the changes in perceptions throughout the course for non-native English speaking students? Course observations of Statistical Data Management (ST 521), individual interviews with non-native English speakers, and surveys as well as student resources of The University of Alabama (https://mybama.ua.edu) provided data for this analysis.

For the online survey, all students received an invitation to participate via E-mail in Blackboard Learn e-Learning. One E-mail was sent in the beginning of the semester, and a second E-mail at the end of the semester. Of the target population, non-native English speakers, only four students of Statistical Data Management (ST 521), responded to the survey invitation. Of these four students, only two students answered the survey a second time at the end of the semester.

The researcher observed three course meetings of the face-to-face course, three online discussions, and one optional computer laboratory session. In two of the face-to-face course meetings, 12 non-native English speakers participated. In one face-to-face meeting, there were 10 non-native English speakers. In the ST 521 online course, both non-native English speakers gave permission to observe the online discussions. Seven non-native English speakers went to the optional laboratory session; one of the students was an online student.

For the interviews, the researcher solicited students based on the characteristics “native or non-native English speaker” and “online or face-to-face course.” Seven interviews were with non-native English speakers; two of the non-native English speakers were online students. All interviews were on the campus of The University of Alabama. The researcher had planned 30
minutes for each interview. Most interviews fit within the scheduled timeframe. One interview took only 15 minutes, and two interviews lasted for almost an hour (with additional permission of the participants).

In order to classify student’s perceptions, the interviewer asked if the student had taken an online course before. Table 9 presents an overview of the online education experience. Two of the four non-native English speakers who participated in the survey had taken an online course; two had never participated in online courses. Regarding the interview participants, three students had no online course experience. Four students based their perceptions on personal experience with online courses.

Table 9

*Non-native English Speakers’ Experiences with Online Education*

<table>
<thead>
<tr>
<th>Data Source</th>
<th>No Online Course</th>
<th>Experience with Online Courses</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Survey</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Face-to-Face Interview</td>
<td>3</td>
<td>4*</td>
<td>7</td>
</tr>
</tbody>
</table>

*Note: Two of the students were enrolled in ST 521 online course.*

In the qualitative analysis, codes and memos built the basis for the categories and themes. Emerging themes and categories in the qualitative analysis were as follows: access to written course material, course material in foreign languages, perception of self-discipline, prior knowledge of the course content, and communication with the instructor.
Perceptions of Non-native English Speakers Without Online Courses Experience

Prior knowledge of the course content and access to course-related written material was important. For Statistical Data Management (ST 521), no textbook was required. The professor recommended textbooks as well as Internet resources in the syllabus and the first course meeting.

If non-native English speakers had access to course material on top of the in-class lecture, they had the chance to become familiar with the content specific English vocabulary at their own pace. Non-native English speakers valued the presentation slides and the course handout at the beginning of each class. Students with difficulties in understanding English considered this material especially helpful. One non-native English speaker outlined the connection of course material, textbooks, and the English language: “What the teacher taught is not difficult. Just the software, if in China, I am sure, I could learn it all by myself. I just need to buy some textbook and read by myself . . . but here, it is all English” (NNS, personal communication, Sept. 7, 2012), and continued, “I am new here, very new. What the teacher speaks English, most of what she said I can’t understand. This is the biggest obstacle. The professional knowledge is simple for me” (NNS, personal communication, Sept. 7, 2012). Textbooks in foreign languages could accompany and increase understanding of the content for non-native English speakers. Table 10 shows the results of a search in the university library online resources (the library tab at http://mybama.ua.edu) with the key word “Statistical Data Management.” The search on January 18, 2013, found 2,486,775 results.
Table 10

*Library Search with the Key Word “Statistical Data Management”*

<table>
<thead>
<tr>
<th>Language</th>
<th>Number of Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>2,285,032</td>
</tr>
<tr>
<td>German</td>
<td>3,008</td>
</tr>
<tr>
<td>French</td>
<td>1,327</td>
</tr>
<tr>
<td>Spanish</td>
<td>902</td>
</tr>
<tr>
<td>Portuguese</td>
<td>533</td>
</tr>
<tr>
<td>Undetermined</td>
<td>785</td>
</tr>
</tbody>
</table>

*Note:* Information from The University of Alabama library online resources retrieved on January 18, 2013 from http://mybama.ua.edu.

A system-sort by language did not offer Chinese. However, the first seven entries in the “undetermined” language category were in Chinese language from the Database China/Asia on Demand. The first resource on the search list was as follows:


The university library offered no direct access to the full text of this article. With the provided Internet link to China/Asia on Demand, the document was accessible. However, the price for the 6-page-article was $27.95.

Other themes emerged in the data analysis. In the interviews, all three non-native English speakers feared that they would not have the necessary self-discipline to succeed in an online course. Additionally, two students related the online environment to playing computer games, keeping them from studying. They said: “If I choose online courses, I do not have this self-actuated or self-discipline, so I won’t spend time during those classes. I probably would choose to play computer games” (NNS, personal communication, Sept. 6, 2012), and “if I sit in front of
the computer, I will be tempted to play computer games. Or feel tired; I cannot concentrate myself to study” (NNS, personal communication, Sept. 7, 2012).

The most prominent theme was the communication with the instructor. This communication was a key concern for all students. Most students had the impression that the online environment would distance, change, and/or delay the conversations between the instructor and the student: “I can ask some questions to the teacher, so it will help me [in the face-to-face course]” (NNS, personal communication, Sept. 6, 2012), and “it is easier to ask question face to face, instant feedback. Besides that, I can have a completed conversation, not just a question and an answer” (NNS answer to survey question 10, Sept. 30, 2012). In the second survey, the same student emphasized, “ease to communicate [in the face-to-face courses], especially when English is a second language (facial expression, sign language help)” (NNS answer to survey question 10, Nov. 26, 2012).

Overall, non-native English speaking students without online education experience were skeptical about the online course method: “I never take online courses, before. I am only used to listen to a teacher in a classroom, so I choose face-to-face class” (NNS, personal communication, Sept. 7, 2012). One student even said, “I never really tried the online one, so I cannot tell, and I am afraid to try” (NNS, personal communication, Oct. 8, 2012).

**Perceptions of Non-native English Speakers Based on Online Course Experience**

The prior knowledge and familiarity with the course content had an impact on the choice of course method (online or face-to-face). One student summarized the general perception as follows: “if the course is very unfamiliar for me, I would choose face-to-face. If the course will
be related to what I have learned, I will choose online” (NNS, personal communication, September 11, 2012).

For the next theme, self-discipline, even students who had successfully taken online courses continued to doubt their self-discipline; “I am not quite an active learner, so the in-class one forces me to read the materials, to prepare for the class ahead of time” (NNS, personal communication, September 27, 2012). The same student perceived the flexibility of online education as negative, “the online is so flexible, . . . they don’t have the schedule that you have to read this for a particular week. That means I may postpone the schedule a little bit, just because of other stuff” (NNS, personal communication, September 27, 2012) and concluded, “I guess the in-class one forces me to do this. It gives me a fixed schedule. It is a good way to force me to learn” (NNS, personal communication, September 27, 2012).

Looking at the communication theme, students perceived the communication with the instructor as influential for the comfort- and confidence-level: “I have the face-to-face interaction with the instructor. If I have questions, I can ask them . . . I have better communication with the instructor” (NNS, personal communication, September 27, 2012). Another student’s concern was “I feel insecure if I do not see the professor. That means like, I get less help from the professor” (NNS, personal communication, Oct. 3, 2012). This non-native online student used the optional computer laboratory session to get help from the instructor. In the computer laboratory session, she could interact face-to-face and individually (observation optional lab session, September 28, 2012).

In summary, the online experience did not change the perceptions of non-native English speakers. Students continued to regard face-to-face courses as the best choice for higher education. Surprisingly, the non-native English-speaking students registered in the ST 521
online course said, “I prefer face-to-face, especially, . . . like this is not my major” (NNS, personal communication, Oct. 3, 2012) and, “I think, face-to-face will be better, but you know, I kind of know, how to do the SAS“ (NNS, personal communication, September 11, 2012).

Changes in Perceptions Throughout the Courses

The research question asked, what are the changes in perceptions throughout the course for non-native English speaking students? The answer reflected in the registration choice of students between online and face-to-face course method for the follow-up course Advanced Statistical Data Management (ST 522).

For spring 2013, the College of Commerce and Business Administration offered two face-to-face and two online courses Advanced Statistical Data Management (ST 522). According to the course registration system of The University of Alabama, 50 students registered for the face-to-face courses and only three students registered for the online courses. Although the researcher cannot verify that students registered in the follow-up courses took one of the ST 521 courses in fall 2012, the general trend matched and supported the findings about perceptions of the non-native (and native) English speakers in the interviews. One of the non-native English speaking online students summarized her course registration strategy toward the end of the Fall 2012 semester: “I choose courses to fulfill my degree requirements. I will choose courses that appear interesting to me. If the course is not available on campus, I will choose the online version of it” (E-mail NNS-OL, November 19, 2012).

Table 11 presents an overview of registration for Statistical Data Management (ST 521) and Advanced Statistical Data Management (ST 522). Nineteen students (29%) of 66 students in
ST 521 registered for the online course in fall 2012. In the following semester, only 3 students (6%) students chose an online course for the follow-up course (ST 522).

Table 11

Course Registration for ST 521 and Follow-up Course ST 522

<table>
<thead>
<tr>
<th>Courses</th>
<th>Registration Online Course(s)</th>
<th>Registration F2F Course(s)</th>
<th>Students Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST 521 Fall 2012</td>
<td>19 (29%)</td>
<td>47 (71%)</td>
<td>66 (100%)</td>
</tr>
<tr>
<td>ST 522 Spring 2013</td>
<td>3 (6%)</td>
<td>50 (94%)</td>
<td>53 (100%)</td>
</tr>
</tbody>
</table>

Note: Retrieved on January 18, 2013 from myBama (https://mybama.ua.edu).

Non-native English speakers with and without experience in online education perceived face-to-face courses as superior to online courses. The face-to-face environment felt more familiar for education than the online environment. Non-native English speaking students preferred face-to-face communication and attributed instant feedback, real conversations, and more comfort to the face-to-face course setting. A general concern was if they would have the self-discipline to succeed in online courses. Overall, non-native English speakers preferred face-to-face courses.

Advantages of Online versus Face-to-Face Courses for Non-native English-Speaking Students

This section presents the findings for the research question that asked if there are advantages in online versus face-to-face courses for non-native English speaking students? The researcher analyzed data from course observations of Statistical Data Management (ST 521), surveys, student resources of The University of Alabama (https://mybama.ua.edu), salary data (PayScale, 2013), and individual interviews with native and non-native English speakers.
The researcher conducted 14 interviews in person on the campus of The University of Alabama. Seven interviews were with non-native English speakers. Two of the non-native English speakers were online students in Statistical Data Management (ST 521). Seven interviews were with native English speakers. One of the native English speakers was an online student in Statistical Methods for Research I (ST 560). Six native English speakers were students registered in Statistical Data Management (ST 521) face-to-face course. The interviews took about 30 minutes. The researcher conducted all interviews face-to-face at the campus of The University of Alabama.

In the qualitative analysis, codes and memos built the basis for the categories and themes. Emerging themes and categories were as follows: English as a foreign language, course structure, and financial commitment to education.

**English as a Foreign Language**

All non-native English speakers who participated in interviews passed the language proficiency requirements of the university (TOEFL minimum test score of 79 iBT). However, for some non-native English speakers, English was a problem. Students did not understand the instructor and preferred written course material: “the slides are very helpful. Sometimes I can’t understand the professor, and I can watch the slide” (NNS, personal communication, September 7, 2012). Others could not understand the English spoken in the classroom: “When I come here. The first class here in Alabama, they are having kind of Southern accent. A little bit difference for what we learn, Standard American English” (NNS, personal communication, September 27, 2012), and “the only problem I had in my first semester was understanding the accent of people speaking English. We are used to speaking European English” (NNS, personal communication,
Students that learned English outside the USA became accustomed to a different sound (phonetics) of spoken language. Another advantage of written language in online education, in particular for the non-native English speakers, was that written language does not have phonetics, or sounds of language. Accents and dialects were not as prominent in written language as in spoken language. Most written academic texts and presentation slides did not favor a regional accent.

Additionally, written asynchronous communication allowed more time to compose a communication contribution or speech act. In the interviews, the researcher asked, “How much time did the students take to write an online discussion post (or formal E-mail if students had no online experience)?” Table 12 presents the results. Native English speakers took on average 6 to 8 minutes per post or E-mail. Non-native English speakers needed 11 to 14 minutes--almost twice as long.

Table 12

<table>
<thead>
<tr>
<th>Speaker Type</th>
<th>Time (Minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NNS</td>
<td>20</td>
</tr>
<tr>
<td>NNS</td>
<td>15-20</td>
</tr>
<tr>
<td>NNS</td>
<td>10</td>
</tr>
<tr>
<td>NNS</td>
<td>5-10</td>
</tr>
<tr>
<td>NNS</td>
<td>5-10</td>
</tr>
<tr>
<td>NS</td>
<td>10-15</td>
</tr>
<tr>
<td>NS</td>
<td>5-10</td>
</tr>
<tr>
<td>NS</td>
<td>5</td>
</tr>
<tr>
<td>NS</td>
<td>5</td>
</tr>
<tr>
<td>NS</td>
<td>5</td>
</tr>
</tbody>
</table>

Note. NNS = Non-native English speaker; NS = Native English speaker.

The answers supported that non-native English speakers took more time to write a post or formal E-mail.
Course Structure

One of the biggest advantages of asynchronous online education was the flexibility. The flexibility related to time and access to content material and lectures.

The face-to-face course required mandatory physical presence (on a specific day and time). In the online course, students could adjust learning times closer to their personal schedule instead of a fixed course-schedule. Students said, “I will have time, flexi-time . . . it is all about, when I have time“ (NNS, personal communication, September 11, 2012), and “for some courses that are not technical, I prefer online discussions, because it can save me a lot of time“ (survey question 10, NNS, September 28, 2012).

The flexibility of online courses also applied to the time students spent studying the content. Students skipped parts of the slides and took more time where needed. “I don’t know, I just pause the video” (NNS, personal communication, September 11, 2012), and “for some content, I just read the book. I got the sense, and I just skipped some of the slides. I think I got it. And sometimes, before the test, I would go back and check it. This is really helpful” (NNS, personal communication, September 27, 2012).

However, this advantage depended on the instructor and the course structure: “For some of the [online] classes it will depend how the teacher will set up the classes, as well as the content of the class” (NNS, personal communication, September 27, 2012). “If it is a really good organized professor, he or she will put everything online, and you can just follow the learning modules and learn it” (NNS, personal communication, October 3, 2012).
Financial Commitment to Education

Most international non-native English speaking graduate students expressed a great commitment to their education (NS, personal communication, July 25, 2012; NS, personal communication, September 27, 2012; NNS, personal communication, November 26, 2012). The estimated cost of attendance at The University of Alabama for non-resident (international) students was $18,905 for one semester (retrieved on January 18, 2013 from http://cost.ua.edu/undergraduate-budget.html). Although incomes in the countries of origin in Asia vary, one semester at The University of Alabama cost about a yearly salary of an employee with a Master of Business Administration (MBA) degree in their Asian home country for students from Vietnam, Bangladesh, and India (PayScale, 2013). That was an enormous financial commitment and pressure to succeed. In comparison, in the United States the costs for one semester were only one third of an average yearly income for the comparable population (PayScale, 2013). Table 13 shows the average range of pay for an employee with a Master of Business Administration (MBA) degree in the USA and the countries of origin of the non-native English speakers in ST 521.

Table 13

*Master of Business Administration (MBA) Average Pay per Year*

<table>
<thead>
<tr>
<th>Country</th>
<th>*Salary Range for MBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>$57,820 - $106,584</td>
</tr>
<tr>
<td>China</td>
<td>$29,081 - $123,584</td>
</tr>
<tr>
<td>Vietnam</td>
<td>$12,208 – $53,062</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>$8,253 - $24,093</td>
</tr>
<tr>
<td>India</td>
<td>$5,611 - $18,687</td>
</tr>
</tbody>
</table>

*Note: Salaries (PayScale, 2013) converted to US Dollar on January 28, 2013 (http://www.finanzen.net/waehrungsrechner/).*
Some non-native English speakers received their financial support from scholarships and/or their parents (NNS, personal communication, September 6, 2012). Other students encumbered themselves with debts (NNS, personal communication, November 26, 2012).

Online education would offer the advantage of taking some courses while being in the home country, before or after an international experience in the United States of America. This option lowered the estimated costs for one semester by $6,505 and left only costs for tuition, college fees, and books of $12,400 for one semester. Accordingly, online education lowered the financial burden.

Advantages of Online Education for Non-native English Speakers

The asynchronous online environment had many advantages for non-native English speakers. The written language of the online environment solved some problems related to English as a foreign language. Students could adjust the level of detail and amount of time spent with the course content according to their prior knowledge and their individual needs. Non-native English speakers could use a flexible amount of time to write communication contributions, or speech acts (e.g. online discussion posts), in asynchronous online education. Based on the opportunity to participate in online education independent of geographic location, the financial commitment could decline.

Summary

The researcher administered surveys, interviewed native and non-native English speakers, gathered information from student resources of The University of Alabama, and the
Internet. This study collected data in online and face-to-face courses. Especially in the online environment, access to non-native English speaking participants was a challenge.

There were more activities and communication contributions of non-native English speakers in the online environment than in the face-to-face course. Non-native English speakers used fewer words than native English speakers in communication in the face-to-face course. On the other hand, quantitative analysis found no significant difference between native and non-native English speakers in the online education environment.

The asynchronous online environment offered advantages for non-native English speakers. One advantage was flexibility, regarding the time spent studying content material and time spent to write communication contributions. The written online communication eliminated misunderstandings based on accents or sounds of spoken language (phonetics). Online courses offered geographic flexibility to participate in U.S. based education from different locations, even outside the USA. Costs for living in the USA could be minimized. Nevertheless, non-native English speaking students preferred face-to-face courses for higher education.
CHAPTER 5
DISCUSSION AND CONCLUSIONS

Introduction

The purpose of this study was to examine non-native English speaking students’ activity in face-to-face versus online learning environments. This research studied non-native English speakers in English-based higher education. The research setting was higher education in the southern United States of America. The research participants were native and non-native English speakers in online and face-to-face courses.

This research is embedded in multiple fields, the global environment and “academic mobility” (Gürütz, 2011, p. 20), trends and requirements in education, and intercultural communication and languages. The researcher chose a mixed method approach to address the multiple dimensions of this topic. Active learning was the theoretical/conceptual framework for this study.

This chapter discusses the findings of the study and gives recommendations for instructional designers and instructors as well as non-native English speaking students in international higher education. Ideas and considerations for future research intend to encourage more research about a globalized approach to higher education with native and non-native English speakers.
Discussion

Higher education should find ways to meet the challenges of 21st century education and prepare students for an increasingly globalized society (Berka, 2010; Gibson et al., 2008, Lutz 2010). The consideration of course communication and language, course design and structure, and teaching methods like active learning are essential to utilize the opportunities of a diverse student body in international higher education. “The goal should be to raise the learning outcome to the highest possible level and learn from each other” (personal communication with a professor in international higher education, September 13, 2012).

Communication and Language in International Education

Communication is a key concern of non-native English-speaking students in international higher education. Students’ contact with another culture often results in a phase of culture shock, defined as “a relatively short-term feeling of disorientation and discomfort due to the lack of familiar cues in the environment” (Martin & Nakayama, 2010, p. 328). There is fear to go to unfamiliar grounds for communication in education, “I never take online courses, before. I am only used to listen to a teacher in a classroom, so I choose face-to-face class” (NNS, personal communication, Sept. 7, 2012). The presence of a teacher presents a familiar setting. Students feel uncomfortable or insecure if they cannot interact with the instructor immediately. “I feel insecure if I do not see the professor. That means like, I get less help from the professor” (NNS, personal communication, Oct. 3, 2012). Non-native English speakers value the verbal communication in face-to-face environments. There is more “ease to communicate [in the face-to-face course], especially when English is a second language (facial expression, sign language help)” (NNS answer to survey question 10, Nov. 26, 2012). Students of Statistical Data
Management (ST 521) expressed the same disadvantage and concerns as participants in the study of Tiene (2000): that there is less visual information in written online communication compared to synchronous face-to-face conversations.

English as a foreign language challenges non-native speakers, especially in the beginning of an international education. Dialects and different pronunciations (e.g., accents depending on the region or country) are an obstacle toward understanding instructors and peers: “When I come here. The first class here in Alabama, they are having kind of Southern accent. A little bit difference for what we learn, Standard American English” (NNS, personal communication, September 27, 2012), and “the only problem I had in my first semester was understanding the accent of people speaking English. We are used to speaking European English” (NNS, personal communication, September 13, 2012). Verbal speech of native and non-native English speakers with foreign pronunciations causes misunderstanding by native and non-native English speakers (Kaur, 2010). Written communication without phonetics (sounds of language) solves some of the pronunciation problems.

Surprisingly, non-native English speakers did not mention translation software in the interviews conducted in this study. Programs like Google translate (http://translate.google.com/) do a good job translating between languages in written communication. Although the programs are not perfect, they aid communication between persons who do not share common languages.

Non-native English speakers hesitate to consider online education; one reason may arise from the circumstance that studying in another country in another language is already unfamiliar ground for education. Intercultural learning and online learning interrelate the two new and challenging issues (Murphy et al., 2007). If students were familiar with the course content, they became more courageous to consider unfamiliar ways of learning such as online education, “if
the course is very unfamiliar for me, I would choose face-to-face. If the course will be related to what I have learned, I will choose online” (NNS, personal communication, September 11, 2012). Further research should explore the relationship between prior course content knowledge and course methods (e.g., online or face-to-face) for native and non-native English speakers.

**Course Design and Course Structure**

Earlier studies reported that course design and structure were necessary for good online education (Bailey, & Wright, 2000; Swan, 2002). Non-native English speakers in this current study connected a good structure and full online access of the course material as positive attributes of online education.

Written course material aids understanding: “The slides are very helpful. Sometimes I can’t understand the professor, and I can watch the slide” (NNS, personal communication, September 7, 2012). In the study of Tiene (2000), “students gave positive feedback about the asynchronous characteristic of online discussions . . . [and] the involvement with written words was perceived positive” (pp. 381).

Non-native students perceived course content and material in their native language as favorable for learning: “What the teacher taught is not difficult. Just the software, if in China, I am sure, I could learn it all by myself. I just need to buy some textbook and read by myself” (NNS, personal communication, Sept. 7, 2012).

Online course design should use the additional options, like the flexibility of online education. Students said, “I will have time, flexi-time [in online education] . . . it is all about, when I have time“ (NNS, personal communication, September 11, 2012). The flexibility of online courses also applies to the time students can spend studying the content. Non-native
English speakers may skip parts of the content, or take more time: “I don’t know, I just pause the video” (NNS, personal communication, September 11, 2012), and “for some content, I just read the book. I got the sense, and I just skipped some of the slides” (NNS, personal communication, September 27, 2012).

Participating students confirmed earlier findings that course structure and design aspects become prominent in online education: “For some of the classes … it will depend how the teacher will set up the classes, as well as the content of the class” (NNS, personal communication, September 27, 2012). “If it is a really good organized professor, he or she will put everything online, and you can just follow the learning modules and learn it” (NNS, personal communication, October 3, 2012).

**Students’ Activity**

This research built on the study design of Hlas et al. (2008) to quantify students’ activity. The study of Hlas et al. found an imbalance in activity for native and non-native English speakers between online and face-to-face courses. The findings and observations of this current study strengthen the findings of Hlas et al. In this current study, native and non-native English speakers in Statistical Data Management (ST 521) were more active in online than face-to-face courses. Although the course topic was a limitation regarding students’ activity and participation, the students produced more communication contributions, or speech acts, and contributed more words per speech act to the online course conversations.

The findings demonstrate that the online environment is favorable for non-native (and native) English speakers. Online education components like online discussions motivate and activate students to contribute to course communications.
Active Learning in International Higher Education

Active learning is more than paying attention in a lecture. Students’ cooperation and activity fosters learning (Bonwell & Eison, 1991). Bonwell and Eison’s working definition of active learning is “anything that ‘involves students in doing things and thinking about the things they are doing’” (p. 2). In active learning, students solve problems. Instruction engages them in reading, writing, and discussions. Students perform higher order thinking tasks. They analyze, synthesize, and evaluate the study material (Bonwell & Eison, 1991).

To aim for the highest possible learning outcome, students also have to learn from each other. International higher education with native and non-native English speakers should use the opportunity to motivate and activate communication of its students. All students (native and non-native English speakers) can learn from each other’s cultures in addition to learning the course content. A non-native English speaker from China observed, “there are people from all over the world here in the U.S. We share our culture” (NNS, personal communication, September 7, 2012). The student offered, “I can teach you something in Chinese culture, and I can learn something from you about Germany culture” (NNS, personal communication, September 7, 2012). International higher education can teach content and culture in the broader definition of culture by Hall (1981) involving “how people express themselves (including show of emotions)” (p. 16).

Higher Education and the Imperative for Global Education

Globalization and technology have changed the way we communicate and have created new options for education (Gibson et al., 2008). “Academic mobility” (Gürütz, 2011, p. 20) has influenced who participates (students and scholars) in higher education. English-based higher
education in the United States is valued throughout the world (Gürütz, 2011). Students of other countries, or their families, spend large sums of money to get an education in the United States of America.

Higher education in the United States prepares students for job markets around the world. Use of online technology is a key element in professional international communication, worldwide. Online education is one option to become familiar with the course content and improve professional online communication skills. Higher education courses should incorporate online education components like online discussions, video-conferencing, and professional online communication (European Parliament 2006; Gibson et al., 2008).

**Implications and Recommendations**

There is work to do for all stakeholders. Higher education should cultivate online education and implement the “potentially richer [online] learning environments” (The University of Western Australia, 2012, Online Learning, ¶ 2) and use the “fresh approaches for learning” (The University of Western Australia, 2012, Online Learning, ¶ 2). The combination of education and technology offers several options. Students and instructors must dare to try unfamiliar methods of education. Instructional designers need to be creative and use the opportunities instead of replicating traditional face-to-face learning online (The University of Western Australia, 2012).

Universities should make an inventory of their library holdings and literature resources based on language. Literature in foreign languages can be favorable of students’ learning in international higher education. A good guideline for the literature holding would be the number of international students speaking a foreign language in relation to the fields of study of these students. International mentoring programs, especially designed for non-native English
speakers, can meet the specific needs of non-native English speakers. Universities also need to reevaluate residency requirements in order to open more opportunities for (international) students.

There is no “one best way” for such a complex context. However, one aim of this research was to develop recommendations for international higher education, and to evaluate advantages of (online) education for non-native English speakers. The findings of this study support that active learning and online education in international higher education can be beneficial for all students independent of their (native) language.

**Approaches to Utilize the Advantages of Online Education**

International non-native English speaking students hesitate to try online education; “I never really tried the online one, so I cannot tell, and I am afraid to try” (NNS, personal communication, Oct. 8, 2012). In order to overcome the hesitant attitude, the introduction to online education may begin in familiar face-to-face course settings: “It is easier to ask question face to face, instant feedback. Besides that, I can have a completed conversation, not just a question and an answer” (NNS answer to survey question 10, Sept. 30, 2012). Adding mandatory online discussions may increase students’ activity and the number of communication contributions, or speech acts. Bailey and Wright (2000) wrote, “as the review of the literature indicated, the majority of the respondents agreed that students who typically did not participate in class tended to participate more in online discussions” (p. 10). Native and non-native English speakers can practice academic writing and professional online communications with guidance of the instructors. Hybrid courses (combination of face-to-face and online courses) provide a
way to keep the comfort of face-to-face communication and the familiar method of education, on top of trying online education.

There are students, who associate computer games with using their computer, “if I sit in front of the computer, I will be tempted to play computer games” (NNS, personal communication, Sept. 7, 2012). These students may be convinced that game-based online education is a fun way to learn.

All students and instructors should gain online course experience. Online education is not “a savior” (Njenga, & Fourie, 2010). However, without experience it will be difficult to make the decision about the best learning options in higher education from an instructor’s or student’s perspective.

**Recommendations for Instructional Designers**

The first recommendation for instructional designers in higher education proposes to keep an international audience in focus. New online courses, or course elements, should be designed with a national and international audience in mind.

It is favorable to include options for translations and access to international course material. Depending on the field, course material may be available in an original form in a foreign language, besides the English translation. Any student will culturally learn and benefit if they become aware of the source country and environment of an article or course material. Students with the language background can possibly add to the course if they understand the meanings of the actual words of an author. English translations can only get close to the multiple meanings of some words in foreign languages.
Students with different backgrounds and cultures may prefer alternative formats and styles. There are many new options with technology in education (for example, digital stories, online discussions, blogs, podcasts) to present course content, project results, and so forth. Other formats can determine students’ accomplishments in learning in multiple ways. Written academic papers should be accompanied with presentations in alternative forms. Personal experience with technology in education helps students.

Instructional designers should watch the developments in research and observe new methods with technology for education. Instructional designers are knowledgeable about best practices. They can advise and support faculty members (the content matter experts) on their route to unfamiliar (technology in education) course methods, and can provide a significant contribution to international higher education.

**Recommendations for Instructors**

International higher education holds many options to educate global citizens. Technology has changed the way we communicate (Gibson et al., 2008). Technology adds new options and demands for education. The environment asks faculty to try new unfamiliar ways in higher education. Research, best-practice reports, and other resources, as well as instructional designers offer ideas and advice for faculty to teach content knowledge and combine teaching experience with new technology.

Active learning is one framework that recommends and describes teaching methods to foster activity and contributions of students. Depending on the course content, the “Modified Lecture” (Bonwell & Eison, 1991, pp. 7) method, where the instructor complements the lecture with two to three minutes of student discussions after 12-18 minutes of the lecture, are feasible
modifications. The short discussions will give students the opportunity to clarify questions and process the lecture information (Bonwell, & Eison, 1991). Non-native English speakers may switch back to their native language for clarification. All students can engage in short discussions, strengthen understanding of content material, and build social and academic communities. Community building can overcome communication barriers (Murphy et al., 2007). Other teaching methods to activate students are questioning and discussions, writing in class, cooperative learning, debates, drama, role-play, simulation, games, and peer teaching (Bonwell, & Eison, 1991).

Regarding the integration of (new) technology in education, the 2006 framework of Mishra and Koehler “Technological Pedagogical Content Knowledge (TPACK)” is a significant contribution to education. TPACK interrelates the three fields’ content, pedagogy, and technology to create knowledge. Any content teaching should regard pedagogical considerations, and evaluate teaching tools and technology to create the best possible higher education.

Higher education needs appropriate integration of technology. In combination with active learning, students get involved in global learning with a mutual benefit for all students independent of their language.

**Recommendations for Non-native English Speaking Students**

Leaving a familiar environment for an international higher education is an adventure. Students have to adjust to their new environment. Inevitable, international students become ambassadors of their home country.
This adventure needs good preparations and flexibility. Studying in the United States of America is a significant investment. Many expectations and pressure to succeed arise for international students in higher education. Becoming familiar with the English language and the host culture are essential elements for success. There are different sources of information, e.g. information from other international students, the embassies, and many Internet resources.

International students have to be prepared to change. An international experience promotes an outside perspective. With this outside view, students expect to learn English, and something about a new country and culture. As a surprise for some students, the outside perspective also generates a different perspective of the home country and culture (Martin & Nakayama, 2010). It takes courage to embrace the new experiences and learn about one self. The 2002 quote of Sunstein and Chiseri-Strater “any study of ‘another’ is also a study of ‘a self’” (as cited in Glesne, p.151) is a powerful quote that summarizes an important part of an international adventure.

On the campuses of the colleges and universities in the USA, students have various ways to get involved in communities besides their field of study. There is sport, art, music, language teaching, volunteer opportunities, and much more. To maximize the international experience, students need to get involved in their new environment, learn English, and become active members in communities within and around academia in the host country (Murphy et al., 2007).

**Conclusions**

The findings indicate that online environments are favorable for non-native English speakers. Although the course topic (Statistical Data Management) seemed to be a limitation regarding students’ activity and participation, the non-native English speakers became more
active in the online course environment and produced more communication contributions. The findings support that all students independent of their native language become increasingly active in asynchronous online learning environments. Asynchronous online courses are a productive addition to traditional face-to-face courses in international higher education. The online environment offers advantages especially for non-native English speakers. Nevertheless, non-native English speaking students are hesitant to consider online courses. Higher education should find ways to motivate students towards new ways of education to utilize the advantages and teach global skills.

A globalized approach to higher education with native and non-native English speakers should incorporate new ways to communicate. Professional online communication is one element. Today, purposeful usage of technology is a key component in international education. Global education has to balance content, pedagogy, technology, and culture. It will be an advantage in the global world to be able “to deliver culturally sensitive and culturally adaptive instructions” (Parrish & Linder-VanBerschot, 2010, p. 1).

For this research, the distinguishing characteristic was native or non-native English speaker. In a future global education, the distinguishing characteristic should not be native or non-native speaker of any language. Students come with diverse backgrounds and bring different experiences and talents to education. Instructors should emphasize students’ activity and collaborative learning to leverage the diverse talents. Many current and future challenges in the world require teams with intercultural communications skills, diverse talents, and digital competence.
Further Research and Considerations for Future Research

In order to reevaluate and add to the findings of this study, future research should replicate the study and gather data from a bigger sample population of native and non-native English speakers in higher education. This research built on the study design of Hlas et al. (2008). The current study design further developed the classroom observation with a step-by-step observation procedure (see Observation Guide in Appendix C). Based on this enhanced design, classroom observations with up to 50 persons was practiced and validated. A broader knowledge base will add more accuracy and provide a broader basis to generalize the findings to other international educational environments.

It may be insightful to look closer at the perceptions and obstacles of non-native English speakers towards online education. The question, if there is a relationship between the course topic, the student type (native or non-native English speakers), and course method (face-to-face, hybrid, or online) addresses an additional topic for a future research study. This future study could investigate if hybrid courses influence the perceptions of students about online courses.

This study looked at online and face-to-face courses at the College of Commerce and Business Administration in just one university. Data were collected from a small amount of courses with just two faculty members. Research comparing implementations of international higher education across different universities would be valuable. Data from observations of more courses, possibly across different academic fields, could reveal similarities and differences between universities and/or academic fields. This future research should include native and non-native English speaking faculty and staff members.

A study of dual degree programs would create valuable knowledge. In dual degree programs, students study in their home country, presumably in their native language, and abroad
in a foreign country, communicating in a foreign language. Studying students in both environments (home and abroad) can add new perspective and valuable knowledge.

Long-term studies can observe non-native English speaking students and scholars in English based higher education. Once the students or scholars return to their home countries, future research should track students’ career development. What did the non-native English speaker accomplish regarding their career development after one year, three to five years, and up to ten years? Bases on the findings of this future research, researcher can provide best practice scenarios, tell success stories, and generate theories. Depending on the focus of the study, even measures like “return of invest” could be calculated.

As a consideration for future research, access to non-native English speakers was a challenge in this study. Non-native English speakers appear to be a group of participants that are hesitant to participate. In this study, non-native English speaking online students only agreed to participate in the study via personal contact of someone within their community. Future studies with non-native English speakers should examine multiple ways to access participants and encourage participation.
REFERENCES


The University of Alabama Graduate Catalog. (n.d.). Retrieved on April 20, 201, from http://graduate.ua.edu/catalog/19800.html


Survey Questions

1. I have taken an online course before.
   Yes  No

2. I have participated in online discussions before.
   Yes  No

Your Opinion about Discussion Teaching Method:

Please choose your response following each statement, using a strongly disagree, disagree, neutral, agree, or strongly agree scale.

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<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
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3. I think discussions are an effective teaching method in higher education.
   SD   D   N   A   SA

4. I prefer online discussions.
   SD   D   N   A   SA

5. I prefer synchronous (at the same time) in-course, face-to-face discussions.
   SD   D   N   A   SA
6. I prefer to write my course contributions/opinions asynchronous (independent of time) in online discussions.

   SD  D  N  A  SA

7. I prefer to communicate my course contributions/opinions verbally (with spoken words) in the course meetings.

   SD  D  N  A  SA

8. Based on my experience about online discussion, I would recommend online discussions to a friend.

   SD  D  N  A  SA

9. Please tell me, why you like either online or face-to-face discussions better?

   ________________________________________________________________
   ________________________________________________________________

10. Is there anything you would like to add about using online or face-to-face discussions in your courses?

    ________________________________________________________________
    ________________________________________________________________

**Personal Information**

Please answer the following items. Remember, I will ask for the last four digits of your CWID to connect your opinion from the beginning of the course to your opinion after taking the course.
11. Please choose the appropriate response.

   Gender: Male       Female

12. My nationality, home-country, or home-continent is:

   Please choose one:
   Africa
   Asia
   Australia/New Zealand
   Europe
   Canada
   Mexico
   South/Middle America
   US-American
   other _____________________ (please specify)

13. How long have you lived in the USA?
   Please choose one:
   less than 12 month
   1-3 years
   4-5 years
   6+ years

14. My native Language is:
   Please choose one:
   English
   If not English, please specify ________________,
       -> follow up question, if not English : number of years you learned/studied
   English __________
15. TOEFL (Test of English as a Foreign Language)
Please choose one:
   I did not take the TOEFL test
   I remember my TOEFL score. It was ______________
   I do not remember my TOEFL score
   I choose not to answer this question

16. Is there anything you like to add about yourself?
________________________________________________________________________
________________________________________________________________________
APPENDIX B

INTERVIEW GUIDE FOR THE QUALITATIVE INTERVIEW
Interview Guide for the Qualitative Interview

1. Why did you decide to enroll in ST560/ST521?

2. Did the format (online or face-to-face) of the course have any influence on your decision?

3. As a native/non-native English speaker, I find certain parts/elements of the course challenging …

4. As a native/non-native English speaker, I find certain parts/elements of the course supporting …

5. Anything you would like to add about online discussion, or your background of being an native/non-native English speaker
APPENDIX C

OBSERVATION GUIDE
Observation Guide

Online and Face-to-Face Discussions with Native and Non-native English Speakers
Face-to-Face course Observation

1. Preparation

- Before the beginning of the course check and set up the recording.
- Prepare a seating chart to be passed around, or taken around by the investigator in the course before the beginning of the course.
- Bring 40 copies of the consent form.

2. Right in the beginning of the course:

- Explain the study, answer questions, and get informed consent.
- Pass the seating chart around. Students who gave their consent will add their name to the seating chart. Students who did not agree to participate just add an “X” to keep the overview.
- Number the seating chart from 1 to 40.

3. Throughout the course discussions the observer keeps track of the discussion contributions by the students by writing down recording time and student number.

4. For the transcript only contributions of students, who agreed to participate in the study are transcribed. The transcription will not have students’ names. The investigator will transcribe each discussion contribution with the only characteristic “native speaker” or “non-native speaker.” The distinction is based on the seating chart and the information provided on the consent form. After transcription the audio-recording and seating charts are disposed.
5. The transcript becomes the data source for the analysis:

The Principle Investigator will focus on the students and count the number of speech-acts. A speech-act consists of a number of written or spoken words. Number of speech-acts is a continuous variable counting each verbal or written contribution to the discussion. The Primary Investigator will further count the number of words for each speech-act. Based on the categories of the study of Hlas, Schuh, and Alessi (2008, pp. 346) each speech act will be categorized. The Investigator will distinguish between speech-acts of native and non-native speakers. Statistical analysis and grounded theory will be used to analyze this data to learn about the differences between native and non-native English speakers in face-to-face and online discussions.
APPENDIX D

SEATING CHART OF ST 521 (STATISTICAL DATA MANAGEMENT)
FACE-TO-FACE LECTURE AUGUST 29, 2012

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Seating Chart of ST 521 (Statistical Data Management)

Face-to-Face Lecture August 29, 2012

PhD Study "Online and Face-to-Face Activities of Non-Native English Speakers"

Please, print your name, or add an "X", if you choose NOT to participate.

Note: Names will not be transcribed. Date: August 29, 2012 (27 NS, 12 NNS, 7 X, overall 46)

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APPENDIX E

SEATING CHART OF ST 521 (STATISTICAL DATA MANAGEMENT)
FACE-TO-FACE LECTURE SEPTEMBER 26, 2012
Seating Chart of ST 521 (Statistical Data Management)
Face-to-Face Lecture September 26, 2012

PhD Study "Online and Face-to-Face Activities of Non-Native English Speakers"

Please, print your name, or add an "X", if you choose NOT to participate.

Note: Names will not be transcribed. Date: September 26, 2012 (26 NS, 10 NNS, 6 X, overall 42)

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APPENDIX F

SEATING CHART OF ST 521 (STATISTICAL DATA MANAGEMENT)
FACE-TO-FACE LECTURE NOVEMBER 12, 2012
The professor was not present, the TA taught the class.

Please, print your name, or add an "X", if you choose NOT to participate.

Note: Names will not be transcribed. Date: Nov. 12, 2012 (20 NS, 12 NNS, 6 X, overall 38)
APPENDIX G

INTERNAL REVIEW BOARD (IRB) CERTIFICATION
Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that Carmen Winter successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 01/20/2012
Certification Number: 836044
May 22, 2012

Cameron Winter  
ELPTS  
College of Education  
Box 870232

Re: IRB # 12-OR-184, “Online and Face-to-Face Discussions with Native and Non-Native English Speakers”

Dear Ms. Winter:

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your application has been given expedited approval according to 45 CFR part 46. You have also been granted the requested waiver of written documentation of informed consent. Approval has been given under expedited review category 7 as outlined below:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs, practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your application will expire on May 21, 2013. If the study continues beyond that date, you must complete the IRB Renewal Application. If you modify the application, please complete the Modification of an Approved Protocol form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, please complete the Request for Study Closure form.

Should you need to submit any further correspondence regarding this application, please include the assigned IRB application number.

Good luck with your research.