ABSTRACT

Whitney A. Morris, BUILDING A GLOBAL PERSPECTIVE AT HOME: A STUDY OF THE ACQUISITION OF A GLOBAL PERSPECTIVE BY STUDENTS OF GLOBAL UNDERSTANDING (Under the direction of Dr. Marjorie Ringler). Department of Educational Leadership, November 2018.

Universities around the United States use international mobility, such as recruitment of international students and faculty and study abroad of domestic students, as methods of achieving internationalization goals. However, only 15.5% of U.S. students have a study abroad opportunity during their academic careers. As universities strive to reach internationalization goals, methods of internationalization that do not rely on physical mobility of students need to be researched to ascertain whether goals are being met while students remain on campus. Classes that utilize Web 2.0 technologies allow students to communicate internationally with students at partner institutions globally. This research is using the Global Perspective Inventory (GPI), a measurement of global perspective acquisition, on students who enroll in GU at ECU. There are n=211 usable data points in the secondary data collected by the GU program. These data were analyzed using paired *t*-tests, and two-way mixed ANOVAs. Results indicate that students' scores improved significantly on the overall GPI and the following subscales: knowledge, personal identity, personal affect, and social interaction. Exploratory analyses indicate that specific demographics, such as gender, race, and interest level in study abroad, significantly interact with students' scores on specific subscales of the GPI. Therefore, virtual exchange is a measurable addition for campuses to consider for comprehensive internationalization.

BUILDING A GLOBAL PERSPECTIVE AT HOME: A STUDY OF THE ACQUISITION OF A GLOBAL PERSPECTIVE BY STUDENTS OF GLOBAL UNDERSTANDING

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Whitney A. Morris

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DEDICATION

I am so proud to have had the opportunity to work towards this degree, and I know it would not have been possible without the people who I call family. My mother, who has encouraged me to learn and be curious about the world, has been a crucial piece to the completion of my research and will continue to be my favorite travel companion. My brother taught me perseverance and will be right behind me on completing his degree. My step-father, who has been supportive of my travels and career. And finally but not least, my father, who did not live to see the completion of my formal education, but inspired me to see the world through the perspective of others and to try to spread joy.

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CHAPTER 1: INTRODUCTION

In spring 2016, I sat in on a Global Understanding class at East Carolina University. The students filtered into the room ready to have a "local day" where they discuss with their class what they have learned about their international partner. Each student has been collaborating with a partner in the Ukraine for about 3 weeks, and today is when they can disseminate what they have learned about their partners with their local classmates. Their professor pulls out an assignment from 3 weeks prior. The students were asked then to provide characteristics of what they thought Ukrainian citizens would be like. But before comparing, the professor asks the students what they think today – what makes up Ukrainian society? The students respond with answers such as: family-oriented, religious, happy, educated, love for food, and interesting traditions. The professor then begins to read what the students wrote 3 weeks prior. Their pre-conceived notions included: war-torn, radical opinions, uneducated. The professor asks if they still agree with what they wrote initially. The students acknowledge that their perspectives have changed – they acknowledge that what they wrote 3 weeks prior to their interactions with their Ukrainian partners is what they have learned about Ukraine from media. Now that the ECU students have interacted with people from Ukraine, they know that there is much more to their fellow students than what they knew prior to their virtual exchange.

These conversations in GU are ones that most university students do not have the opportunity to participate in unless they seek out intercultural interactions. At East Carolina University (ECU), students can enroll in classes where these conversations happen regularly and opinions of foreign cultures evolve and grow. Global Understanding (GU) is a course with approximately 15 sections at ECU every semester which provides students with intercultural communication opportunities with students at 3 or 4 international universities using Web 2.0

technologies, such as real-time videoconferencing, instant messaging, emailing, connecting through social media, and ultimately preparing a collaborative project with their international partners (Global Understanding Core, 2017).

Internationalization can be defined as "The process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of post-secondary education" (Knight, 2004, p. 11). The primary ways that universities try to add an international component into their students' lives are by promoting study abroad, bringing international students to campus, hosting international faculty and scholars, and by integrating an international scope into campus events. With only 15.5% of American students who graduated with a Bachelor's degree during the 2015-2016 academic year studying abroad, that means that 84.5% of American Bachelor's graduates do not have a study abroad experience in their college careers (Institute of International Education, 2017). With only 15.5% of students in the United States studying abroad during their university careers, universities must find ways to target the other 84.5% of students so that they are also given the opportunity to gain a global perspective that will allow them to compete with students who have opportunities to study internationally. This research will show whether alternatives to in-person intercultural interaction provided by study abroad or international students on campus, such as the utilization of web 2.0 technologies to deliver courses with cross-boundary interactions and collaborative projects, can provide a greater global perspective within their students.

Background of the Study

This study is being conducted at ECU, which is in eastern North Carolina. With a student population of 29,131 in fall 2017, it is the third largest university in North Carolina (IPAR Facts, 2018; University of North Carolina System, 2018). The University widely serves North Carolina

residents with 88% of its enrollment being comprised of residents. Many of those students come from rural rather than urban locales. The three most represented ethnicities are White (19,486 or 66.8%), Black or African American (4,639 or 15.9%), and Hispanic of any race (1,756 or 6.0%). American Indian or Alaska Native, Asian, Native Hawaiian/Pacific Islander, Non-Resident Alien, Two or More Races, and Unknown ethnicity make up the remaining 11.3% of the student population. There are 11,970 male students and 17,161 female students. International students make up 0.08% of the total student population. From these demographics, one could infer that students do not have the opportunity to interact widely with others different from themselves while on campus. During the 2015-2016 academic year, 522 students studied abroad, 1.8% of the entire student population or 11.7% of the graduating undergraduate student population (Institute for International Education, 2017). Using these demographics, the average ECU student is a white female from a rural location who has not had an international experience.

ECU was established in 1907 as East Carolina Teachers Training School and was renamed to East Carolina Teachers College in 1921. Thereafter the first Bachelor of Arts degrees were conferred in 1922 (ECU Timeline, 2018). The University's first Master of Arts degree program was established in 1929. In 1940, the university became authorized to confer Bachelor of Science degrees to attract non-teaching students and in 1951 it was renamed to East Carolina College. In 1969 it was finally renamed East Carolina University, a name which it holds to this day. Ten years later, in 1979, ECU approved the first doctoral degrees conferred through the university (ECU Timeline, 2018). According to *Measures of Success at ECU* (2018), ECU offers 84 bachelor's, 71 master's, 2 intermediate, 5 professional doctoral, 13 research doctoral, and 82 departmental certificates. Additionally, 43% of degree-seeking students have specializations in STEM or healthcare fields (Measures of Success, 2018).

At ECU, the University incorporates a desire for students to gain global skills in the university's mission statement:

> To be a national model for student success, public service and regional transformation, East Carolina University:
>
> - Uses innovative learning strategies and delivery methods to maximize access;
> - Prepares students with the knowledge, skills and values to succeed in a global, multicultural society;
> - Develops tomorrow's leaders to serve and inspire positive change;
> - Discovers new knowledge and innovations to support a thriving future for eastern North Carolina and beyond;
> - Transforms health care, promotes wellness, and reduces health disparities; and
> - Improves quality of life through cultural enrichment, academics, the arts, and athletics. (University Mission, 2018)

In addition to the mission statement incorporating success in a global society, ECU's Chancellor, Cecil Staton, began his tenure at ECU in 2017 by emphasizing the importance of internationalization and speaks frequently about the impact of his own time studying at University of Oxford. During his installation week, he held a gala to support study abroad scholarships, had a reception for international students and scholars, and personally donated a substantial amount of money towards study abroad scholarships (ECU, 2018). The Chancellor was appointed to the board of directors of NAFSA: Association of International Educators in late 2017 (ECU, 2018). NAFSA has a membership greater than 10,000 international educators around the world and advances "policies and practices that build global citizens with the knowledge and skills they need to succeed in today's interconnected world" (NAFSA, 2018). The

board of directors work to create and implement NAFSA's strategic plan in order to meet the organizations' goals. With ECU's chancellor taking on this leadership role, as well as the actions he has taken at ECU, Dr. Staton has reinvigorated the campus community in the implementation of a global perspective across campus.

To advance internationalization efforts on campus, ECU relies on the Office of Global Affairs to establish activities and involvement for and by students. The Office of Global Affairs is split into multiple sections: (a) study abroad, (b) international recruitment, (c) ECU language academy (for learners of English as a Foreign Language), (d) international student advising, and (e) Global Academic Initiatives (GAI). The division of GAI works primarily to offer technology-rich solutions to incorporate international collaborations on-campus for students and faculty. To accomplish this, GAI offers several programs, the most robust of which is Global Understanding. Global Understanding was piloted in 2003 by Rosina Chia, Elmer Poe, and Biwu Yang, and developed into a larger collaboration amongst international partners known as Global Partners in Education (Chia, Poe, & Yang, 2011; Eppler & Cavanaugh, 2012). Global Partners in Education includes several different programs which each attempt to increase internationalization initiatives at ECU and on partner universities' campuses: Global Discussions, Global Understanding, GPE World, Global Issues Virtual Conference, and WorldWise. Global Discussions are one-time connections with EducationUSA offices to discuss college life in the United States of America and the partner country. Global Understanding is a semester-long course where, in 2017, ECU and over 60 partner institutions in more than 30 countries exchange via teleconferencing. Over 1,900 students around the world are involved in this exchange each year, including approximately 480 ECU students. Global Partners in Education (GPE) is the organization that represents all of the GAI partners. The GPE members hold an annual conference to discuss

progress within the group and make changes as necessary to each area. WorldWise is a student organization with chapters at ECU and 10 international GPE partners which focuses on local and global interactions. The Global Issues Virtual Conference ran for the third time in 2017 and is a platform for scholars and students to present on global issues and hear about local perspectives on the topic at hand. These different programs help GAI to meet its mission to internationalize ECU.

The GAI unit at ECU has gained recognition from several local, national, and international organizations in recent years. In 2016, the program was awarded the Senator Paul Simon Spotlight Award for Campus Internationalization, in 2015 it received the North Carolina Association for International Educators Institutional Award, in 2014 GAI won 3rd place for presence learning in the Wharton-QS Stars Re-imagine Education Award, in 2009 the founders were awarded with the AAUA Khaladjan International Award for Innovation in Higher Education, and in 2008 the program received an Honorable Mention for the Institute of International Education's Andrew Heiskell Award for Innovation in International Education (East Carolina University – Global Academic Initiatives, 2018). Deardorff, Wit, & Heyl (2012) wrote of the program:

> East Carolina University's Global Academic Initiatives program has been recognized for innovative strategies in its freshman course 'Global Understanding' in which chat technology and video-conferencing bring students together with their overseas counterparts in pairings among 23 partner universities abroad throughout the semester. The same university has been recognized for its International Lecture Exchange Program, in which faculty present a lecture through video in a course at a partner institution. Strong institutional partnerships, resource commitment on the home campus, and engaged faculty are the primary determinants of success in such arrangements" (p. 274).

With these recent recognitions and accolades, it would be beneficial for there to be more research into the benefits of the program.

At ECU, the Office of Global Affairs has attempted multiple times to re-invigorate international initiatives. In 2004, ECU developed a report entitled *Internationalization Goals for 2009 and a Plan for Achieving Them* (East Carolina University, 2008). The goals set for 2009 were lofty, including incorporating internationalization goals into the university's mission statement (which has been achieved), increase the number of students going abroad in exchange programs by 20 times to 300 students on semester exchanges by 2009, annually fundraising $400,000 in support of international education, expand the number of bilateral exchanges to 30 from 5, increase the number of international students from 188 to 500 by 2009, creating a support fund for faculty to gain international experiences through attending conferences or inspecting study abroad sites, and to increase the curriculum integration of international competencies. The document was updated in 2008, and many of these goals were not met and were pushed to be met by 2013 rather than 2009, and no update was published thereafter. Throughout the document, many external factors were cited as to why certain areas were not met, such as overturn of personnel in the office or economic factors that held a negative impact on willingness of students to travel, both to and from the United States.

More recently, ECU was reviewed by the University Committee on Fiscal Sustainability and created a working group to address internationalization. The *Report of the Working Group for UCFS Recommendation CR4* addressed the different areas in which ECU hopes to strategically work towards greater fulfillment of its internationalization goals (East Carolina University, 2015). This new report identified 4 key areas, including a vision for the organizational structure of Global Affairs, globalizing the curriculum, leveraging partnerships, and increasing international enrollment and student assistance and programs. With the new leadership structure at the university, many of the items in the 2015 report are being

implemented, and this research will help to show the impact that GU has on globalizing the curriculum offerings on-campus.

Problem Statement

What are ways that universities can intentionally target and know that their students are gaining a global perspective? Leadership at universities try to increase the global perspective of students by offering study abroad, increasing international student enrollment, and offering on-campus intercultural engagement through curricular or co-curricular activities (Peterson, 2014). Research by Engberg and Jourian (2015), Gaia (2015), and Engberg (2013) show that study abroad can foster an increased global perspective in students. However, the presence of international students on campus alone does not ensure meaningful intercultural interaction (Campbell, 2012; Leask, 2009). In addition, the interactions with international students and faculty on campus are difficult to measure. Without intervention, intercultural interaction is unlikely to happen (Leask, 2009). Both international and domestic students need structures and opportunities to connect with each other (Campbell, 2012). This leaves on-campus curriculum integration of intercultural components to provide opportunities to students.

This research will show that the utilization of video conferences, chats, and social media in the classroom which allow for intercultural interaction with counterparts around the globe can be another method to show the increase in a global perspective of students. By offering a course designed to have students facilitate their own discussions with students unlike themselves, Global Understanding works to bridge the gap in opportunities for intercultural interactions and provide opportunities for students from different cultural backgrounds to interact and learn from one another. This study will attempt to show whether the students of Global Understanding

during fall 2017 and spring 2018 successfully acquire a greater global perspective over the course of a semester taking the course.

Significance of the Study

The utilization of technology to enhance university classrooms is a relatively new field, with the technologies only becoming more prevalent in the 1990s and beginning to gain recognition in the mid-2000s by the creation of terminology for intercultural virtual exchanges (Rubin, 2017). Student mobility has been widely researched, and has shown that international mobility can foster improvement in areas such as future career benefits, cognitive change, communication skills, academic improvement, personal development, and international and global skills (Braskamp, Braskamp, & Merrill, 2009). However, only 15.5% of American students study abroad, so the gap to reach the students who lack an international experience must be addressed. This study responds to research by Çiftçi (2016) that states that further research is needed in the area of utilizing Web 2.0 technologies to internationalize the campus. In the paper by Çiftçi (2016), the researcher suggested that many current studies on the utilization of Web 2.0 technologies in the classroom focus on language learning and that there should be an emphasis on having an intercultural focus with participants who speak English as the *lingua franca*. Additionally, it was suggested that in the existing research, the timeframes of the studies were short and that models that analyze intercultural learning should be utilized. This study of the semester-long Global Understanding courses through ECU researches a gap in available literature in order to show whether students who collaborate internationally through technology gain a greater global perspective. This research will benefit the current literature by demonstrating whether there are additional areas where students may gain a global perspective than through an international experience abroad, which can be a burden on students financially.

The purpose of this study is to determine the degree to which East Carolina University students increase their global perspective when undertaking the Global Understanding course over a semester. The impact will be measured by determining if there is a significant relationship between students' cognitive, intrapersonal, and interpersonal development by completing the Global Perspective Inventory pre- and post- course and matching the GPI measures to the objectives of the Global Understanding course.

Research Questions

The mission of the Global Academic Initiatives unit is:

Global Academic Initiative's mission is to prepare East Carolina University students to succeed in a global, multicultural society, through the use of innovative technology based learning strategies:

- Maximize access to global experiences for ECU's diverse student community.
- Broaden understanding of and interest in other cultures.
- Develop intercultural communication and collaboration skills. (GAI Mission, 2018)

This research will measure the outcome of the unit's second and third points of the mission by using the scale developed by Iowa State University, the Global Perspective Inventory (GPI), to analyze ECU students in the Global Understanding course. The GPI has three main dimensions: the Cognitive Dimension measures the subject's awareness of knowledge and knowing about a culture, the Intrapersonal Dimension which takes into account the subject's personal value and identity, and the Interpersonal Dimension measures the subject's willingness to interact with those from different backgrounds (GPI, 2017). In order to assess students' "broadened understanding of and interest in other cultures" (GAI Mission, 2018), the Cognitive and Interpersonal Dimensions will be analyzed. For the assessment of the "development of"

intercultural communication and collaboration skills, the Intrapersonal and Interpersonal Dimensions will be measured. By analyzing students based on the outcomes targeted by the GPI, this study is designed to measure whether the courses are meeting the objective of GAI. The research questions addressed in this study are:

1. To what extent does the Global Understanding course broaden understanding of and interest in other cultures in ECU Students?
2. To what extent do ECU students of Global Understanding develop intercultural communication and collaboration skills over the course of a semester?

To measure these research questions, the following hypotheses will be tested:

Overall GPI:

$H_0$1. There is no statistically significant difference in ECU students' pre- and post- test measures towards a higher global perspective.

Cognitive Dimension, Knowing Subscale:

$H_0$2. There is no statistically significant difference in ECU students' measures towards a greater complexity of understanding of cultural context through international connections facilitated through technological platforms.

Cognitive Dimension, Knowledge Subscale:

$H_0$3. There is no statistically significant difference in ECU students' awareness of how cultures impact global society.

Intrapersonal Dimension, Personal Identity:

$H_0$4. There is no statistically significant difference in ECU students' reporting of awareness of their own identities.

Intrapersonal Dimension, Personal Affect:

$H_0$5. There is no statistically significant difference in the levels of respect for diverse cultural perspectives students demonstrate pre- and post-course.

Interpersonal Dimension, Social Responsibility:

$H_0$6. There is no statistically significant difference in students' sense of interdependence among others upon completion of the Global Understanding course.

Interpersonal Dimension, Social Interaction:

$H_0$7. There is no statistically significant difference in the level in which students engage with others who are culturally different from themselves after participating in the Global Understanding course.

Overview of the Methodology

This study will use a quantitative, pre- post- research design to investigate the acquisition of a greater global perspective over the course of a semester in the Global Understanding course (Creswell & Creswell, 2018). Data will be collected through the Global Perspective Inventory (GPI). In analyzing the data, the researcher will use the paired *t*-tests to determine if a relationship exists between students' global perspective acquisition of the 3 domains measured by the GPI over the course of taking Global Understanding.

This study will include quantitative analyses of the global perspectives of students pre- and post- participation in the GU course as related to the mission of GAI (Creswell, 2018). Data collected by GAI from students enrolled in GU during fall 2017 and spring 2018 will be analyzed using paired sample *t*-tests to obtain the statistical significance of the results and the confidence intervals (Field, 2013). The students in the ECU sections of GU were administered a pre-test and post-test of the GPI. Student email addresses were collected to match students pre-

and post- questions, but these email addresses will not be reported in this study and students will remain anonymous and unidentifiable through this study.

Study Sample

The students surveyed for this research were enrolled in GU during fall 2017 or spring 2018. Since all students being researched are students at ECU, the student population at the university is important to consider. The students at ECU tend to come from rural backgrounds and have limited experience with intercultural interaction (Measures of Success, 2018). The results of this study may be specific to groups of students who come from similar backgrounds as students at ECU.

Students enrolled in the fall and spring GU course at ECU were asked to fill out a survey pre- and post-course. 185 fall students and 230 spring students filled out the pre- course survey and 124 fall students and 119 spring students filled out the post- survey of the Global Perspective Inventory. There were 106 fall matching pre- and post-test results and 109 spring matching pre- and post-test results, resulting in n=215 usable results of students who both filled out the pre-test and the post-test. The results of this study will enhance the body of knowledge needed to enhance academic offerings that will expand students' global perspectives.

Assumptions

Since the data collected is self-reported, it is assumed that students will give accurate representations of their current global perspective in the survey. It is assumed that students have a similar experience in the course regardless of which countries they link with or who their instructors are since the GU course utilizes a document called The Core to standardize the course experience. This study cannot control for students' experiences outside of the classroom, thus if students report a greater global understanding it will not be due to causation.

Research Organization

Chapter 1 gives the background of the study, the problem statement, and the purpose of the study. The significance of the study, research questions, and hypotheses are presented prior to discussing the overview of the methodology and assumptions of the study.

Chapter 2 provides a review of the literatures in relationship to the study. Internationalization, common methods of providing a global perspective, and the advent of Web 2.0 technologies in fostering intercultural interactions are discussed.

Chapter 3 discusses the design and methodology of the quantitative research study.

Chapter 4 will present the methods of data analyses and will connect the study results to the research questions.

Chapter 5 will review the research procedures, finding, implications, and provide recommendations for future study.

CHAPTER 2: REVIEW OF THE LITERATURE

The purpose of this chapter is to examine the relevant literature pertaining to the effectiveness of globalization efforts in higher education and their applicable theories, followed by a discussion on how students can be evaluated on the acquisition of a global perspective. This chapter discusses research findings that are relevant to the topic of study and is split into the following sections: (a) comprehensive internationalization, (b) overview of study abroad, and (c) campus-based efforts for internationalization, including international videoconferences, (d) assessment tools for global perspective acquisition, and (e) theoretical framework of the chosen assessment tool.

Comprehensive Internationalization

When looking at a university's mission statement, it is rare to discover that internationalization or globalization efforts are not addressed. Internationalization can be defined as "The process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of post-secondary education" (Knight, 2004, p. 11). The primary ways that universities try to add an international component into their students' lives are by promoting study abroad, bringing international students to campus, hosting international faculty and scholars, and by integrating an international scope into campus events. However, even with this effort, not all students will note a change in their competencies in respect to these internationalization attempts. The students who note the most significant change in their global, international, or intercultural skills are the ones who partake in a study abroad opportunity (Braskamp et al., 2009).

Peterson (2014) suggests that universities should truly check where they stand in terms of internationalization efforts and that if standards are not being met, they can rebrand their

university by offering comprehensive internationalization. A comprehensive internationalization plan is comprised of the following components: (a) having a mission statement that includes internationalization efforts and a roadmap showing how they will achieve internationalization, (b) senior leadership needs to support internationalization efforts on campus, and there should be someone at the university who leads the internationalization efforts, (c) curriculum should be multidisciplinary and address the fact that the university wants the students to gain intercultural competencies (d) faculty should have buy-in with internationalization efforts and be rewarded for promoting internationalization, (e) students should be encouraged to go abroad, and international students should be supported by the university, (f) and finally, global partnerships should be maintained, evaluated, and pursued on a regular basis, with thought given to how the partnerships can be mutually beneficial. These areas are all pieces to a puzzle of developing an internationalized university, and this chapter will further investigate the options of study abroad and campus-based internationalization.

Study Abroad

Participating in a study abroad opportunity is one of the most transparent ways for a student to gain international experience. During the 2015-2016 academic year, 325,339 U.S. students participated in a study abroad program for academic credit, which represents an increase of 3.8% above the previous academic year (Institute for International Education, 2017). Participation in study abroad programs has more than tripled over the past two decades. The students who study abroad are primarily Caucasian (71.6%), followed by Hispanic (9.7%), Asian or Pacific Islander (8.4%), Black or African American (5.9%), Multiracial (3.9%), and American Indian (0.5%). The top fields of study are Science, Technology, Engineering, & Mathematics (25.2%), Business (20.9%), Social Sciences (17.1%), Foreign Language & International Studies

(7.4%), and Fine and Applied Arts (6.9%). Over half of American study abroad students go to Europe. Short-term study abroad programs, which are eight weeks or less, comprise 63.1% of the programs these students chose. In addition to these students who received credit for their programs, an additional 23,125 students participated in a non-credit bearing opportunity abroad, such as an internship or volunteer work (Institute for International Education, 2017).

Benefits of Study Abroad

Students gain various experiences from study abroad opportunities, many of which have intrinsic benefits to their personal development. Many students report that study abroad was the best experience they had during college (Costello, 2015). Braskamp et al. (2009) wrote, "Education abroad has become an increasingly important educational program (experience) in global learning and development, intercultural competence, intercultural maturity, and intercultural sensitivity of students" (p. 101). Some of the recognized benefits of study abroad include career benefits, cognitive change, communication skills, academic improvement, personal development, and international and global skills (Braskamp et al., 2009).

Multiple studies have been conducted on the employability of former study abroad students. In a study at Dickinson College, Franklin (2010) found that students who studied abroad had a higher than average annual income when compared nationwide with their peers. For example, the average salary for a male who earned a Bachelor's degree in 2007 was found to be $59,332, and a Dickinson college male alumnus who studied abroad and earned a Bachelor's degree had an average salary of $122,333. The study by Franklin (2010), however, failed to address the difference in salary of the average Dickinson graduate against the Dickinson graduates who studied abroad. Thus, while a conclusion that study abroad led to the greater return in career salaries, it is noteworthy that these graduates who studied abroad have salaries

much higher than the national average. In addition to these potential salary benefits, Franklin (2010) found that the majority of study abroad alumni from their sample gravitated towards careers with an international or multicultural focus. Franklin (2010) also stated, "Knowledge, skills, and self-awareness gained by studying abroad are professionally applicable in the form of intercultural competences and personal growth" (p. 186). Potts (2015) found similar results, stating that students reported development in four categories that overlapped with employability skills. These categories were communication skills, teamwork skills, problem solving skills, and self-management skills. Potts (2015) stated, "One of the most important findings of this study is the potential capacity of learning abroad to contribute to the mission of the higher education sector to develop high-level employability skills in all graduates" (p. 453). Based on these studies, students who study abroad will not only gain valuable transferrable skills when seeking employment, but their abroad experiences could help them be hired and negotiate salaries in both the short and long-term (Ludlum, Ice, & Sheetz-Nguyen, 2013; Potts, 2015).

Students who study abroad also report a cognitive change. Braskamp et al. (2009) explored whether students self-reported changes within "cognitive, intrapersonal, and interpersonal domains of global learning and development" (p. 103). Their study took place during the spring semester of 2008 and involved 245 informants on ten different education abroad programs. The Global Perspective Inventory (GPI) was utilized to collect data before and after the program. The highest amount of change was found in the cognitive realm, showing that students obtain a higher order of thinking after a time spent overseas. Costello (2015) reported that students gain a disposition towards critical thinking, and Franklin (2010) found that students self-reported having more knowledge after study abroad. Further, Jackson (2005) discovered that Chinese students of English reported an attitude shift and intellectual growth when confronted

with different customs and cultures from their own. These cognitive changes benefit the student in areas such as critical thinking and personal development.

When students go abroad, they also enhance their ability to communicate effectively. Costello (2015) and Potts (2015) found that one of the commonalities among study abroad students is that they improve their communication skills. If students are studying a foreign language, their skills in that language increase rapidly when in a foreign environment. On the other end of the spectrum, if students study in their native language, their classmates and peers speaking it as a second language often surround the student and the student learns to communicate more directly so that they are understood more easily by speakers of English as a foreign language.

A different academic system overseas can also encourage students to modify their study habits and lead to academic improvement once they return to campus. Costello (2015) found that students self-reported increased academic commitment after their study abroad experiences. Holoviak, Verney, Winter, and Holoviak (2011) conducted a study assessing academic performance through study abroad. Their results showed that students overall increased their Grade Point Average (GPA) and thus Quality Point Average (QPA) following their time overseas. While, the increases in the GPA and QPA were not found to be statistically significant, the fact that the majority of students increased their academic standing speaks highly.

Students who study abroad also report a greater understanding of who they are after they study abroad. The different experiences and interactions with foreign cultures combat the stereotypes and misconceptions they hold of their host culture, which allows them to grow and learn more about accepting and learning from others. In addition, by being in a foreign environment, students are teaching others about themselves and breaking down stereotypes

people they meet may have about Americans. This can bring about a greater understanding of one's own self. Students have reported a greater sense of self-awareness following a time overseas (Costello, 2015; Franklin, 2010). Students who study abroad also state that they have a greater sense of independence (Hadis, 2005). This independence may be related to the fact that most of the time when they go overseas they do not have their already built friendships and familial support and they are forced to get out of their comfort zone to make friends, find study groups, and even handle day-to-day tasks such as finances and cooking on their own. This personal development also leads to an increase in interpersonal and social skills, as well as further personal growth (Jackson, 2005; Ludlum et al., 2013).

Finally, some of the most obvious skills students can gain from an international experience are international and global skills. By interacting with different cultures on a regular basis, students break down barriers and truly learn to accept people who are different from them. They gain intercultural skills that will aid them in the future. Multiple studies report that students gain a greater global-awareness, global competence, and cultural sensitivity from study abroad (Braskamp et al., 2009; Costello, 2015; Hadis, 2005; Jackson, 2005). These skills not only help students in the short-term, but they are also more likely to delve deeper in research into foreign cultures and learn about international current events, as well as want to make connections with international and cultural activities at home.

These benefits intertwine to provide students with the international abilities that universities desire in their internationalization efforts. There have been studies on both short-term and long-term programs, and they tend to show that students gain greatly in these areas of intercultural competence, personal growth, and interpersonal experience, which help them personally, academically, and professionally.

The Study Abroad Gap

With all of these proven benefits to having an overseas learning experience, why don't students go abroad? With only 15.5% of American students who graduated with a Bachelor's degree during the 2015-2016 academic year studying abroad, that means that 84.5% of American Bachelor's graduates do not have a study abroad experience in their college careers (Institute of International Education, 2015). In a study by Bomi and Carol (2014), it was found that potential study abroad students identified "four deterrent factors: information available, school involvement, financial feasibility, [and] family apprehension" (p. 17). McDermott (2011) also found that the most cited reasons why agriculture students did not study abroad was for financial reasons and factors involving not wanting to be away from family and friends for an extended period of time. In another study by Spiering and Erickson (2006), it was found that students identified five reasons they chose not to take advantage of an abroad opportunity: the process was complex and expensive, they did not feel that study abroad was compatible with their studies and it may extend their time to graduation, that there was not a shorter period of time to go overseas, they did not have peers to speak with about the opportunity, and they did not see a benefit that they could gain from study abroad. Between these studies, there are many observations that can be made. Students want to see what the advantages to an international experience would be, and they look to their peers and family for more information. There also needs to be institutional support and information readily available about how study abroad can benefit a student and fit into his or her graduation plan.

There are numerous ways that universities could address these preventive issues, but there is in no guaranteed way that all students will go abroad. Likely, these deterring factors will continue to influence students and the majority of American students will likely opt out of a

study abroad experience during their college careers. Deardorff et al. (2012) noted that most universities "have realized that the number of domestic students who have some kind of study abroad or international research or field experience is frustratingly low. This requires that more attention be paid to campus- and curriculum-based efforts to help students live in a more interconnected and culturally diverse world" (Deardorff, 2012, p. 34). The main activities for campus-based internationalization include incorporating a global focus into academic curriculum programs, the teaching process, the learning process, research and scholarly activity, co-curricular activities, extracurricular activities, and incorporating campus liaisons with local community based cultural/ethnic groups (Deardorff et al., 2012; Knight, 2010). By using these methods, through organized efforts, universities can aid in the internationalization of campus-based students by incorporating more international events, globalized curriculum, and collaboration opportunities into the university throughout the academic year.

Campus-Based Efforts for Internationalization

Multiple studies show that students who study abroad achieve higher levels of cultural sensitivity than those who stay on campus. In a study by Anderson and Lawton (2006), study abroad students who took two business classes and two liberal arts courses with an American faculty member were compared to students who remained on campus and took at least one business class and one liberal arts class. In this study, both groups tested similarly on a common intercultural competence survey, the GPI, at the beginning of the semester. It was found that the students who studied abroad gained a significant increase in their intercultural development as compared to the students who remained on campus throughout the semester. The authors suggested that further research should be conducted using both a different group of study abroad students and focusing on a more specific group of students who remain on campus. However, the

results of Anderson and Lawton (2006) does not mean that staying on campus does not afford opportunities to build upon global skills. Soria and Troisi (2014) and Enyeart Smith, Wessel, and Polacek (2017) found that international efforts at American campuses can be beneficial towards students' development of global, international, and intercultural competencies and that more efforts need to be made on campus to encourage further student participation in available international events on campus.

Academic Programming

With the vast majority of undergraduate students staying on campus during their undergraduate careers, more universities are searching to find ways to bring the world to them. Study abroad is not the only way to learn more about the world at large, so many universities are experimenting with diverse and innovative ways to encourage curiosity about other countries through academic programming. Deardorff et al. (2012) wrote, "Given the small percentage of students who study abroad, an internationalized curriculum is the primary means by which all undergraduate students can be encouraged to expand their horizons beyond traditional, nationally focused boundaries and concerns" (p. 246). An example of on-campus internationalization efforts can be found at Kennesaw State University which has a "Year Of" series where a specific country or region is studied across the university for an academic year (Kennesaw State University, 2018). This program allows the campus to take a multidisciplinary approach to researching the specific area with the goal of all students to learn more about that country or region and aid in breaking down stereotypes. Similarly, Western Kentucky University (2018) has an "International Year Of" series that provides students with enhanced coursework, co-curricular activities, research projects, education abroad program offerings, visiting scholars and specialists, and new institutional partnerships, all based around the country of the year. A third

similar program is at Missouri Southern State University (MSSU) where the goals are to go beyond choosing traditional countries for “theme semesters” so that students can learn more about areas of the world that are often misconstrued by students in the US, such as Russia or China (Stebbins, 2011). MSSU also boasts that there has been buy-in across the campus, from the theme being incorporated into the first-year program, the curriculum, offices on campus, to even athletics. Other universities, such as a public four-year liberal arts institute located in the southeastern US surveyed 1,021 graduating seniors and graduates using a Likert scale to assess students' perceptions of the institution's strategic effort to incorporate diversity, globalized curriculum, and inclusion into the academic curriculum led students to identify that they have a higher level of global competency (Enyeart Smith et al., 2017). The results showed that six areas stood out as common across all students, "faculty & staff were accepting of all individuals, avoided stereotyping by military status, used neutral language, indicated acceptance of sexual orientation, accommodated students for religious purposes, and students gained increased knowledge of people with diverse backgrounds, and were open to working with diverse persons" (Enyeart Smith et al., 2017). These results were to be used by the institution to inform further changes to the curriculum and to continue enforcing a cross-cultural environment on campus (Enyeart Smith et al., 2017).

While these three examples try to encourage students to learn about countries and breakdown their stereotypes of those countries, there is still a lack of one-on-one communication between cultures. With technological advances in the past twenty years, videoconferencing is one way to truly break down barriers and help students learn about their counterparts in different areas of the world. An online cultural exchange can alleviate many of the concerns students have about study abroad. Students will still be paying their regular tuition and earning credit towards

their degree while interacting with an international counterpart on a regular basis, all while sitting in front of their computer. This low-cost alternative to study abroad allows students to travel the world within their comfort zone. Utilizing technology in the classroom to incorporate an international interaction may even give students more curiosity about the world and help them develop a global awareness that may encourage them to pursue an abroad opportunity during their degree program.

Technology-Based Exchange

In the 1990s, as technology developed, universities began using more online platforms for classwork, such as Blackboard, and professors began to collaborate more with colleagues who were not physically located near them (Rubin, 2017). Early intercultural collaborations in classrooms were influenced by individual professors' desires to provide an international perspective to their curriculum by collaborating with professors at other universities in similar subject matters to have their students interact and sometimes combine the purpose of the course in their syllabi. These early collaborations were typically not recognized by international offices on campus as methods of internationalizing higher education since they were outside the realm of physical mobility of students, faculty, or staff. By 2006, the use of technology became so prevalent that several terms were coined to be associated with these online international collaborations, a couple being *Collaborative Online International Learning* (COIL) and *virtual exchange* (Rubin, 2017). No matter the terminology, the idea was the same: utilizing emerging technologies to foster intercultural learning within the curriculum.

The common term for interactive digital resources is Web 2.0, defined by Peters (2009) as "An internet movement wherein websites have tended to move away from being static repositories of information updated only by the website owner, to being highly interactive tools

that visitors can use to share, tag, and comment on digital files of all kinds; to publish themselves in text, audio, or video forms; and to connect with others via social networking" (p. 122). Universities that incorporate Web 2.0 technologies in the classrooms are allowing students to have international experiences without the worry of the same barriers that exist with study abroad, such as leaving their family and friends, a fear of the unknown, and financial feasibility. However, other barriers identified with videoconferencing are technological difficulties, unmet expectations, and exploring cultural differences (Sams & Rollins, 2015). The benefits of web 2.0 technologies outweigh the barriers, and Larruson and Alterman (2009) state, "Using collaborative technology to extend the physical borders of the classroom can be of significant value" (p. 397). By utilizing advanced technologies, the physical barriers of communicating with people around the world cease to exist and allow students to be able to communicate in real-time with counterparts in any area of the world and discuss events as they are happening. Deardorff et al. (2012) wrote, "A new recognition of urgency is fostered by communications technologies that allow classroom discussion of, for example, a nuclear accident in Japan in real time elsewhere in the world, sourced from the Internet, possibly in direct video contact with students in Japan" (p. 268). By utilizing these Web 2.0 resources, borders are transcended and they allow students to discuss current events with counterparts around the world, gaining first-hand knowledge about what citizens of that nation know while also learning about the event through their own media sources.

In addition to learning in real-time about world events, students can gain intercultural competence and language skills through Web 2.0 interactions. In research conducted by Lee and Markey (2014) centered on language acquisition and intercultural communicative competence, 10 American graduate students and 18 Spanish undergraduate students spent a semester

communicating with one another via twitter, blogs, and podcasts. Lee and Markey (2014) found that the students reported favorably on the use of these technologies for ways to learn a language with native speakers, and the students used Twitter for instant communication with the group and to create a sense of belonging. The researchers found that the majority of students had a rewarding experience from the electronic exchange. While this study showed that there was a positive impact on the students' perceptions of the online exchange, one student noted that real-time videoconferencing would have been beneficial, and the study only measured students' perceptions of the tools used to enhance intercultural communication (Lee & Markey, 2014).

Bohinski and Leventhal (2015) paired Spanish language learners from a U.S. institution with English language learners from a Spanish institution for an email exchange over the course of 6 weeks, with a total of 5 participants. Through guided discussions surrounding cultural topics such as how holidays are celebrated in the US versus Spain, the language learners gained knowledge about their partner's culture. From pre-and post- email exchange surveys, the researchers concluded that telecollaboration provides students the opportunity to develop their cultural learning, that email exchanges provide an avenue for students to use critical thinking skills when discussing cultural differences, and that the students learned about another culture through the lens of their international partner (Bohinski & Levanthal, 2015).

The research that exists on the use of international or intercultural videoconferencing has shown that it can have a profound effect on students. For example, in a study by Pullen (2013), it was found that middle school students who had held videoconferences with peers in China over eight lessons gained a greater emotional intelligence regarding empathy towards others. The themes that the students experienced included being able to identify one's own feelings, recognizing the feelings and the points of view of the partners, making friends, being able to

identify cultural similarities and differences, and developing global awareness. These benefits are not limited to middle schools; Sams and Rollins (2015) state that "technology can provide the online tools to fill the gap in learning other cultures in real time" (p. 9). The researchers found that Bachelor's degree students further expanded upon international videoconferencing in a marketing class by discussing the similarities and differences between the students in the class and their overseas counterparts. Similarly, Ozcelik and Paprika (2010) observed that students reported the following emotional responses to an international videoconference in a business class where they discussed a case study with a partner school in Hungary: alertness and curiosity, mixed emotions, anger and frustration, pride and cohesiveness, pleasantness, and empathy. The students also reported that reflecting on these emotions and why they felt them allowed them to better understand themselves and the students at the partner institution.

Ertmer, Newby, Yu, Liu, Tomory, Lee, and Sendurur (2011) conducted research on pre-service teachers who had a 5-week collaborative project using wikis with partners from England, Russia, South Korea, or Sweden. The study measured students pre- and post- experience to measure their perceived levels of comfort in participating in an international online collaboration. The results showed that the students increased their likelihood to engage in intercultural activities, and that the short-term project had a significant impact on their cross-cultural competencies (Ertmer et al., 2011). However, despite these research studies showing a positive influence, more research is needed to show that longer-term interactions via Web 2.0 technologies conducted in English can increase a university students' global perspectives (Çiftçi, 2016).

Utilizing Web 2.0 technologies for intercultural interactions is not without its difficulties. Technological difficulties do occur that can prohibit a class from connecting with the partner

institution, but most classrooms have backup plans incorporated so that in the case of not being able to connect, they still have contact with the partner through online chat or they can discuss the target culture in the classroom for that meeting period. Students may also feel that they are not learning as much from the partner institution, therefore feeling like the class isn't living up to their expectations. Students may feel that they are sharing more than they are receiving from their partner institution, thus bringing on feelings of not learning as much about the target culture as they would have liked. Faculty facilitation of conversation and encouraging students to participate in conversations rather than participating in rapid-fire questions can mediate this. Finally, cultural differences can hinder a videoconference experience. Some questions may be culturally specific or sensitive and students may not understand them. In this case, it is the responsibility of the facilitator to help students to understand that there are differences, but these differences do not have to ruin a conversation. The knowledge of these differences can help students grow and understand more about the culture of students at the partner university.

Through the use of videoconferencing and one-on-one technological collaborations, the individual students at the international partner universities move beyond the stereotypical images students hold of citizens of the target country. The students' international peers become people who have similarities and differences with American students, and there is an exchange of ideas and assumptions across borders. With limited research into the benefits of international videoconferencing, it would be worthwhile to expand the research into the self-perceived intercultural benefits of partaking in an international videoconferencing course. This study could show how well internationalization goals are being met at a university where students participate in these classes.

The utilization of Web 2.0 technologies in university classrooms is expanding as technology becomes more accessible. Many universities are incorporating technologies into their course offerings to allow for intercultural interactions. An example of a successful model is the State University of New York operates the Collaborative Online International Learning (COIL) program which involves 39 members of the Global Partnership Network and 27 members of the SUNY COIL network, established in 2010 (COIL Activities, 2018). The focus of this research will be on another successful program, the GU Course at ECU, which is a part of the Global Partners in Education organization and encompasses more than 40 international partners and was established in 2003 (Global Partners in Education, 2018).

Global Understanding at East Carolina University

At East Carolina University, Global Understanding is one piece of the Global Academic Initiatives program to help create an internationalized campus. Global Understanding was piloted in 2003 by Rosina Chia, Elmer Poe, and Biwu Yang, and quickly developed into a larger collaboration amongst international partners known as Global Partners in Education (Chia, Poe, & Yang, 2011; Eppler & Cavanaugh, 2012). Global Partners in Education includes several different sectors which each attempt to increase internationalization initiatives at ECU and on partner universities' campuses: Global Discussions, Global Understanding, Global Academic Initiatives, Global Issues Virtual Conference, and WorldWise. Global Discussions are one-time connections with EducationUSA offices to discuss college life in the United States of America and the partner country. Global Understanding is a semester-long course where, in 2017, ECU and over 60 partner institutions in more than 30 countries exchange via teleconferencing. Over 1,900 students around the world are involved in this exchange each year, including approximately 480 ECU students. Global Partners in Education (GPE) is the organization that

represents the GAI partners. The GPE members hold an annual conference to discuss progress within the group and make changes as necessary to each area. WorldWise is a student organization housed at ECU which focuses on local and global interactions. The Global Issues Virtual Conference ran for the third time in 2017 and is a platform for scholars and students to present on global issues and hear about local perspectives on the topic at hand. These different sectors the program help GAI to meet its objective to internationalize ECU and other campuses:

Global Academic Initiative's mission is to prepare East Carolina University students to succeed in a global, multicultural society, through the use of innovative technology based learning strategies:

- Maximize access to global experiences for ECU's diverse student community.
- Broaden understanding of and interest in other cultures.
- Develop intercultural communication and collaboration skills. (GAI Mission, 2018)

The GAI unit at ECU has gained recognition from several local, national, and international organizations in recent years. In 2016, the program was awarded the Senator Paul Simon Spotlight Award for Campus Internationalization, in 2015 it received the North Carolina Association for International Educators Institutional Award, in 2014 GAI won 3rd place for presence learning in the Wharton-QS Stars Re-imagine Education Award, in 2009 the founders were awarded with the AAUA Khaladjan International Award for Innovation in Higher Education, and in 2008 the program received an Honorable Mention for the Institute of International Education's Andrew Heiskell Award for Innovation in International Education (East Carolina University – Global Academic Initiatives, 2018). Deardorff et al. (2012) wrote of the program:

> East Carolina University's Global Academic Initiatives program has been recognized for innovative strategies in its freshman course 'Global Understanding' in which chat

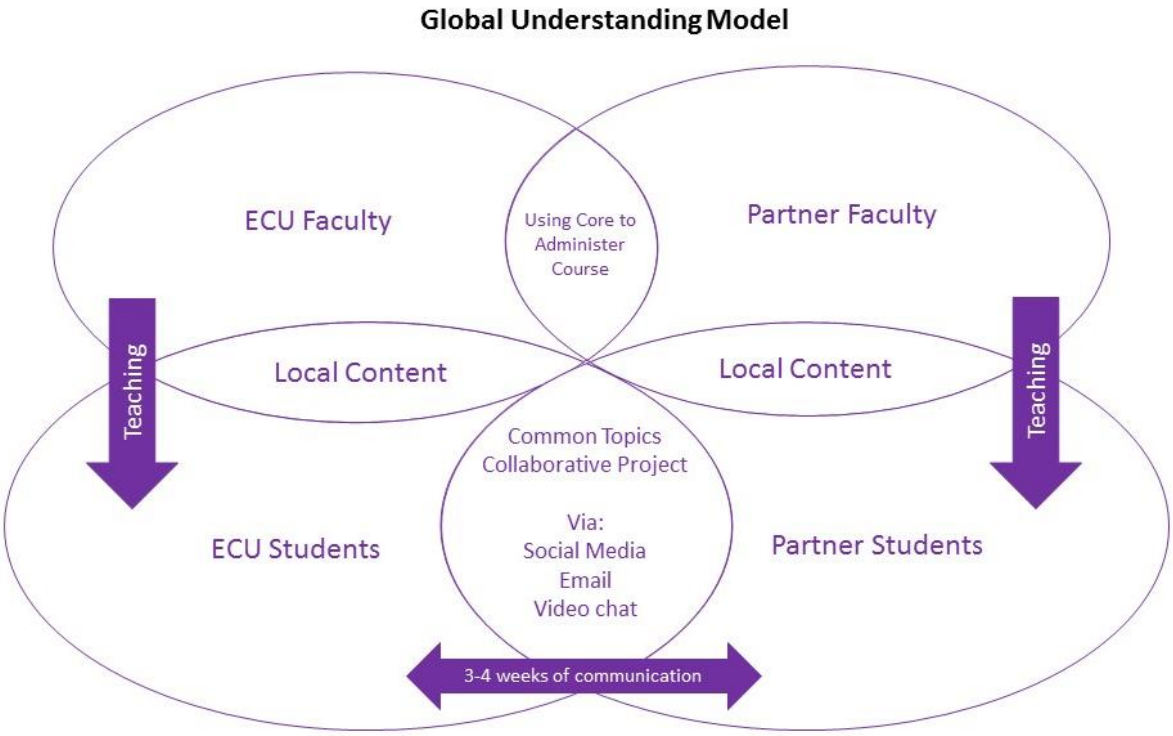
> technology and video-conferencing bring students together with their overseas counterparts in pairings among 23 partner universities abroad throughout the semester. The same university has been recognized for its International Lecture Exchange Program, in which faculty present a lecture through video in a course at a partner institution. Strong institutional partnerships, resource commitment on the home campus, and engaged faculty are the primary determinants of success in such arrangements" (p. 274).

With all of these recent recognitions and accolades, it would be beneficial for there to be more research into the benefits of the program.

This study will focus on 418 students at East Carolina University who enroll in the Global Understanding course over two semesters. The original mission of Global Understanding was to increase global competencies in 3 areas, "The three aspects are: cognitively acquire basic knowledge about other cultures; affectively become more open-minded towards other cultures; behaviorally acquire real time interactive and collaborative experiences with students from other cultures" (Chia et al., 2011, p. 3). It is not enough for the program to have these technological collaborations in place since in order to make international interactions into meaningful experiences they have to be intentional in their outcomes. "Well-designed tasks and effective strategies for online collaboration between teachers and among students are essential to achieve a fruitful intercultural exchange experience" (Lee & Markey, 2014, p. 295). To facilitate meaningful online exchanges, Global Understanding uses a document called The Core to set policies and procedures for all instructors so that the students gain the most from their intercultural exchanges. The Core is used to guide interactions in the classroom, setting out expectations and requirements for participation in Global Understanding (Global Understanding Core, 2017). The Core sets goals for the instructors and guidelines for keeping the program consistent across ECU and international partner classrooms and ensuring students and all members of the Global Partners in Education have a positive intercultural experience. For the mission of GAI to be met, Global Understanding uses the Core and the secretariat to ensure that

students link with three international universities over the course of a semester, and with each connection the students are working on a collaborative project with their international counterparts (see Figure 1). Topics of discussion are set by The Core to be discussed between each partner and include *College Life*, *Family and Cultural Traditions*, *Stereotypes and Prejudices*, *Meaning of Life*, *Religion*, and a free topic or collaborative project discussions.

Students of GU at ECU report learning about other cultures. In Stearns (2009), the researcher observed of ECU students, "One female student reported that her encounters with a Pakistani student, a second wife sent to school by her husband to advance the family, gave her insights about polygamy that she had never expected to experience – exactly the kind of cultural that ordinary coursework might not be able to convey" (p. 58). While Stearns (2009) also stated that technological exchange was faltering in 2009 due to gaps in technology, exchanges utilizing Web 2.0 technologies have persevered. Research conducted by Cavanaugh (2015) showed that these types of intercultural interactions over the course of a semester had a positive impact on the intercultural learning of students. In the study, Cavanaugh (2015) found that when students in a Global Understanding course were compared with students in introductory and upper-level psychology courses the three groups did not differ on perspective taking or intercultural communication anxiety at the end of the course. Several reasons for this lack of significance included largely unbalanced Ns for the groups, and wide variability in the students' amount of interactions with their international partners. Cavanaugh's (2015) study tested 259 total participants, 57 in Global Understanding, 156 in a first-year psychology course, and 33 in an upper-level psychology course.



Note. Adapted from Global Understanding Core (2017).

Figure 1. Model of Global Understanding at ECU.

Existing Tools to Measure the Acquisition of a Global Perspective

There exists a myriad of tools to examine the acquisition of global perspectives within certain contexts. Many existing tools rely on the practitioner dedicating a great amount of time to analyses and collection of data which may deter the assessment of a program (Savicki & Brewer, 2012). However, assessment of intercultural experiences is necessary to develop programs and measure success, and according to Deardorff (2011) assessment is necessary to complete the formulation of a successful program. Thorough program assessment is best used to measure whether the participants understand the learning outcomes, the relevance of the methods used in-class to achieve the outcomes, and the participants' overall satisfaction with the course (Deardorff, 2011). In the case of this study, the assessment will be used to measure the learning outcomes of the students, as directed by the objectives of the Global Understanding program.

In order to assess a program, a comprehensive tool should be identified to measure global and intercultural learning outcomes. To achieve this, self-perception inventories were reviewed to determine which would be the most worthwhile to the study. Self-perception inventories are used to assess whether student perceptions have changed in regard to their values or attitudes and are based on a pre- and post- experience evaluation (Maki, 2010). The Intercultural Development Inventory (IDI) (Deardorff, 2011; Maki, 2010; Savicki & Brewer, 2012) and the Global Perspective Inventory (Maki, 2010; Savicki & Brewer, 2012) were identified as possible tools for this study.

The IDI is an inventory that asks students to assess 44 question items about their own intercultural sensitivity across a scale of questions that go from ethnocentrism to ethnorelativism (Maki, 2010). The IDI asks participants questions that will put them on a scale that ranges from a monocultural mindset to an intercultural mindset (Intercultural Development Inventory [IDI],

2018). The participant responses will place them in an intercultural competence continuum which ranks the informant in a category from denial, polarization, minimization, acceptance, to adaptation. The further along the scale the participant is, the more interculturally competent they would be in situations involving others who are culturally different from themselves. The IDI is widely used in educational and business environments to assess the culture of the organization. The IDI requires that the assessor have training in implementing the tool (IDI, 2018). In terms of this study, the IDI was found to not intersect best with the objectives defined by GAI, and it was cost prohibitive for this study.

The GPI has 3 core dimensions which it assesses: Cognitive, Intrapersonal, and Interpersonal (Research Institute for Studies in Education, 2017). The subjects are assessed on a Likert scale to choose how strongly they agree with 46 statements. The GPI's dimensions synthesize with the goals of GAI, with the cognitive and interpersonal dimensions being able to be applied to the goal of learning about other cultures and gaining a greater interest in them, and the Interpersonal and Intrapersonal Dimensions can be used to assess intercultural communication and collaboration skills. Ultimately, the GPI was chosen to use for this study since it intersects well with the three measures that serve as the goals of the Global Understanding course.

Theoretical Framework of the Study

Personnel who work in international education have a unique role in terms of student development. By guiding students through international experiences, administrators, faculty, and staff have the ability to aid students at a time of self-discovery when they are developing cognitive, interpersonal, and intrapersonal skills. This trifecta leads to a model of holistic student development that students may encounter through campus globalization efforts such as study

abroad, globally focused curricular programming, on-campus intercultural exchanges, and more. Coordinated student development efforts based on theory and research are a way for the most significant growth to occur. Patton (2016) wrote, "Student development theory provides the basis for higher education and student affairs practice designed to stimulate positive growth in students" (p. 8). By focusing on theory, higher educational personnel can holistically work with students to gain strides in healthy, meaningful, development. There are several student development theories relevant to administrators and students as they grow and change as a result of the international experiences they have in a higher education setting, with particular focus on Kegan's Theory of the Evolution of Consciousness, Baxter-Magolda's Self-Authorship Theory, and how these theories relate to the GPI.

Relevant Theories to GPI

The developmental process through a life event requires a multi-faceted approach. Development in one aspect while remaining stagnant in another is rare (Patton, 2016). An international experience in college is no exception. Students will experience a holistic change that is not linear. Patton (2016) wrote, "Even as certain identities might be more salient for students at particular times in their lives and within particular contexts, treating development more holistically and in an intersecting and integrated manner means looking at students as whole beings" (p. 401). Two of the theories that take this approach of looking at the whole student are Kegan's Theory of the Evolution of Consciousness and Baxter Magolda's Self-Authorship Theory, both within the theory of self-authorship (Patton, 2016).

Self-authorship theory is based on the idea that students have the ability to determine their own futures and how they relate to the world. Patton (2016) wrote, "The processes related to developing the ability to self-author – to write one's own life – relate well to prevailing

philosophies of higher education, including the cultivation of critical thinking and intercultural understanding" (p. 355). The two leading theories regarding self-authorship and constructive development are Kegan's Theory of the Evolution of Consciousness and Baxter Magolda's Self-Authorship Theory. Both theories look at the student holistically and attempt to help them make meaning out of their experiences.

Kegan's Theory on the Evolution of Consciousness

Kegan's Theory on the Evolution of Consciousness was originally published in his book *The Evolving Self* (1982) and expanded upon and revised in his later publication *In Over Our Heads: The Mental Demands of Modern Life* (1994). Kegan's (1994) theory revolves around the idea that people move through different developmental stages throughout their lives, which he calls orders of consciousness. Kegan (1994) described his theory as the "evolution of consciousness, the personal unfolding of ways of organizing experience that are not simply replaced as we grow but subsumed into more complex systems of mind" (p. 9). Everything that is learned is based upon previous experiences and those experiences help to shape how the world is viewed by an individual.

Kegan's (1994) theory involves 6 orders of development. The first three orders are normally achieved between birth and early adolescence. Order 0 begins with newborns who are at a stage of development where they do not recognize outside factors – their whole world is what they can touch, see, taste, hear, and feel. Order 1 is achieved around the age of 2 years old. At this developmental stage, children are aware that people and objects are separate from themselves and they focus on present activities and people. Things outside of their sight do not necessarily exist in their worldview. Order 2 development involves more organization and

meaning-making. Logic is being explored, and children are beginning to understand that every human being is unique (Kegan, 1994).

Orders 3 through 5 are primarily applicable in the range from young to mature adults. In Order 3, the individuals begin a path of more abstract thinking and begins to have a stronger sense of community and social interactions. Approval and acceptance is sought, and actions are determined by how individuals think they will be perceived. Individuals create social groups through shared experiences while also forging ahead and seeking independence. Order 4 is focused on self-authorship. Individuals take responsibility for their actions and understand how what they do will affect others. During this order, relationships shift from being the reason for existence to become a part of the individual's life. Finally, in Order 5, individuals achieve a self-transforming mind. Kegan states that few adults achieve this order of thinking and that it is impossible to reach prior to the age of 40. Order 5 occurs when individuals know more about themselves, others, and even larger order organizations within the world to know how they interconnect and exist, including how interactions between groups may cause interdependence or development (Kegan, 1994).

Marcia Baxter Magolda expanded upon Kegan's theory to look further into the cognitive realm of development (Patton, 2016). The epistemological research conducted by Baxter Magolda (2001) led to the discovery of certain areas of development people experience as young adults, such as identifying and challenging their own values, choosing who they will be in life personally and professionally, and the meaning-making of the experiences they have had so far in their lives (Baxter Magolda, 2001). Three major questions emerged from this research: "How do I know?" "Who am I?" and "How do I want to construct relationships with others?" (p. 15).

Respectively, these questions refer to the cognitive, intrapersonal, and interpersonal development of young adults.

Cognitive development involves the individuals understanding his or her own limits to knowledge: how they have learned, what they know, what they do not know, and how that knowledge affects their lives. Intrapersonal development explores the sense of self and the belief system and values that individuals hold. Finally, interpersonal development includes the social elements of being: how relationships are formed, how one perceives society, and any cultural differences that may exist.

Based on these ideas, Baxter Magolda (2001) developed four phases for use within the development of self-authorship. The first phase begins with young adults who are following the direction of authority figures such as parents, teachers, friends, or mentors. The external environment is used to define who they are and how they fit into the world. By phase two these young adults are questioning the usefulness of the guidance they have received from authority figures and are beginning to define for themselves who they want to be and what their paths will be. During this phase, individuals are solidifying and identifying their own values. Phase three introduces the individuals to a concrete sense of purpose and they stand by their beliefs and values. These changes lead to a strong sense of self; however, at this time individuals also realize that their values can be influenced by new knowledge and experiences. This is also a time of ensuring that external relationships are beneficial to individuals and they are negotiating change to make the most of their personal relationships. Finally, the fourth phase has the individuals fully invested in their own self. They know they are, and they work to have mutually beneficial relationships. Their actions and responsibilities become a central part of how they function in society.

Baxter Magolda (2014) used these phases in her own longitudinal research on self-authorship that spanned 27 years. In the research, it was discovered that external challenges and experiences challenge individuals and help them to understand and rely on a greater sense of self. It was concluded "that self-authorship supports critical thinking, complex problem solving, mature relationships, intercultural maturity, leadership, and navigating life challenges" (Magolda, 2014, p. 31). By encouraging self-authorship, universities are helping the development of individuals who will shape the future of society.

The Application of Kegan's and Baxter Magolda's Theories through the GPI

Within the field of international education, the GPI has become a standard tool for measuring students' journey through experiences within higher education. It was developed with the idea that it could be used for any student population to measure three dimensions: cognitive, intrapersonal, and interpersonal. Reflecting the ideas put forth by Kegan (1994) and Baxter Magolda (2001), Braskamp, Braskamp, & Engberg. (2014) wrote, "All human beings experience, grow, change, and develop during their life along intellectual, social, interpersonal, emotional, physical, and spiritual dimensions" (p. 3). Since they ascertained that the human experience is similar across the entire population, the GPI was developed to be relevant for studying groups of people from all backgrounds, no matter their gender, national origin, religion, socio-economic status, or race (Braskamp et al., 2014). The tool was developed relying heavily on the theoretical works of both Kegan (1994) and Baxter Magolda (2001). The tool also uses the later works of King and Baxter Magolda (2005) where the concept of intercultural maturity was analyzed to understand how cultural differences enable individuals to interact effectively across different identity groups.

Braskamp et al. (2014) originally developed the GPI in 2007 and have since developed nine versions that have been used in studies with over 120,000 students, faculty, and staff. The GPI contains a set of questions that relate to the cognitive, intrapersonal, and interpersonal dimensions. The purpose is to have the respondents evaluate their own development. "The items in the GPI are meant to portray markers in a journey in which persons of all ages are constantly asking questions about how they think, feel, and relate to others" (Braskamp et al., 2014, p. 4). Thus, the questions asked of students are related to the three domains. Within each domain, there are two sub-categories.

The cognitive dimension covers the subscales of knowledge and knowing. This dimension looks beyond just what individuals believe it is important to know and also asks about cultural context within epistemology. Knowing is the "degree of complexity of one's view and the importance of cultural context in judging what is important to know and value" (Braskamp et al., 2014, p. 5). Knowledge is the understanding of how global cultures impact society and also the level of proficiency the respondent has in more than one language (Braskamp et al., 2014).

The intrapersonal domain involves the individual's identity and their personal affect subscales (Braskamp et al., 2014). This domain is focused on the individual's self-identity and the development of their strengths, values, and beliefs. The identity of the individual is defined by the awareness and acceptance of the individual's uniqueness while also accepting their ethnic, racial, and gender identities. Affect refers to the individual's acceptance and respect for cultures different from their own and their emotional intelligence when faced with complex, sometimes cultural, situations.

Finally, the interpersonal domain centers on the subscales of the individual's social responsibility and social interaction (Braskamp et al., 2014). In this dimension, the individuals

are analyzing their ability to interact with people different from themselves, either due to different social norms or cultural backgrounds. Social responsibility is the "level of interdependence and social concern for others" (Braskamp et al., 2014). Social Interactions measure the amount of involvement the individuals have with people different from themselves and their cultural sensitivity when in different settings.

Braskamp et al. (2014) say that development across these three domains occur simultaneously, as is a common point in the works of Kegan (1994) and Baxter Magolda (2001). Holistic student development is a key concept for Braskamp et al. (2014) as they articulate, "Persons do not develop their cognitive skills and learn to think with more complexity separate from further developing their emotional maturity, their sense of self and identity, and their ability to relate to others. Instead they develop simultaneously along several dimensions" (Braskamp et al., 2014, p. 3). To reflect this mutual development, the GPI evaluates each dimension concurrently to gain a sense of where a student is at in their cognitive, intrapersonal, and interpersonal development at the time of the intervention.

These dimensions are measured on a Likert scale where respondents self-indicate to what extent they agree or disagree with a given statement. For example, respondents may agree or disagree with the statement: "I rarely question what I have been taught about the world around me" (Braskamp et al., 2014). There are 35 core questions of the GPI that can be used in any context and then additional questions for specific experience types, such as study abroad. Braskamp et al. (2014) recommend that the GPI can be used for any type of scenario, and in particular the authors see potential relevance to program interventions, study abroad, orientations, service learning, freshman to senior development, faculty perspectives, and even as a tool to be used during accreditation to show the value of programs.

In relation to this research, the theoretical models of Kegan (1994) and Baxter Magolda (2001) will be shown by using the GPI. Through GU, the targeted transition in students would be to have students move from Order 3 of Kegan's theory to Order 4, and in that transition help the students become self-authoring of their own minds (see Figure 2).

Research Using the GPI

Much of the body of research utilizing the GPI centers on the theme of global perspective taking, which is not surprising due to the purpose and name of this tool. Set experiences such as study abroad, globally focused classes, volunteer experiences, etc. provide a ripe environment for research to be conducted on how these experiences shape and develop the students involved. These types of experiences require students to evaluate, redefine, and form a greater sense of self, all of which have been identified as developmental factors in Order 3 of Kegan's (1994) Theory and Phase 2 and 3 of Baxter Magolda's (2001) theory.

Many researchers have used the GPI as a pre- and post- study abroad measure for their students. Engberg and Jourian (2015) surveyed 510 students during the 2012 academic year to study the difference between students pre- and post- experience scores, and to determine whether there was a relationship between the students' intercultural wonderment and their global perspective, and the relationship between their intercultural wonderment and their backgrounds. It was found that students' experiences both inside and outside the classroom led to a greater sense of intercultural wonderment, which led to recommendations to more thoroughly design study abroad programs to include intentional intercultural interactions for students in both a structured and unstructured way to more effectively develop the students' intercultural wonderment and their understanding of global perspectives.

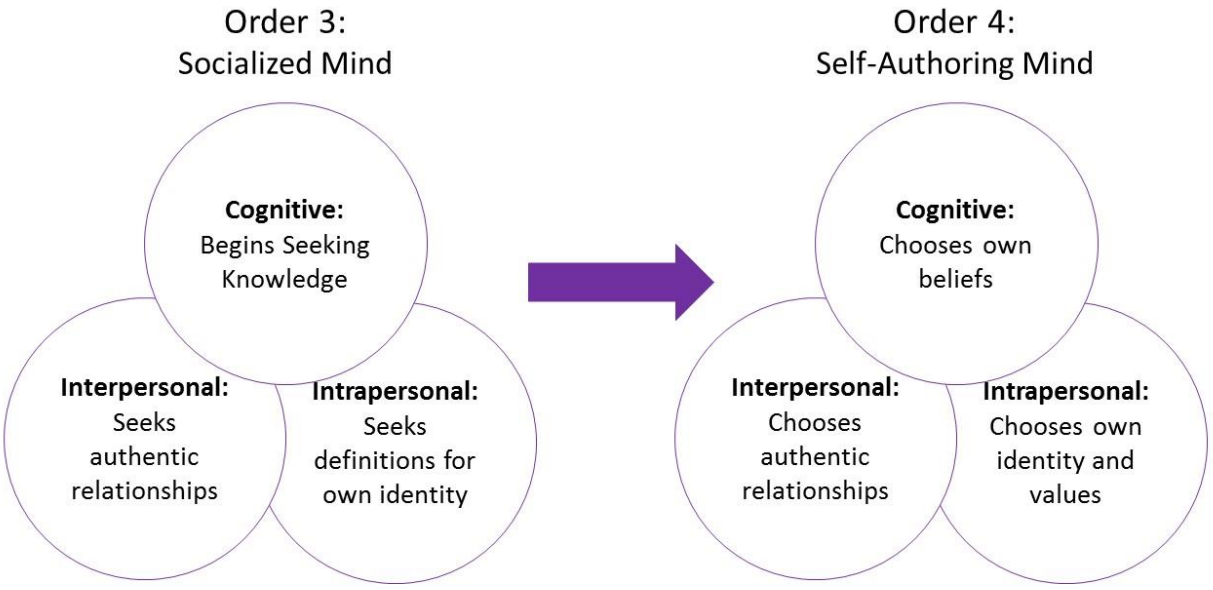


Figure 2. Targeted transformation of students of Global Understanding.

In research conducted by Braskamp, Braskamp, and Glass (2015), faculty interactions with students were surveyed using the GPI to determine whether they had an effect on students' sense of belonging during their college experience. In this study, the authors used data from 37,967 undergraduate students who had completed the GPI between August 2011 and June 2013. The results showed that students who were strongly rooted in their campus community also had a greater capacity for global perspective taking. The authors found this surprising since a strong sense of community would traditionally be thought to lead to a lesser sense of openness to things that are considered different. However, by rooting themselves in the campus community, it had the opposite effect since they were instead engaging in more activities, learning from more people with perspectives different from their own, and are more likely to view themselves as global citizens.

In another study by Glass, Buus, and Braskamp (2013) using the GPI, international students were compared to domestic students regarding their sense of community, faculty-student interactions, and global perspective taking. The results showed that international students do not experience the same levels of development as their domestic counterparts. They do not have as high of a level of community interaction in the university environment. International students also feel that faculty do not challenge their views as often as the domestic students. Finally, students from countries vastly different from the US, such as China or Saudi Arabia, felt more threatened. However, international students were more likely to form friendships with others unlike them when compared to domestic students.

There are numerous experiences on college campuses that could be evaluated using the GPI. The majority of research relates directly to international travel experiences, but existing research should expand to also look at on-campus globalization efforts, such as using technology

in the classroom, evaluating international buddy programs, and more. However, this research will be for naught if the data is not utilized. Braskamp et al. (2013) wrote, “The responses to the GPI are most useful when those responsible for creating the environment to foster development with a global perspective meet to discuss the evidence and consider how adjustments in the environment would most likely enhance a globally oriented holistic human development” (p. 18). By using results to enhance programs and create purposeful experiences for students, higher education administrators will be achieving the goal of improving the student experience and developing them to be beneficial members of society.

Summary

In this ever increasingly digital world, it is important to find ways to bring people together to create a meaningful connection that can cross the barrier of distance, culture, and language. Study abroad is often thought to be a way to bring different groups of people together for self-growth, but it is inaccessible to the majority of American students. By utilizing Web 2.0 technologies, universities are developing opportunities for students to interact with international counterparts in real-time without facing the barriers of study abroad. At ECU, students who take the Global Understanding course interact with partners at 3 universities from around the globe and work on a collaborative project together. By utilizing the GPI, this study will determine whether the mission of GAI is being met by analyzing students' perceptions of their cognitive, interpersonal, and intrapersonal development pre- and post- course.

CHAPTER 3: METHODOLOGY

There exists a gap in intercultural learning opportunities within American higher education. Study Abroad is widely regarded as the main way to gain an intercultural experience but with only 15.5% of Americans studying abroad, the vast majority of the undergraduate student population is missing out on what is widely regarded as the most beneficial way to gain a global perspective. Several universities are looking for ways for students to gain a global perspective without the items that hinder students to study abroad, such as finances or leaving their homes for an extended period of time. One of these methods is through virtual exchange, or using Web 2.0 technologies to collaborate with international partners in an academic setting.

Research by Çiftçi (2016) states that further research is needed in the area of utilizing Web 2.0 technologies to internationalize the campus. In the paper by Çiftçi (2016), the researcher suggested that many current studies on the utilization of Web 2.0 technologies in the classroom focus on language learning and that there should be an emphasis on having an intercultural focus with participants who speak English as the *lingua franca*. Additionally, it was suggested that in the existing research, the timeframes of the studies were short and that models that analyze intercultural learning should be utilized. This study of the semester-long Global Understanding courses through ECU researches a gap in available literature to show whether students who collaborate internationally through technology gain a greater global perspective. This research will benefit the current literature by demonstrating whether there are additional areas where students may gain a global perspective than through an international experience abroad, which can be a burden on students financially.

The purpose of this study is to determine the degree to which East Carolina University students increase their global perspective when undertaking the Global Understanding course

over a semester. The impact will be measured by determining if there is a significant relationship between students' cognitive, intrapersonal, and interpersonal development by completing the Global Perspective Inventory pre- and post- course and matching the GPI measures to the objectives of the Global Understanding course.

Context for the Study

In fall 2017, ECU offered 14 sections of GU and in spring 2018 there were 15 sections. Over the academic year, 418 ECU students enrolled in GU, with 194 students enrolled in the courses in fall 2017 and 224 enrolled during spring 2018. 185 fall students and 230 spring students filled out the pre- course survey and 124 fall students and 119 spring students filled out the post- survey of the Global Perspective Inventory. Students over 25 were removed since this study is targeting development in traditionally-aged university students. During the analysis of mixed factorial two-way ANOVAs on the subscales, one outlier was discovered which had a studentized residual value of -4.29. In looking at this informant's reporting on the GPI, it was determined that the informant did not accurately respond to the post-course survey and responded largely with the same value on all answers. Therefore, this informant was removed from the data analyses. There was one other outlier in the data in the reporting of pre-test personal affect by age, as assessed by inspection of a boxplot for values greater than 1.5 box-lengths from the edge of the box. This outlier was maintained in the dataset since its removal did not greatly impact results.

There were 104 fall matching pre- and post-test results and 107 spring matching pre- and post-test results, resulting in n=211 usable results of students who both filled out the pre-test and the post-test, representing a 50.5% response rate.

Respondents for this research were a sample of 211 undergraduate students at ECU taking GU who were asked to complete the survey for the course. Most participants were women (64.9% female, 35.1% male). The sample was 62.2% Caucasian, 19.6% African American, 18.2% other races, and 2 respondents did not respond. Participants had a mean age of 19.9 years, ranging from 17 to 25. See Table 1 for full demographic information.

Research Design

The purpose of this study is to determine the degree to which East Carolina University students increase their global perspective when undertaking the Global Understanding course over a semester. I identified the GPI as the survey instrument and tied the mission objectives to the measurements provided by the GPI. The GPI has three main dimensions: the cognitive dimension measures the subject's awareness of knowledge and knowing about a culture, the intrapersonal dimension which takes into account the subject's personal value and identity, and the interpersonal dimension measures the subject's willingness to interact with those from different backgrounds (GPI, 2017). Within each dimension, there exists two related subscales.

The cognitive dimension covers the subscales of knowledge and knowing. This dimension looks beyond just what individuals believe it is important to know and also asks about cultural context within epistemology. Knowing is the “degree of complexity of one’s view and the importance of cultural context in judging what is important to know and value” (Braskamp et al., 2014, p. 5). Knowledge is the understanding of how global cultures impact society and also the level of proficiency the respondent has in more than one language (Braskamp et al., 2014).

Table 1

Demographics of Students in GU at ECU

Demographic	Total Number of Students	Valid Percentage
Age		
17-18	48	22.7%
19	41	19.4%
20	48	22.7%
21	46	21.8%
22-25	28	13.3%
Race		
Caucasian	130	62.2%
African American	41	19.6%
Other	38	18.2%
Gender		
Male	74	35.1%
Female	137	64.9%
Stress to interact with international partners		
0-3 (low stress)	40	19.0%
4-5 (slight stress)	55	26.1%
6-7 (moderate stress)	57	27.0%
8-10 (high stress)	59	28.0%

Table 1 (continued)

Category	Total Number of Students	Valid Percentage
Previous time traveling abroad		
None	97	46.0%
1-14 days	55	26.1%
15 days – 4 months	36	17.1%
5+ months	23	10.9%
Interest in study abroad		
Not at all interested	26	13.3%
Slightly interested	73	37.4%
Moderately interested	50	25.6%
Extremely interested	46	23.6%

The intrapersonal domain involves the individual's identity and their personal affect subscales (Braskamp et al., 2014). This domain is focused on the individual's self-identity and the development of their strengths, values, and beliefs. The identity of the individuals are defined by the awareness and acceptance of the individuals' uniqueness while also accepting their ethnic, racial, and gender identities. Affect refers to the individuals' acceptance and respect for cultures different from their own and their emotional intelligence when faced with complex, sometimes cultural, situations.

Finally, the interpersonal domain centers on the subscales of the individual's social responsibility and social interaction (Braskamp et al., 2014). In this dimension, the individuals are analyzing their ability to interact with people different from themselves, either due to different social norms or cultural backgrounds. Social responsibility is the "level of interdependence and social concern for others" (Braskamp et al., 2014). Social Interactions measure the amount of involvement the individuals have with people different from themselves and their cultural sensitivity when in different settings.

In order to assess students' "broadened understanding of and interest in other cultures" (GAI Mission, 2018), the Cognitive and Interpersonal Dimensions will be analyzed. This will show the results of the students' growth in their depth of knowledge in their understanding of foreign cultures and the knowledge of how global cultures impact society by looking at the cognitive dimension. The interpersonal dimension results will allow me to assess the students' ability to interact with others different from themselves and their level of concern for people from other cultures. By looking at these areas, I will be able to show whether there is growth in the students related to this goal.

For the assessment of the "develop[ment of] intercultural communication and collaboration skills," the Intrapersonal and Interpersonal Dimensions will be measured. A further description of the GPI occurs later in this chapter. By analyzing students based on the outcomes targeted by the GPI, this study is designed to determine whether the courses are meeting their objective.

Research Questions

To test whether the objective of the GU course is being met, this research is testing two of the 3 objectives of the course. The research questions addressed in this study are:

1. To what extent does the Global Understanding course broaden understanding of and interest in other cultures in ECU Students?
2. To what extent do ECU students of Global Understanding develop intercultural communication and collaboration skills over the course of a semester?

By testing the overall GPI and its subscales within the cognitive and interpersonal dimensions, research question 1 will be able answered. The overall GPI results will speak to whether students experienced growth in their global perspective over the course of the semester. Within the cognitive dimension, the knowing subscale will test for the complexity of the students' viewpoints and their ability to take cultural context into consideration – which is one factor in showing an understanding of other cultures. The knowledge subscale will test the students' understanding of how global cultures impact society, another factor in showing a depth of understanding of other cultures. The interpersonal dimension will address the students' interest in other cultures. Specifically, the social responsibility subscale will show whether the students have developed a greater interdependence with others unlike themselves and an interest in helping others. The social interactions subscale will show whether the students have increased

their interactions with others culturally different from themselves. By showing growth in these subscales of the interpersonal dimension, the student is demonstrating a greater interest in other cultures.

For the second research question, the subscales of the interpersonal and intrapersonal dimensions will be measures. The interpersonal dimension will address the students' interest in other cultures. The social responsibility subscale will show whether the students have developed a greater interdependence with others unlike themselves and an interest in helping others. The social interactions subscale will show whether the students have increased their interactions with others culturally different from themselves. By showing growth in these subscales of the interpersonal dimension, the student is demonstrating a greater interest in other cultures and an interest in seeking out intercultural interactions. The intrapersonal dimension has the subscales of personal identity and personal affect. Within the personal identity subscale, the students report on their level of awareness of their own identity. For their personal affect, students respond to questions relating to their level of respect for cultural differences. By showing growth in these subscales, the second research question should speak to students' abilities and willingness to interact with others culturally different from themselves.

To measure these research questions using the GPI and its subscales, the following null hypotheses will be tested for statistical significance:

Overall GPI:

$H_0$1. There is no statistically significant difference in ECU students' pre- and post- test measures towards a higher global perspective.

Cognitive Dimension, Knowing Subscale:

$H_0$2. There is no statistically significant difference in ECU students' measures towards a greater complexity of understanding of cultural context through international connections facilitated through technological platforms.

Cognitive Dimension, Knowledge Subscale:

$H_0$3. There is no statistically significant difference in ECU students' awareness of how cultures impact global society.

Intrapersonal Dimension, Personal Identity:

$H_0$4. There is no statistically significant difference in ECU students' reporting of awareness of their own identities.

Intrapersonal Dimension, Personal Affect:

$H_0$5. There is no statistically significant difference in the levels of respect for diverse cultural perspectives students demonstrate pre- and post-course.

Interpersonal Dimension, Social Responsibility:

$H_0$6. There is no statistically significant difference in students' sense of interdependence among others upon completion of the Global Understanding course.

Interpersonal Dimension, Social Interaction:

$H_0$7. There is no statistically significant difference in the level in which students engage with others who are culturally different from themselves after participating in the Global Understanding course.

Research question 1 will be measured by the null hypotheses within the overall GPI, Cognitive, and Intrapersonal Dimensions, and research question 2 will be measured by the null hypotheses within the Intrapersonal and Interpersonal Dimensions of the GPI.

Data Collection

The data that will be utilized is secondary data collected by GAI during fall 2017 and spring 2018. During the first meeting of each GU course, ECU and international partner students were asked to complete a survey to be used in the assessment of GAI. The data were collected through a survey instrument in Qualtrics. Students fill out the pre-course survey the first week of the course. The post-test is filled out during the final week of the 15-week semester-long course.

The Qualtrics survey consisted of 20 demographic questions, which included questions about gender, race, year in university, section of course being taken, stress level in interactions with international partners, previous participation in study abroad, number of languages spoken, number of international friends, interest level in study abroad, major, and previous time spent traveling out of the country. The students in GU at ECU were asked to complete the general student form of the GPI. Students were asked to respond to the GPI questions on a Likert scale with the options "Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree." Questions are asked in both affirmative and negative format to assist with the reliability of responses. The questions from the survey instrument can be viewed in Appendix B.

Instrumentation

The GPI is a survey instrument which was developed and piloted in the summer of 2007 (Braskamp et al., 2014). The instrument has been modified since then from a survey of 69 question items to 35 question items in the current 7th version of the GPI. There are 3 versions of the GPI, the General Student Form, the New Student Form, and the Study Abroad Form (Global Perspective Inventory, 2018). For this research, the General Student Form was utilized on ECU students taking the GU course during the fall 2017 or spring 2018 semester. The GPI has been tested for test-retest reliability on groups of students who traveled abroad for different lengths of

time. The test-retest of reliabilities on the subscales ranged from 0.49 to 0.81, with an average across all subscales of 0.71 (Braskamp et al., 2014).

Internal consistency was also tested using results of 5,350 undergraduates who completed version 7 of the GPI from August 1, 2007 through June 15, 2012, and the six sub-scale alpha coefficients ranged from 0.63 to 0.75. According to Hinkle, Wiersman, & Jurs. (2003), four of the six sub-scale alpha coefficients are "good" ($0.7 \leq \alpha$ 0.9), and all are within an "acceptable" range ($0.6 \leq \alpha$ 0.7) for social science research.

Data Analyses

A statistical analysis software, SPSS, will be used to analyze results of the survey. Using SPSS, the means of the 6 different GPI categories will be determined, then paired sample *t*-tests will be used to determine the degree to which the students' results shifted from pre- to post-test results. Paired sample *t*-tests are used to compare two population means and are commonly used for finding statistical significance and confidence intervals of results (Field, 2013).

For the main analyses, each null hypothesis relating to the GPI sub-scales will first be tested for significance over the whole group of ECU respondents by averaging the pre- and post-test results in the cognitive, intrapersonal, and interpersonal scales and their subscales to determine the means and standard deviations of responses. Paired samples *t*-tests will provide inferential statistics to compare the average results. These data will assist in determining whether the students showed a marked improvement in relation to the research questions.

Next, inferential statistics will be used to compare respondents based on gender, age, race, stress level to interact with international partners, previous travel abroad, and interest in study abroad will be analyzed using a two-way mixed factorial analysis of variance (ANOVA) for exploratory analyses of the data. The change in the GPI means will be the dependent variable

and the aforementioned categories will be the independent variables. These data will be used to determine whether any of the independent variables can be associated with a higher level of global perspective acquisition through the Global Understanding course.

Summary

As universities strive to reach internationalization goals, methods of internationalization that do not rely on physical mobility of students need to be researched to ascertain whether goals are being met while students remain on campus. Classes that utilize Web 2.0 technologies allow students to communicate internationally with students at partner institutions globally. This research is using the GPI, a measurement of global perspective acquisition, on students who enroll in GU at ECU. There are n=211 usable data points in the secondary data collected by the GU program. These data will be analyzed using paired *t*-tests and mixed-factorial ANOVAs, and results will be obtained through the statistical software SPSS.

CHAPTER 4: RESULTS

This chapter presents the results from the Global Perspective Inventory (GPI) survey on students of Global Understanding (GU) at ECU. The pre-test post-test design of the GPI has allowed me to make an inference between students' involvement in the GU course and growth in specific areas targeted by the GPI. The research questions and hypotheses sought to determine the degree to which East Carolina University students increase their global perspective when undertaking the Global Understanding course over a semester. The following research questions are addressed:

1. To what extent does the Global Understanding course broaden understanding of and interest in other cultures in ECU Students?
2. To what extent do ECU students of Global Understanding develop intercultural communication and collaboration skills over the course of a semester?

By testing the overall GPI and its subscales within the cognitive and interpersonal dimensions, research question 1 was answered. The overall GPI results spoke to whether students experienced growth in their global perspective over the course of the semester. Within the cognitive dimension, the knowing subscale tested for the complexity of the students' viewpoints and their ability to take cultural context into consideration – which is one factor in showing an understanding of other cultures. The knowledge subscale tested the students' understanding of how global cultures impact society, another factor in showing a depth of understanding of other cultures. The interpersonal dimension addressed the students' interest in other cultures. Specifically, the social responsibility subscale showed whether the students developed a greater interdependence with others unlike themselves and an interest in helping others. The social interactions subscale showed whether the students increased their interactions

with others culturally different from themselves. By showing growth in these subscales of the interpersonal dimension, the students demonstrated a greater interest in other cultures.

For the second research question, the subscales of the interpersonal and intrapersonal dimensions were measures. The interpersonal dimension addressed the students' interest in other cultures. The social responsibility subscale showed whether the students developed a greater interdependence with others unlike themselves and an interest in helping others. The social interactions subscale showed whether the students had increased their interactions with others culturally different from themselves. By showing growth in these subscales of the interpersonal dimension, the students would demonstrate a greater interest in other cultures and an interest in seeking out intercultural interactions. The intrapersonal dimension has the subscales of personal identity and personal affect. Within the personal identity subscale, the students reported on their level of awareness of their own identity. For their personal affect, students responded to questions relating to their level of respect for cultural differences. By showing growth in these subscales, the second research question should speak to students' abilities and willingness to interact with others culturally different from themselves.

By applying the GPI's dimensions and subscales to these questions, I found whether the students of GU gain a greater global perspective over the course of the semester-long course. Subsequently, the subscale results showed categories of students who benefited more in their global perspective acquisition than others through the virtual exchange format of the course. This chapter analyzed the main effects for each hypothesis and presented the results of the GPI's overall and subscale items. I conducted exploratory analyses to understand the results of the main analyses better as it pertains to different student populations.

Study Sample

Respondents for this research were a sample of 211 undergraduate students at ECU taking GU who were asked to complete the survey for the course. Most participants were women (64.9% female, 35.1% male). The sample was 61.6% Caucasian, 19.4% African American, 7.1% representing 2 or more ethnicities, 6.2% Hispanic or Latino, 3.8% Asian, 0.9% American Indian/Alaskan Native, and .9% who did not respond. Participants had a mean age of 19.9 years, ranging from 17 to 25. The participants were fairly evenly spread across freshmen to seniors, with 26.5% first year, 21.3% second year, 24.6% third year, and 27.5% fourth year. See Table 1 in Chapter 3 for full demographic information.

Prior to running paired *t*-tests and two-way mixed ANOVAs on the data one outlier was removed based on studentized residual amounts being greater than ± 3. One other outlier was identified in the inspection of a boxplot for values greater than 1.5 box-lengths from the edge of the box, and this outlier remained in the dataset since the removal did not greatly affect results. Normal distribution was confirmed by assessing Q-Q plots for the categorical variables in comparison to the GPI and its subscales.

All two-way mixed ANOVAs had sphericity assumed since there were only two time-points for the analysis. The two-way mixed ANOVAs took into consideration 6 demographic points reported by respondents. Age included 5 levels: 17-18, 19, 20, 21, and 22-25. Race had 3 levels: Caucasian, African American, and all other races. Gender had two levels: male and female. Stress level to interact with international partners had 4 levels, 0-3 was low stress, 4-5 a little stress, 6-7 was moderate stress, and 8-10 is very stressful. Interest in study abroad had 4 levels: not at all interested, slightly interested, moderately interested, and extremely interested. Finally, previous time traveling out of the country had 4 categories: none, 1-14 days, 15 days – 4

months, and 5 or more months. I analyzed the two-way mixed ANOVA results on these categories.

Main Analyses

In order to analyze the main hypotheses, paired *t*-tests were utilized to analyze the overall results of the GPI and the subscales of the GPI, which corresponded to the null hypotheses.

Overall GPI

To analyze the results of the GPI, the following hypothesis was tested:

$H_0$1. There is no statistically significant difference in ECU students' pre- and post- test measures towards a higher global perspective.

To analyze this hypothesis, I first conducted a paired *t*-test of the pre- and post- results of the overall GPI. The paired *t*-test indicated that respondents tested higher on the post- test when compared to the pre-test with a statistically significant mean increase of 0.15 ± 0.30 on the 5-point scale, $t(210) = -7.02$, $p < 0.0005$. Due to the means of the two tests and the direction of the *t*-value, it is concluded that there were statistically significant improvements in the students' scores following the GU course from 3.66 ± 0.33 to 3.81 ± 0.38 ($p < 0.0005$). All *t*-test results are reported in Table 2. This result rejected the null hypothesis and I concluded that there was a significant increase in ECU students' pre- and post- test scores relating to a higher global perspective.

Cognitive Dimension, Knowing

To analyze the Cognitive Dimension's subscale of Knowing, the following hypothesis was tested:

Table 2

T-test Results for Equality of Means

	Pre-Test		Post-Test		
	M	SD	M	SD	*t*-value
Overall GPI	3.66	0.33	3.81	.38	-7.02**
Cognitive – Knowledge	3.59	0.60	3.84	0.58	-6.72**
Cognitive – Knowing	3.42	0.40	3.48	0.57	-1.79
Intrapersonal – Identity	4.06	0.48	4.16	0.51	-3.21*
Intrapersonal – Affect	3.76	0.32	4.20	0.53	-12.66**
Interpersonal – Social Interaction	3.27	0.67	3.41	0.70	-3.57**
Interpersonal – Social Responsibility	3.74	0.53	3.77	0.58	-0.68

Note. * $p < .05$, ** $p < .005$, M = Mean. SD = Standard Deviation. Scale ranges from 1 (no global perspective) to 5 (high global perspective).

$H_0$2. There is no statistically significant difference in ECU students' measures towards a greater complexity of understanding of cultural context through international connections facilitated through technological platforms.

To analyze this hypothesis, I first conducted a paired *t*-test of the pre- and post- results. The paired *t*-test indicated that respondents tested higher on the post- test when compared to the pre-test with a mean increase of .063 ± 0.51 on the 5-point scale, $t(210) = -1.789$, $p = .075$. Due to the means of the two tests and the direction of the *t*-value, I concluded that there were not statistically significant improvements in the students' scores following the GU course, though students did report an increase from 3.41 ± 0.40 to 3.8 ± .57 ($p = .075$). All *t*-test results are reported in Table 2.

Cognitive Dimension, Knowledge

To analyze the Cognitive Dimension's subscale of Knowledge, the following hypothesis was tested:

$H_0$3. There is no statistically significant difference in ECU students' awareness of how cultures impact global society.

To analyze this hypothesis, I first conducted a paired *t*-test of the pre- and post- results. The paired *t*-test indicated that respondents tested higher on the post- test when compared to the pre-test with a statistically significant mean increase of .25 ± 0.55 on the 5-point scale, $t(210) = -6.72$, $p < 0.0005$. Due to the means of the two tests and the direction of the *t*-value, I concluded that there were statistically significant improvements in the students' scores following the GU course from 3.59 ± 0.60 to 3.84 ± 0.58 ($p < .0005$). This rejected the null hypothesis. All *t*-test results are reported in Table 2.

Intrapersonal Dimension, Personal Identity

To analyze the intrapersonal dimension's subscale of personal identity, the following hypothesis was tested:

$H_0$4. There is no statistically significant difference in ECU students' reporting of awareness of their own identities.

To analyze this hypothesis, I first conducted a paired *t*-test of the pre- and post- results. The paired *t*-test indicated that respondents tested higher on the post- test when compared to the pre-test with a statistically significant mean increase of 0.10 ± 0.45 on the 5-point scale, $t(210) = -3.21$, $p = 0.002$. Due to the means of the two tests and the direction of the *t*-value, I concluded that there were statistically significant improvements in the students' scores following the GU course from 4.06 ± 0.48 to 4.16 ± 0.51 ($p = 0.002$), which rejected the null hypothesis. All *t*-test results are reported in Table 2.

Intrapersonal Dimension, Personal Affect

To analyze the intrapersonal dimension's subscale of personal affect, the following hypothesis was tested:

$H_0$5. There is no statistically significant difference in the levels of respect for diverse cultural perspectives students demonstrate pre- and post- course.

To analyze this hypothesis, I first conducted a paired *t*-test of the pre- and post- results. The paired *t*-test indicated that respondents tested higher on the post- test when compared to the pre-test with a statistically significant mean increase of 0.44 ± 0.51 on the 5-point scale, $t(210) = -12.66$, $p < 0.0005$. Due to the means of the two tests and the direction of the *t*-value, I concluded that there were statistically significant improvements in the students' scores following the GU

course from 3.76 ± 0.32 to 4.20 ± 0.53 ($p < 0.0005$). This result rejected the null hypothesis. All *t*-test results are reported in Table 2.

Interpersonal Dimension, Social Responsibility

To analyze the interpersonal dimension's subscale of social responsibility, the following hypothesis was tested:

$H_0$6. There is no statistically significant difference in students' sense of interdependence among others upon completion of the Global Understanding course.

To analyze this hypothesis, I conducted a paired *t*-test of the pre- and post- results. The paired *t*-test indicated that respondents tested higher on the post- test when compared to the pre-test with a statistically significant mean increase of 0.14 ± 0.58 on the 5-point scale, $t(210) = -3.47$, $p < 0.0005$. Due to the means of the two tests and the direction of the *t*-value, I concluded that there were statistically significant improvements in the students' scores following the GU course from 3.27 ± 0.67 to 3.41 ± 0.70 ($p < 0.0005$), which rejected the null hypothesis. All *t*-test results are reported in Table 2.

Interpersonal Dimension, Social Interaction

To analyze the interpersonal dimension's subscale of social interaction, the following hypothesis was tested:

$H_0$7. There is no statistically significant difference in the level in which students engage with others who are culturally different from themselves after participating in the Global Understanding course.

To analyze this hypothesis, I conducted a paired *t*-test of the pre- and post- results. The paired *t*-test indicated that respondents tested higher on the post- test when compared to the pre-test with a mean increase of .02 ± 0.50 on the 5-point scale, $t(210) = -.68$, $p = 0.498$. Due to the

means of the two tests and the direction of the *t*-value, I concluded that there was not a statistically significant improvement in the students' scores following the GU course, though students did report a slight increase from 3.74 ± 0.53 to 3.77 ± 0.58 ($p = 0.498$), which accepted the null hypothesis. All *t*-test results are reported in Table 2.

Exploratory Analyses

To further understand the findings of the main analyses, further exploratory analyses were conducted on the GPI and its subscales. These analyses consisted of two-way mixed ANOVAs run on the GPI and its subscales in relation to demographic variables reported by the respondents. These measures included age, race, gender, stress level to interact with international partners, interest in study abroad, major, and previous time traveling out of the country.

Overall GPI

The results of the paired *t*-test of the pre- and post-test results of the GPI were significant and rejected the null hypothesis. To further analyze whether any demographic variables are more favorable to increases than other, two-way mixed ANOVAs were conducted. Means and standard deviations of each category analyzed are reported in Table 3. Two-way mixed ANOVA results for the overall GPI are reported in Table 4.

Age. Shapiro Wilk's test of normality showed that the data were normally distributed ($p > 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances and there was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was significant with an overall increase in scores (see Table 4). The main effect of age was not significant (see table 4). There was a statistically significant interaction between the age of respondents and time on the GPI results, $F(4, 206) = 3.22$, $p < 0.05$, partial $\eta 2 = 0.06$. Post-hoc t-tests with Bonferroni correction, $p <$

Table 3

Means and Standard Deviations of Categorical Results of GPI

		Pre-test		Post-test	
Category	*n*	*M*	*SD*	*M*	*SD*
Age					
17-18	48	3.56	0.29	3.82	0.36
19	41	3.65	0.35	3.77	0.39
20	48	3.71	0.33	3.85	0.35
21	46	3.72	0.33	3.77	0.42
22-25	28	3.70	0.39	3.84	0.40
Race					
Caucasian	130	3.65	0.33	3.79	0.40
African American	41	3.63	0.34	3.82	0.34
Other	38	3.66	0.33	3.81	0.38
Gender					
Male	74	3.64	0.34	3.76	0.39
Female	137	3.67	0.33	3.83	0.38
Stress to interact with international partners					
0-3 (low stress)	40	3.82	0.34	3.93	0.45
4-5 (slight stress)	55	3.70	0.33	3.86	0.38
6-7 (moderate stress)	57	3.63	0.29	3.77	0.34
8-10 (high stress)	59	3.56	0.32	3.72	0.35

Table 3 (continued)

		Pre-test		Post-test	
Category	*n*	*M*	*SD*	*M*	*SD*
Previous time traveling					
None	97	3.59	0.29	3.75	0.36
1-14 days	55	3.66	0.30	3.78	0.41
15 days – 4 months	36	3.77	0.41	3.88	0.36
5+ months	23	3.79	0.33	3.99	0.39
Interest in study abroad					
Not at all interested	26	3.57	0.30	3.50	0.34
Slightly interested	73	3.59	0.29	3.77	0.34
Moderately interested	50	3.69	0.35	3.88	0.36
Extremely interested	46	3.65	0.35	3.89	0.41

Table 4

Two-Way Mixed ANOVA Results for GPI

Category	*F*	*df*	*p*	η^2
Age				
ME Time	48.17**	1, 206	0.0	0.19
ME Age	0.68	4, 206	0.608	0.01
Interaction	3.22*	4, 206	0.014	0.06
Race				
ME Time	33.76**	1, 206	0.0	0.14
ME Race	0.92	2, 206	0.406	0.01
Interaction	1.30	2, 206	0.274	0.01
Gender				
ME Time	40.77**	1, 209	0.0	0.16
ME Gender	1.18	1, 209	0.278	0.01
Interaction	1.10	1, 209	0.295	0.01
Stress to interact with international partners				
ME Time	46.12**	1, 207	0.0	0.18
ME Stress	5.09**	3, 207	0.002	0.07
Interaction	0.26	3, 207	0.857	0.0
Previous time traveling				
ME Time	38.11**	1, 207	0.00	0.16
ME Travel	4.02*	3, 207	0.008	0.99
Interaction	0.66	3, 207	0.579	0.01

Table 4 (continued)

Category	*F*	*df*	*p*	η^2
Interest in study abroad				
ME Time	26.02**	1, 191	0.00	0.12
ME Interest	5.61**	3, 191	0.001	0.99
Interaction	5.12**	3, 191	0.002	0.07

Note. * $p < .05$; ** $p < .005$.

0.01, showed a significant increase between pre- and post-tests for the 17-18 year olds, $t(47) = -5.459$, $p < 0.001$, 20 year olds, $t(47) = -3.938$, $p < 0.001$, and 22 year olds, $t(47) = -2.752$, $p = 0.01$. Although all age groups showed an increase from pre- to post- test, the 17-18 year olds showed the greatest increase from 3.56 ± 0.29 to 3.82 ± 0.36. One-way ANOVAs were conducted with pre- and post- test results with age as the independent variable. Neither test was significant, indicating that the five age groups did not differ from one another either at pre-test or at post-test.

Race. Shapiro-Wilk's test of normality showed that the data were normally distributed ($p > 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was not homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was significant with an overall increase in scores (see Table 4). The main effect of race was not significant (see table 4). There was not a statistically significant interaction between the class of respondents and time on the GPI results, $F(2, 206) = 1.301$, $p = 0.274$, partial $\eta 2 = 0.012$.

Gender. Shapiro-Wilk's test of normality showed that the data were normally distributed ($p > 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was not homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was significant with an overall increase in scores (see Table 4). The main effect of gender was not significant (see Table 4). There was not a statistically significant interaction between the class of respondents and time on the GPI results, $F(1, 209) = 1.104$, $p = 0.295$, partial $\eta 2 = 0.005$.

Stress level to interact with international partners. Shapiro-Wilk's test of normality showed that the data were normally distributed ($p > 0.05$). There was homogeneity of variances

($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was significant with an overall increase in scores (see Table 4). The main effect of stress level was significant, with overall GPI scores being higher for students who reported lower levels of stress (see Table 4). There was not a statistically significant interaction between the stress level of respondents and time on the GPI results, $F(3, 207) = 0.255$, $p = 0.857$, partial $\eta 2 = 0.004$.

Previous time traveling out of the country. Shapiro-Wilk's test of normality showed that the data were normally distributed ($p > 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was significant with an overall increase in scores (see Table 4). The main effect of previous time traveling was significant with higher scores on the GPI for students who had spent more time traveling abroad (see Table 4). There was not a statistically significant interaction between the class of respondents and time on the GPI results, $F(3, 207) = 0.658$, $p = 0.579$, partial $\eta 2 = 0.009$.

Interest in study abroad. Shapiro Wilk's test of normality showed that the data were normally distributed ($p > 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances and there was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was significant with an overall increase in scores (see Table 4). The main effect of interest in study abroad was significant, generally with students who have a higher interest in study abroad scoring higher on the GPI (see Table 4). There was a statistically significant interaction between the interest level in study abroad of respondents and time on the GPI results, $F(3, 191) = 5.124$, $p < .005$, partial

$\eta 2 = 0.074$. Paired *t*-tests with Bonferroni correction, $p < 0.0125$, showed a significant increase between pre- and post-tests for the students slightly interested in study abroad, $t(72) = -6.02$, $p < 0.001$, and students moderately interested, $t(49) = -4.37$, $p < 0.001$. The students not at all interested in study abroad showed a decrease of 0.06 ± 0.33, and all other groups showed an increase on the GPI. The students moderately interested in study abroad showed the greatest increase from pre- to post- test, 3.69 ± 0.35 to 3.88 ± 0.36. One-way ANOVAs for pre-test results showed that there was a significant difference between groups, $F(3, 191) = 2.92$, $p = 0.035$, and there was a significant interaction of post-test results, $F(3, 191) = 7.56$, $p < .005$.

Cognitive Dimension, Knowing

The results of the paired *t*-test of the pre- and post-test results of the knowing subscale of the GPI were not significant and accepted the null hypothesis. To further analyze whether any demographic variables may have had a significant interaction with the knowing subscale, two-way mixed ANOVAs were conducted. Means and standard deviations of each category analyzed are reported in Table 5. Two-way mixed ANOVA results for the knowing subscale are reported in Table 6.

Age. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). Despite the data not being normally distributed, analyses were conducted. There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances and there was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was significant with an overall increase in scores (see Table 6). The main effect of age was not significant (see Table 6). There was not a statistically significant interaction between the age of respondents and time on the knowing subscale results, $F(4, 206) = 1.11$, $p = 0.353$, partial $\eta 2 = 0.02$.

Table 5

Means and Standard Deviations of Categorical Results of Cognitive Dimension: Knowing

		Pre-test		Post-test	
Category	*n*	*M*	*SD*	*M*	*SD*
Age					
17-18	48	3.32	0.38	3.37	0.57
19	41	3.37	0.40	3.50	0.56
20	48	3.40	0.41	3.46	0.52
21	46	3.54	0.37	3.49	0.61
22-25	28	3.47	0.41	3.48	0.57
Race					
Caucasian	130	3.44	0.40	3.56	0.56
African American	41	3.29	0.44	3.34	0.55
Other	38	3.46	0.30	3.40	0.56
Gender					
Male	75	3.40	0.44	3.51	0.61
Female	137	3.42	0.37	3.46	0.54
Stress to interact with international partners					
0-3 (low stress)	40	3.51	0.42	3.58	0.68
4-5 (slight stress)	55	3.35	0.37	3.49	0.58
6-7 (moderate stress)	57	3.39	0.42	3.41	0.55
8-10 (high stress)	59	3.43	0.40	3.47	0.49

Table 5 (continued)

		Pre-test		Post-test	
Category	*n*	*M*	*SD*	*M*	*SD*
Previous time traveling					
None	97	3.33	0.37	3.40	0.53
1-14 days	55	3.38	0.38	3.47	0.55
15 days – 4 months	36	3.61	0.40	3.67	0.50
5+ months	23	3.55	0.45	3.53	0.79
Interest in study abroad					
Not at all interested	26	3.31	0.45	3.24	0.44
Slightly interested	73	3.34	0.39	3.41	0.57
Moderately interested	50	3.41	0.39	3.5	0.59
Extremely interested	46	3.51	0.40	3.62	0.57

Table 6

Two-Way Mixed ANOVA Results for Cognitive Dimension: Knowing

Category	*F*	*df*	*p*	η^2
Age				
ME Time	4.23*	1, 206	0.041	0.02
ME Age	1.58	4, 206	0.182	0.03
Interaction	1.11	4, 206	0.353	0.02
Race				
ME Time	0.79	1, 206	0.374	0.0
ME Race	3.30*	2, 206	0.039	0.03
Interaction	1.77	2, 206	0.173	0.02
Gender				
ME Time	3.92*	1, 209	0.049	0.0
ME Gender	0.073	1, 209	0.788	0.0
Interaction	0.84	1, 209	0.360	0.0
Stress to interact with international partners				
ME Time	3.21	1, 207	0.075	0.02
ME Stress	1.05	3, 207	0.371	0.02
Interaction	0.59	3, 207	0.623	0.01
Previous time traveling				
ME Time	1.50	1, 207	0.222	0.01
ME Travel	4.41*	3, 207	0.005	0.06
Interaction	0.25	3, 207	0.86	0.00

Table 6 (continued)

Category	*F*	*df*	*p*	η^2
Interest in study abroad				
ME Time	1.53	1, 191	0.217	0.01
ME Interest	3.32*	3, 191	0.021	0.05
Interaction	0.67	3, 191	0.571	0.01

Note. * $p < .005$; ** $p < .05$.

Race. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). Despite the data not being normally distributed, analyses were conducted. There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was not significant (see Table 6). The main effect of race was significant, with African Americans generally scoring lower than Caucasians and other races (see Table 6). There was not a statistically significant interaction between the class of respondents and time on the knowing subscale, $F(2, 206) = 1.77$, $p = 0.173$, partial $\eta 2 = 0.03$.

Gender. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). Despite the data not being normally distributed, analyses were conducted. There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was not homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was significant with an overall increase in scores (see Table 6). The main effect of gender was not significant (see Table 6). There was not a statistically significant interaction between the gender of respondents and time on the knowing subscale, $F(1, 209) = 0.84$, $p = 0.36$, partial $\eta 2 = 0.02$.

Stress level to interact with international partners. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). Despite the data not being normally distributed, analyses were conducted. There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was not significant (see Table 6). The main effect of stress level was not significant (see Table 6).

There was not a statistically significant interaction between the stress level of respondents and time on knowing results, $F(3, 207) = 0.59$, $p = 0.623$, partial $\eta 2 = 0.01$.

Previous time traveling out of the country. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). Despite the data not being normally distributed, analyses were conducted. There was not homogeneity of variances as assessed by Levene's test of homogeneity of variances, with post-test results showing $p = 0.013$. Despite the data not showing homogeneity of variances, analyses were conducted. There was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was not significant (see Table 6). The main effect of previous time traveling was significant, with scores generally being higher for students who had more experience traveling abroad (see Table 6). There was not a statistically significant interaction between the class of respondents and time on the knowing results, $F(3, 207) = 0.25$, $p = 0.86$, partial $\eta 2 = 0.0$.

Interest in study abroad. Shapiro Wilk's test of normality showed that the data were normally distributed ($p > 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances and there was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was not significant (see Table 6). The main effect of interest in study abroad was significant, with scores generally being higher for students with a higher interest in study abroad (see Table 6). There was not a statistically significant interaction between the interest level in study abroad of respondents and time on the knowing results, $F(3, 191) = 0.67$, $p < 0.571$, partial $\eta 2 = 0.01$.

Cognitive Dimension, Knowledge

The results of the paired *t*-test of the pre- and post-test results of the knowledge subscale were significant and rejected the null hypothesis. To further analyze whether any demographic

variables are more favorable to increases than other, two-way mixed ANOVAs were conducted. Means and standard deviations of each category analyzed are reported in Table 7. Two-way mixed ANOVA results for the knowledge subscale are reported in Table 8.

Age. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). Despite the data not being normally distributed, analyses were conducted. There was not homogeneity of variances ($p = 0.019$) as assessed by Levene's test of homogeneity of variances and there was not homogeneity of covariances ($p = 0.03$) as assessed by Box's M test. Analyses were run despite there not being homogeneity of variances nor covariances. The main effect for pre- and post- tests was significant with an overall increase (see Table 8). The main effect of age was not significant (see Table 8). There was a statistically significant interaction between the age of respondents and time on the knowledge results, $F(4, 206) = 4.05$, $p = 0.004$, partial $\eta 2 = 0.07$. Paired *t*-tests with Bonferroni correction, $p < 0.01$, showed a significant increase between pre- and post-tests for the 17-18 year olds, $t(47) = -5.38$, $p < 0.001$, and 20 year olds, $t(47) = -4.99$, $p < 0.001$. Although all age groups showed an increase from pre- to post- test, the 17-18 year olds showed the greatest increase from 3.46 ± 0.50 to 3.91 ± 0.55. One-way ANOVAs were conducted with pre- and post- test results with age as the independent variable. The results were not significant.

Race. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). Despite there not being normality, the analyses were conducted. There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was significant with an overall increase (see Table 8). The main effect of race was not significant (see Table 8). There was not a statistically significant interaction

Table 7

Means and Standard Deviations of Categorical Results of Cognitive Dimension: Knowledge

		Pre-test		Post-test	
Category	*n*	*M*	*SD*	*M*	*SD*
Age					
17-18	48	3.46	0.50	3.91	0.55
19	41	3.57	0.70	3.76	0.49
20	48	3.63	0.61	4.00	0.56
21	46	3.67	0.47	3.74	0.59
22-25	28	3.62	0.60	3.74	0.69
Race					
Caucasian	130	3.55	0.61	3.81	0.56
African American	41	3.55	0.52	3.91	0.62
Other	38	3.76	0.61	3.83	0.59
Gender					
Male	75	3.66	0.58	3.91	0.54
Female	137	3.55	0.60	3.80	0.59
Stress to interact with international partners					
0-3 (low stress)	40	3.75	0.63	3.99	0.63
4-5 (slight stress)	55	3.71	0.64	3.90	0.56
6-7 (moderate stress)	57	3.62	0.46	3.88	0.54
8-10 (high stress)	59	3.33	0.58	3.64	0.56

Table 7 (continued)

		Pre-test		Post-test	
Category	*n*	*M*	*SD*	*M*	*SD*
Previous time traveling					
None	97	3.50	0.52	3.77	0.56
1-14 days	55	3.56	0.67	3.83	0.57
15 days – 4 months	36	3.74	0.65	3.88	0.58
5+ months	23	3.78	0.60	4.11	0.65
Interest in study abroad					
Not at all interested	26	3.42	0.69	3.54	0.52
Slightly interested	73	3.53	0.56	3.80	0.58
Moderately interested	50	3.73	0.59	3.98	0.58
Extremely interested	46	3.52	0.61	3.90	0.57

Table 8

Two-Way Mixed ANOVA Results for Cognitive Dimension: Knowledge

Category	*F*	*df*	*p*	η^2
Age				
ME Time	40.73**	1, 206	0.0	0.17
ME Age	0.60	4, 206	0.663	0.01
Interaction	4.05**	4, 206	0.004	0.073
Race				
ME Time	28.34**	1, 206	0.0	0.12
ME Race	0.725	2, 206	0.485	0.01
Interaction	3.29*	2, 206	0.039	0.03
Gender				
ME Time	40.60**	1, 209	0.0	0.16
ME Gender	2.18	1, 209	0.142	001
Interaction	0.01	1, 209	0.928	0.00
Stress to interact with international partners				
ME Time	43.14**	1, 207	0.0	0.17
ME Stress	5.97**	3, 207	0.001	0.08
Interaction	0.440	3, 207	0.725	0.01
Previous time traveling abroad				
ME Time	33.41**	1, 207	0.00	0.14
ME Travel	2.81*	3, 207	0.041	0.04
Interaction	0.79	3, 207	0.50	0.01

Table 8 (continued)

Category	*F*	*df*	*p*	η^2
Interest in study abroad				
ME Time	24.86**	1, 191	0.00	0.15
ME Interest	3.23*	3, 191	0.024	0.05
Interaction	1.30	3, 191	0.275	0.02

Note. * $p < .05$; ** $p < .005$.

between the class of respondents and time on the knowledge results, $F(2, 206) = 3.29$, $p = 0.039$, partial $\eta 2 = 0.03$. Paired *t*-tests with Bonferroni correction, $p < 0.0166$, showed a significant increase between pre- and post-tests for the Caucasians, $t(129) = -5.97$, $p < 0.001$, and African Americans, $t(40) = -3.84$, $p < 0.001$. Although all races showed an increase from pre- to post-test, the African Americans showed the greatest increase from 3.55 ± 0.52 to 3.91 ± 0.62. One-way ANOVAs were conducted with pre- and post- test results with race as the independent variable. The results were not significant.

Gender. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). Despite there not being normality, the analyses were conducted. There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was significant with an overall increase (see Table 8). The main effect of gender was not significant (see Table 8). There was not a statistically significant interaction between the gender of respondents and time on the knowledge results, $F(1, 209) = 0.01$, $p = 0.928$, partial $\eta 2 = 0.0$.

Stress level to interact with international partners. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was not homogeneity of covariances ($p < 0.05$) as assessed by Box's M test. The analyses were conducted despite the data not showing normal distribution nor homogeneity of covariances. The main effect for pre- and post- tests was significant with an overall increase (see Table 8). The main effect of stress level was significant, with scores gernally being higher for students with

lower levels of stress (see Table 8). There was not a statistically significant interaction between stress level and time on the knowledge results, $F(3, 207) = 0.44$, $p = 0.725$, partial $\eta 2 = 0.01$.

Previous time traveling out of the country. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was significant with an overall increase (see Table 8). The main effect of previous travel was significant, with students who had more experience traveling abroad generally having higher scores (see Table 8). There was not a statistically significant interaction between the previous time traveling and time on the knowledge results, $F(3, 207) = 0.79$, $p = 0.50$, partial $\eta 2 = 0.01$.

Interest in study abroad. Shapiro Wilk's test of normality showed that the data were normally distributed ($p > 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances and there was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was significant with an overall increase (see Table 8). The main effect of interest level in study abroad was significant, with students reporting greater interest in study abroad generally having higher scores (see Table 8). There was not a statistically significant interaction between the interest level in study abroad of respondents and time on the knowledge results, $F(3, 191) = 5.124$, $p < .005$, partial $\eta 2 = 0.074$.

Intrapersonal Dimension, Personal Identity

The results of the paired *t*-test of the pre- and post-test results of the personal identity subscale were significant and rejected the null hypothesis. To further analyze whether any

demographic variables are more favorable to increases than other, two-way mixed ANOVAs were conducted. Means and standard deviations of each category analyzed are reported in Table 9. Two-way mixed ANOVA results for the overall personal identity subscale are reported in Table 10.

Age. Shapiro Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was not homogeneity of variances ($p < 0.05$) as assessed by Levene's test of homogeneity of variances and there was not homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality homogeneity of variances, nor homogeneity of covariances, analyses were conducted. The main effect for pre- and post- tests was significant with an overall increase (see Table 10). The main effect of age was not significant (see Table 10). There was not a statistically significant interaction between the age of respondents and time on the personal identity results, $F(4, 206) = 1.26$, $p = 0.288$, partial $\eta 2 = 0.02$.

Race. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was not homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was significant with an overall increase (see Table 10). The main effect of race was not significant (see Table 10). There was not a statistically significant interaction between race and time on the personal identity results, $F(2, 206) = 1.28$, $p = 0.28$, partial $\eta 2 = 0.01$.

Table 9

Means and Standard Deviations of Categorical Results of Intrapersonal Dimension: Personal Identity

		Pre-test		Post-test	
Category	*n*	*M*	*SD*	*M*	*SD*
Age					
17-18	48	3.95	0.50	4.15	0.53
19	41	4.01	0.53	4.04	0.61
20	48	4.16	0.43	4.29	0.39
21	46	4.11	0.36	4.12	0.43
22-25	28	4.05	0.60	4.17	0.59
Race					
Caucasian	130	4.07	0.49	4.12	0.52
African American	41	4.06	0.51	4.24	0.46
Other	38	4.04	0.44	4.16	0.50
Gender					
Male	75	4.02	0.53	4.11	0.52
Female	137	4.08	0.45	4.18	0.51
Stress to interact with international partners					
0-3 (low stress)	40	4.16	0.52	4.27	0.54
4-5 (slight stress)	55	4.12	0.48	4.22	0.51
6-7 (moderate stress)	57	4.04	0.42	4.18	0.42
8-10 (high stress)	59	3.94	0.49	4.01	0.54

Table 9 (continued)

		Pre-test		Post-test	
Category	*n*	*M*	*SD*	*M*	*SD*
Previous time traveling					
None	97	4.05	0.49	4.15	0.49
1-14 days	55	4.12	0.45	4.15	0.50
15 days – 4 months	36	4.03	0.50	4.18	0.54
5+ months	23	3.98	0.48	4.18	0.58
Interest in study abroad					
Not at all interested	26	4.05	0.45	3.92	0.51
Slightly interested	73	4.01	0.44	4.19	0.47
Moderately interested	50	4.05	0.53	4.19	0.51
Extremely interested	46	4.16	0.53	4.17	0.55

Table 10

Two-Way Mixed ANOVA Results for Intrapersonal Dimension: Personal Identity

Category	*F*	*df*	*p*	η^2
Age				
ME Time	9.80**	1, 206	0.002	0.05
ME Age	1.41	4, 206	0.233	0.03
Interaction	1.26	4, 206	0.288	0.02
Race				
ME Time	10.67**	1, 206	0.001	0.05
ME Race	0.21	2, 206	0.807	0.0
Interaction	1.28	2, 206	0.28	0.01
Gender				
ME Time	8.84**	1, 209	0.003	0.04
ME Gender	1.23	1, 209	0.270	0.01
Interaction	0.08	1, 209	0.783	0.0
Stress to interact with international partners				
ME Time	10.06**	1, 207	0.002	0.05
ME Stress	3.08*	3, 207	0.028	0.04
Interaction	0.22	3, 207	0.884	0.0
Previous time traveling abroad				
ME Time	11.0**	1, 207	0.001	0.05
ME Travel	0.10	3, 207	0.959	0.0
Interaction	1.05	3, 207	0.374	0.02

Table 10 (continued)

Category	*F*	*df*	*p*	η^2
Interest in study abroad				
ME Time	2.03	1, 191	0.156	0.01
ME Interest	0.96	3, 191	0.412	0.02
Interaction	3.96*	3, 191	0.009	0.06

Note. * $p < .05$; ** $p < .005$.

Gender. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was not homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was significant with an overall increase (see Table 10). The main effect of gender was not significant (see Table 10). There was not a statistically significant interaction between the gender of respondents and time on the personal identity results, $F(1, 209) = 0.08$, $p = 0.783$, partial $\eta 2 = 0.0$.

Stress level to interact with international partners. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was significant with an overall increase (see Table 10). The main effect of stress level was significant, with students reporting lower stress levels generally scoring higher (see Table 10). There was not a statistically significant interaction between stress level and time on the personal identity results, $F(3, 207) = 0.22$, $p = 0.884$, partial $\eta 2 = 0.02$.

Previous time traveling out of the country. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was significant with an overall increase (see Table 10). The main effect of previous time traveling was not significant (see Table

10). There was not a statistically significant interaction between the class of respondents and time on the personal identity results, $F(3, 207) = 1.05$, $p = 0.374$, partial $\eta 2 = 0.02$.

Interest in study abroad. Shapiro Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances and there was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was not significant (see Table 10). The main effect of interest in study abroad was not significant (see Table 10). There was a statistically significant interaction between the interest level in study abroad of respondents and time on the personal identity results, $F(3, 191) = 3.96$, $p = 0.009$, partial $\eta 2 = 0.06$. Paired t-tests with Bonferroni correction, $p < 0.0125$, showed a significant increase between pre- and post-tests for the students slightly interested in study abroad, $t(72) = -3.971$, $p < 0.001$. The students not at all interested in study abroad showed a decrease of 0.13 ± 0.34, and all other groups showed an increase on the GPI. The students slightly interested in study abroad showed the greatest increase from pre- to post- test, 4.01 ± 0.44 to 4.19 ± 0.47. One-way ANOVAs for pre- and post-test results were not significant.

Intrapersonal Dimension, Personal Affect

The results of the paired *t*-test of the pre- and post-test results of the personal affect subscale were significant and rejected the null hypothesis. To further analyze whether any demographic variables are more favorable to increases than others, two-way mixed ANOVAs were conducted. Means and standard deviations of each category analyzed are reported in Table 11. Two-way mixed ANOVA results for the overall GPI are reported in Table 12.

Age. Shapiro Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances and there was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was significant, with an overall increase in means (see Table 12). The main effect of age was not significant (see Table 12). There was not a statistically significant interaction between the age of respondents and time on the personal affect results, $F(4, 206) = 0.49$, $p = 0.744$, partial $\eta 2 = 0.01$.

Race. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was not homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was significant, with an overall increase in means (see Table 12). The main effect of race was not significant (see Table 12). There was not a statistically significant interaction between the race of respondents and time on the personal affect results, $F(2, 206) = 0.06$, $p = 0.568$, partial $\eta 2 = 0.01$.

Gender. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was homogeneity of covariances ($p < 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was significant, with an overall increase in means (see Table 12). The main effect of gender was not significant (see Table 12). There was a statistically significant

Table 11

Means and Standard Deviations of Categorical Results of Intrapersonal Dimension: Personal Affect

		Pre-test		Post-test	
Category	*n*	*M*	*SD*	*M*	*SD*
Age					
17-18	48	3.70	0.31	4.21	0.49
19	41	3.67	0.33	4.12	0.52
20	48	3.85	0.32	4.27	0.54
21	46	3.81	0.31	4.18	0.57
22-25	28	3.74	0.34	4.22	0.54
Race					
Caucasian	130	3.75	0.33	4.16	0.57
African American	41	3.77	0.30	4.27	0.40
Other	38	3.79	0.32	4.25	0.52
Gender					
Male	75	3.74	0.31	4.09	0.48
Female	137	3.77	0.33	4.26	0.49
Stress to interact with international partners					
0-3 (low stress)	40	3.83	0.38	4.28	0.68
4-5 (slight stress)	55	3.76	0.30	4.20	0.54
6-7 (moderate stress)	57	3.75	0.33	4.19	0.46
8-10 (high stress)	59	3.71	0.29	4.17	0.47

Table 11 (continued)

		Pre-test		Post-test	
Category	*n*	*M*	*SD*	*M*	*SD*
Previous time traveling					
None	97	3.71	0.31	4.14	0.50
1-14 days	55	3.80	0.29	4.22	0.60
15 days – 4 months	36	3.81	0.38	4.20	0.46
5+ months	23	3.77	0.35	4.40	0.55
Interest in study abroad					
Not at all interested	26	3.73	0.33	3.78	0.51
Slightly interested	73	3.70	0.30	4.24	0.48
Moderately interested	50	3.75	0.30	4.28	0.46
Extremely interested	46	3.75	0.32	4.25	0.64

Table 12

Two-Way Mixed ANOVA Results for Intrapersonal Dimension: Personal Identity

Category	*F*	*df*	*p*	η^2
Age				
ME Time	154.46**	1, 206	0.0	0.43
ME Age	1.23	4, 206	0.296	0.02
Interaction	0.49	4, 206	0.744	0.01
Race				
ME Time	124.99**	1, 206	0.0	0.38
ME Race	0.82	2, 206	0.443	0.01
Interaction	0.06	2, 206	0.568	0.01
Gender				
ME Time	134.02**	1, 209	0.0	0.39
ME Gender	3.52	1, 209	0.062	0.02
Interaction	3.92*	1, 209	0.049	0.02
Stress to interact with international partners				
ME Time	154.31**	1, 207	0.0	0.43
ME Stress	0.83	3, 207	0.481	0.01
Interaction	0.02	3, 207	0.996	0.0
Previous time traveling abroad				
ME Time	136.01**	1, 207	0.0	0.40
ME Travel	1.62	3, 207	0.186	0.02
Interaction	1.18	3, 207	0.319	0.40

Table 12 (continued)

Category	*F*	*df*	*p*	η^2
Interest in study abroad				
ME Time	104.92**	1, 191	0.0	0.36
ME Interest	4.26*	3, 191	0.006	0.06
Interaction	7.08**	3, 191	0.0	0.10

Note. * $p < .05$; ** $p < .005$.

interaction between the gender of respondents and time on the personal affect results, $F(1, 209) = 3.92$, $p = 0.049$, partial $\eta 2 = 0.02$. Paired *t*-tests with Bonferroni correction, $p < 0.025$, showed a significant increase between pre- and post-tests for males, $t(73) = -5.696$, $p < 0.001$, and for females, $t(136) = -11.861$, $p < 0.001$. Females showed the greatest increase from pre- to post-test, 3.77 ± 0.33 to 4.26 ± 0.49. A one-way ANOVA for pre-test results was not significant, but a one-way ANOVA for post- test results was significant, $F(1, 209) = 4.95$, $p = 0.027$. Thus, males and females did not differ on the pre-test, but females scored higher than males on the post-test.

Stress level to interact with international partners. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was significant, with an overall increase in means (see Table 12). The main effect of stress level was not significant (see Table 12). There was not a statistically significant interaction between the stress level of respondents and time on the personal affect results, $F(3, 207) = 0.02$, $p = 0.996$, partial $\eta 2 = 0.0$.

Previous time traveling out of the country. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was significant, with an overall increase in means (see Table 12). The main effect of previous time traveling was not significant

(see Table 12). There was not a statistically significant interaction between the class of respondents and time on the GPI results, $F(3, 207) = 1.18$, $p = 0.319$, partial $\eta 2 = 0.40$.

Interest in study abroad. Shapiro Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances and there was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was significant, with an overall increase in means (see Table 12). The main effect of interest level in study abroad was significant, with students with a higher interest in study abroad generally scoring higher (see Table 12). There was a statistically significant interaction between the interest level in study abroad of respondents and time on the personal affect results, $F(3, 191) = 7.08$, $p < 0.005$, partial $\eta 2 = 0.10$. Paired t-tests with Bonferroni correction, $p < 0.0125$, showed a significant increase between pre- and post-tests for respondents slightly interested in study abroad, $t(72) = -10.18$, $p < 0.001$, moderately interested in study abroad, $t(49) = -8.31$, $p < 0.001$, and extremely interested in study abroad, $t(45) = -4.815$, $p < 0.001$. Respondents slightly interested in study abroad showed the greatest increase from pre- to post- test, 3.70 ± 0.30 to 4.24 ± 0.48. A one-way ANOVA for pre-test scores showed no significant difference for the various interest levels, but a one-way ANOVA for post-test scores was significant, $F(3, 191) = 6.25$, $p < 0.001$. The interest level groups did not differ at pre-test, but at the post-test the no interest in study abroad group had lower scores than the three other interest groups.

Interpersonal Dimension, Social Interaction

The results of the paired *t*-test of the pre- and post-test results of the social interaction subscale were significant and rejected the null hypothesis. To further analyze whether any

demographic variables are more favorable to increases than other, two-way mixed ANOVAs were conducted. Means and standard deviations of each category analyzed are reported in Table 13. Two-way mixed ANOVA results for the social interaction subscale are reported in Table 14.

Age. Shapiro Wilk's test of normality showed that the data were normally distributed ($p > 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances and there was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was significant, with an overall increase in means (see Table 14). The main effect of age was not significant (see Table 14). There was not a statistically significant interaction between the age of respondents and time on the social interaction results, $F(4, 206) = 2.35$, $p = 0.056$, partial $\eta 2 = 0.04$.

Race. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was not homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was significant, with an overall increase in means (see Table 14). The main effect of race was significant, with scores for African American and Caucasian students generally being lower than the scores for other races (see Table 14). There was not a statistically significant interaction between the class of respondents and time on the social interaction results, $F(2, 206) = 0.03$, $p = 0.967$, partial $\eta 2 = 0.0$.

Gender. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was not homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The

Table 13

Means and Standard Deviations of Categorical Results of Interpersonal Dimension: Social Interaction

		Pre-test		Post-test	
Category	*n*	*M*	*SD*	*M*	*SD*
Age					
17-18	48	3.14	0.57	3.48	0.49
19	41	3.32	0.71	3.38	0.76
20	48	3.28	0.66	3.38	0.68
21	46	3.30	0.77	3.45	0.79
22-25	28	3.37	0.61	3.35	0.66
Race					
Caucasian	130	3.18	0.67	3.33	0.72
African American	41	3.21	0.62	3.34	0.62
Other	38	3.64	0.67	3.77	0.61
Gender					
Male	75	3.29	0.64	3.30	0.61
Female	137	3.26	0.68	3.48	0.74
Stress to interact with international partners					
0-3 (low stress)	40	3.59	0.76	3.61	0.63
4-5 (slight stress)	55	3.32	0.60	3.53	0.73
6-7 (moderate stress)	57	3.19	0.67	3.28	0.69
8-10 (high stress)	59	3.09	0.58	3.30	0.69

Table 13 (continued)

		Pre-test		Post-test	
Category	*n*	*M*	*SD*	*M*	*SD*
Previous time traveling					
None	97	3.17	0.57	3.34	0.70
1-14 days	55	3.11	0.65	3.35	0.67
15 days – 4 months	36	3.51	0.74	3.47	0.74
5+ months	23	3.71	0.71	3.82	0.55
Interest in study abroad					
Not at all interested	26	3.11	0.54	2.99	0.59
Slightly interested	73	3.14	0.64	3.35	0.70
Moderately interested	50	3.33	0.73	3.42	0.72
Extremely interested	46	3.41	0.65	3.59	0.62

Table 14

Two-Way Mixed ANOVA Results for Interpersonal Dimension: Social Interaction

Category	*F*	*df*	*p*	η^2
Age				
ME Time	9.96**	1, 206	0.002	0.05
ME Age	0.08	4, 206	0.989	0.0
Interaction	2.35	4, 206	0.056	0.04
Race				
ME Time	8.13*	1, 206	0.005	0.04
ME Race	8.48**	2, 206	0.0	0.08
Interaction	0.03	2, 206	0.967	0.0
Gender				
ME Time	7.33*	1, 209	0.007	0.03
ME Gender	0.66	1, 209	0.418	0.0
Interaction	6.07*	1, 209	0.015	0.03
Stress to interact with international partners				
ME Time	10.91**	1, 207	0.001	0.05
ME Stress	4.48**	3,207	0.004	0.06
Interaction	1.35	3, 207	0.26	0.02
Previous time traveling abroad				
ME Time	6.57*	1, 207	0.011	0.03
ME Travel	5.93**	3, 207	0.001	0.08
Interaction	1.76	3, 207	0.156	0.03

Table 14 (continued)

Category	*F*	*df*	*p*	η^2
Interest in study abroad				
ME Time	4.36*	1, 191	0.038	0.02
ME Interest	3.64*	3, 191	0.014	0.05
Interaction	2.19	3, 191	0.091	0.03

Note. * $p < .05$; ** $p < .005$.

main effect for pre- and post- tests was significant, with an overall increase in means (see Table 14). The main effect of gender was not significant (see Table 14). There was a statistically significant interaction between the gender of respondents and time on the personal affect results, $F(1, 209) = 6.07$, $p = 0.015$, partial $\eta 2 = 0.03$. Paired *t*-tests with Bonferroni correction, $p < 0.025$, showed a significant increase between pre- and post-tests for females, $t(136) = -4.305$, $p < 0.001$. Females showed the greatest increase from pre- to post- test, 3.26 ± 0.68 to 3.48 ± 0.74. One-way ANOVAs for pre- and post-test results were not significant.

Stress level to interact with international partners. Shapiro-Wilk's test of normality showed that the data were normally distributed ($p > 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. The main effect for pre- and post- tests was significant, with an overall increase in means (see Table 14). The main effect of stress level was significant, with students who reported lower stress levels generally scoring higher than the other groups (see Table 14). There was not a statistically significant interaction between the stress level of respondents and time on the personal affect results, $F(3, 207) = 1.35$, $p = 0.26$, partial $\eta 2 = 0.02$.

Previous time traveling out of the country. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was significant, with an overall increase in means (see Table 14). The main effect of previous time traveling was significant, with scores being generally higher for students with more travel outside of the country (see Table

14). There was not a statistically significant interaction between previous time traveling and time on the personal affect results, $F(3, 207) = 1.76$, $p = 0.156$, partial $\eta 2 = 0.03$.

Interest in study abroad. Shapiro Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances and there was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was significant, with an overall increase in means (see Table 14). The main effect of interest in study abroad was significant, with students who showed an interest in study abroad generally scoring higher (see Table 14). There was not a statistically significant interaction between the interest level in study abroad of respondents and time on the personal affect results, $F(3, 191) = 2.19$, $p = 0.091$.

Interpersonal Dimension, Social Responsibility

The results of the paired *t*-test of the pre- and post-test results of the social responsibility subscale were not significant and confirmed the null hypothesis. To further analyze whether any demographic variables are more favorable to increases than others, two-way mixed ANOVAs were conducted. Means and standard deviations of each category analyzed are reported in Table 15. Two-way mixed ANOVA results for the overall GPI are reported in Table 16.

Age. Shapiro Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances and there was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was not significant (see Table 16). The main effect of age was not significant (see Table 16). There was not a statistically significant interaction between the age of

Table 15

Means and Standard Deviations of Categorical Results of Interpersonal Dimension: Social Responsibility

		Pre-test		Post-test	
Category	*n*	*M*	*SD*	*M*	*SD*
Age					
17-18	48	3.61	0.45	3.81	0.49
19	41	3.75	0.55	3.76	0.67
20	48	3.83	0.56	3.76	0.57
21	46	3.74	0.50	3.69	0.57
22-25	28	3.82	0.61	3.84	0.50
Race					
Caucasian	130	3.71	0.55	3.75	0.59
African American	41	3.78	0.51	3.85	0.63
Other	38	3.81	0.51	3.71	0.58
Gender					
Male	75	3.61	0.52	3.60	0.59
Female	137	3.82	0.52	3.86	0.56
Stress to interact with international partners					
0-3 (low stress)	40	3.90	0.48	3.81	0.70
4-5 (slight stress)	55	3.82	0.52	3.88	0.56
6-7 (moderate stress)	57	3.62	0.53	3.69	0.50
8-10 (high stress)	59	3.69	0.55	3.70	0.59

Table 15 (continued)

		Pre-test		Post-test	
Category	*n*	*M*	*SD*	*M*	*SD*
Previous time traveling					
None	97	3.67	0.51	3.73	0.56
1-14 days	55	3.83	0.52	3.68	0.63
15 days – 4 months	36	3.78	0.57	3.86	0.53
5+ months	23	3.81	0.55	3.98	0.60
Interest in study abroad					
Not at all interested	26	3.68	0.51	3.55	0.54
Slightly interested	73	3.63	0.51	3.67	0.55
Moderately interested	50	3.78	0.55	3.93	0.54
Extremely interested	46	3.73	-054	3.78	0.65

Table 16

Two-Way Mixed ANOVA Results for Interpersonal Dimension: Social Responsibility

Category	*F*	*df*	*p*	η^2
Age				
ME Time	0.41	1, 206	0.524	0.0
ME Age	0.40	4, 206	0.808	0.01
Interaction	2.25	4, 206	0.065	0.04
Race				
ME Time	0.0	1, 206	0.951	0.0
ME Race	0.48	2, 206	0.618	0.01
Interaction	1.40	2, 206	0.249	0.01
Gender				
ME Time	0.18	1, 209	0.668	0.0
ME Gender	11.19**	1, 209	0.001	0.05
Interaction	0.53	1, 209	0.466	0.0
Stress to interact with international partners				
ME Time	0.20	1, 207	0.658	0.0
ME Stress	2.28	3, 207	0.081	0.03
Interaction	0.98	3, 207	0.401	0.01
Previous time traveling abroad				
ME Time	1.22	1, 207	0.27	0.01
ME Travel	1.23	3, 207	0.299	0.02
Interaction	3.28*	3, 207	0.022	0.05

Table 16 (continued)

Category	*F*	*df*	*p*	η^2
Interest in study abroad				
ME Time	0.0	1, 191	0.962	0.0
ME Interest	2.61	3, 191	0.053	0.04
Interaction	2.19	3, 191	0.091	0.03

Note. * $p < .05$; ** $p < .005$.

respondents and time on the social responsibility results, $F(4, 206) = 2.25$, $p < 0.065$, partial $\eta 2 = 0.04$.

Race. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was not homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was not significant (see Table 16). The main effect of race was not significant (see Table 16). There was not a statistically significant interaction between the class of respondents and time on the social responsibility results, $F(2, 206) = 1.40$, $p = 0.249$, partial $\eta 2 = 0.01$.

Gender. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was not homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was not significant (see Table 16). The main effect of gender was significant, with females generally reporting high scores than males (see Table 16). There was not a statistically significant interaction between the gender of respondents and time on the GPI results, $F(1, 209) = 1.104$, $p = 0.295$, partial $\eta 2 = 0.005$. The main effect of gender did not show a statistically significant difference in mean social responsibility results at the different time points, $F(1, 209) = 0.53$, $p = 0.466$, partial $\eta 2 = 0.0$.

Stress level to interact with international partners. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was

homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was not significant (see Table 16). The main effect of stress level was not significant (see Table 16). There was not a statistically significant interaction between the class of respondents and time on the social responsibility results, $F(3, 207) = 0.98$, $p = 0.401$, partial $\eta 2 = 0.01$.

Previous time traveling out of the country. Shapiro-Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances. There was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was not significant (see Table 16). The main effect of previous time traveling was not significant (see Table 16). There was a statistically significant interaction between the previous travel of respondents and time on the social responsibility results, $F(3, 207) = 3.28$, $p = 0.022$, partial $\eta 2 = 0.05$. Post hoc paired *t*-tests with Bonferroni correction, $p < 0.025$, were not significant. One-way ANOVAs for pre- and post-test results were not significant.

Interest in study abroad. Shapiro Wilk's test of normality showed that the data were not normally distributed ($p < 0.05$). There was homogeneity of variances ($p > 0.05$) as assessed by Levene's test of homogeneity of variances and there was homogeneity of covariances ($p > 0.05$) as assessed by Box's M test. Despite the data not showing normality, analyses were conducted. The main effect for pre- and post- tests was not significant (see Table 16). The main effect of interest in study abroad was not significant (see Table 16). There was not a statistically significant interaction between the interest level in study abroad of respondents and time on the social responsibility results, $F(3, 191) = 2.19$, $p < 0.091$, partial $\eta 2 = 0.03$.

Summary

Paired t-tests rejected the hypotheses related to the overall GPI, cognitive dimension: knowledge subscale, intrapersonal dimension: personal identity subscale, intrapersonal dimension: personal affect subscale, and interpersonal subscale: social interaction subscale. There were two null hypotheses which were accepted: the cognitive dimension: knowing subscale, and the interpersonal dimension: social responsibility subscale. By rejecting these hypotheses, the research questions are answered.

1. To what extent does the Global Understanding course broaden understanding of and interest in other cultures in ECU Students?

By testing the overall GPI and its subscales within the cognitive and interpersonal dimensions, research question 1 was answered. The overall GPI results showed that students experienced growth in their global perspective over the course of the semester. Within the cognitive dimension, the knowledge subscale tested the students' understanding of how global cultures impact society. The interpersonal dimension addressed the students' interest in other cultures, and the social interactions subscale showed students had increased their interactions with others culturally different from themselves. Since the null hypothesis regarding the cognitive dimension: knowing subscale was accepted, I can conclude that students in GU at ECU did not show significant improvement in their understanding in cultural context as it pertains to decision-making and understanding others. Additionally, the null hypothesis for the interpersonal dimension: social responsibility subscale was accepted. This means that students of GU did not show a statistically significant increase in their feelings of interdependence with others.

2. To what extent do ECU students of Global Understanding develop intercultural communication and collaboration skills over the course of a semester?

For the second research question, the subscales of the interpersonal and intrapersonal dimensions were measures targeted by the hypotheses. The interpersonal dimension addressed the students' interest in other cultures, and the social interactions subscale specifically showed that students had increased their interactions with others culturally different from themselves. By showing growth in these subscales of the interpersonal dimension, the students are demonstrating a greater interest in other cultures and an interest in seeking out intercultural interactions. The intrapersonal dimension has the subscales of personal identity and personal affect. Within the personal identity subscale, the students reported on their level of awareness of their own identity. For their personal affect, students respond to questions relating to their level of respect for cultural differences. By showing growth in these subscales, the second research question shows the growth in the ability and willingness of the respondents to interact with others culturally different from themselves. However, the null hypothesis for the interpersonal dimension: social responsibility subscale was accepted. This means that students of GU did not show a statistically significant increase in their feelings of interdependence with others.

Additionally, through exploratory analyses, I found the following:

1. There was a significant interaction between age and the pre- and post- test differences in the overall GPI, with the age group of 17-18 year olds having the greatest growth in the overall GPI.
2. There was a significant interaction between interest in study abroad and the pre- and post- test differences in the overall GPI, with the respondents who were slightly, moderately, and highly interested in study abroad showing similar change and the group without interest in study abroad showing no pre- post- test change.

3. There was a significant interaction between age and the pre- and post- test differences in the knowledge subscale, with the age group of 17-18 year olds having the greatest growth in the cognitive dimension, knowledge subscale.
4. There was a significant interaction between race and the pre- and post- test differences in the knowledge subscale, with the group of African Americans showing the greatest growth in the cognitive dimension, knowledge subscale.
5. There was a significant interaction between interest in study abroad and the pre- and post- test differences in the personal identity subscale, with the respondents slightly interested in study abroad having the greatest growth in the personal identity subscale.
6. There was a significant interaction between gender and the pre- and post- test differences in the personal affect subscale, with females showing the greatest growth in the personal affect subscale.
7. There was a significant interaction between interest in study abroad and the pre- and post- test differences in the personal affect subscale, with the respondents who were slightly, moderately, and highly interested in study abroad showing similar change and the group without interest in study abroad showing no pre- post- test change.
8. There was a significant interaction between gender and the pre- and post- test differences in the social interaction subscale, with the females having the greatest growth in the social interaction subscale.

CHAPTER 5: DISCUSSION & FINDINGS

This chapter discusses the results from Chapter 4. This discussion includes items such as the background and rationale of the research, methodology, findings, implications for future research into virtual exchange, recommendation for future research, and concluding remarks. The purpose of my research was to determine the degree to which East Carolina University students increase their global perspective when undertaking the Global Understanding course over a semester.

Background & Rationale for Research

Leadership at universities try to increase the global perspective of students by offering study abroad, increasing international student enrollment, and offering on-campus intercultural engagement through curricular or co-curricular activities (Peterson, 2014). The utilization of video conferences, chats, and social media in classrooms to facilitate intercultural interaction with counterparts around the globe can be another method to show the increase in a global perspective of students. At ECU, the Global Understanding (GU) course works to bridge the gap in opportunities for intercultural interactions and provide opportunities for students from different cultural backgrounds to interact and learn from one another through virtual exchanges.

My research showed that students in GU have significant growth in their overall global perspective, as well as in the subscales of knowledge, personal identity, personal affect, and social interaction. My research responds to an article by Çiftçi (2016) that states that further research is needed around utilizing Web 2.0 technologies to internationalize the campus. In the paper by Çiftçi (2016), the researcher suggested that many current studies on the utilization of Web 2.0 technologies in the classroom focus on language learning and that there should be an emphasis on having an intercultural focus with participants who speak English as the *lingua*

franca, which is true of GU, which includes conversations and collaborative projects between partners in English. Additionally, it was suggested that in the existing research, the timeframes of the studies were short and that models that analyze intercultural learning should be utilized. Through my research using the GU course, I can show that the semester-long GU courses through ECU will fill a gap in available literature to show whether students who collaborate internationally through technology gain a greater global perspective.

Methodology

The data in my research were secondary data collected by GAI during fall 2017 and spring 2018. During the first meeting and the final week of each GU course, ECU students were asked to complete pre- and post- course surveys to be used in the assessment of GAI. The survey included the general student form of the Global Perspective Inventory (GPI). The GPI is a survey instrument which was developed and piloted in the summer of 2007 (Braskamp et al., 2014). The instrument has been modified since then from a survey of 69 question items to 35 question items in the current 7th version of the GPI. Students were asked to respond to the GPI questions on a Likert scale with the options "Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree." Questions are asked in both affirmative and negative format to assist with the reliability of responses. The questions from the survey instrument can be viewed in Appendix B.

A statistical analysis software, SPSS, was used to analyze results of the survey. Using SPSS, the means of the overall GPI and 6 different GPI subscales were determined, then paired sample *t*-tests were used to determine the degree to which the students' results shifted from pre- to post-test results. Next, two-way mixed ANOVAs were used to compare respondents based on gender, age, race, stress level to interact with international partners, previous travel abroad, and interest in study abroad.

Findings

For the main analyses, paired *t*-tests were utilized on the 7 hypotheses. The hypotheses were based on the overall GPI and the subscales of the 3 dimensions: the cognitive dimension included knowledge and knowing, the intrapersonal dimension included personal identity and personal affect, and the interpersonal dimension included social interaction and social responsibility. The null hypotheses were rejected for the overall GPI, cognitive dimension: knowledge subscale, intrapersonal dimension: personal identity subscale, intrapersonal dimension: personal affect subscale, and interpersonal dimension: social interaction subscale. The null hypotheses were accepted for the cognitive dimension: knowing subscale and the interpersonal dimension: social responsibility subscale. Knowing this allowed me to answer the two research questions:

1. To what extent does the Global Understanding course broaden understanding of and interest in other cultures in ECU Students?
2. To what extent do ECU students of Global Understanding develop intercultural communication and collaboration skills over the course of a semester?

By testing the overall GPI and its subscales within the cognitive and interpersonal dimensions, research question 1 was answered. The overall GPI results show that students experienced growth in their global perspective over the course of the semester. Within the cognitive dimension, the knowledge subscale tested the students' understanding of how global cultures impact society. The interpersonal dimension addressed the students' interest in other cultures, and the social interactions subscale showed students had increased their interactions with others culturally different from themselves. This result corresponds to research conducted by Lee and Markey (2014) which showed that students in virtual exchange environments

improved their interpersonal communication skills. Similarly, Bohinski and Levanthal (2015) also concluded that virtual exchange developed students' knowledge about the culture of their partners, which corroborates my research.

For the second research question, the subscales of the interpersonal and intrapersonal dimensions were measures targeted by the hypotheses. The interpersonal dimension addressed the students' interest in other cultures, and the social interactions subscale specifically showed that students had increased their interactions with others culturally different from themselves. By showing growth in these subscales of the interpersonal dimension, the student is demonstrating a greater interest in other cultures and an interest in seeking out intercultural interactions. The intrapersonal dimension has the subscales of personal identity and personal affect. Within the personal identity subscale, the students reported on their level of awareness of their own identity. For their personal affect, students respond to questions relating to their level of respect for cultural differences. By showing growth in these subscales, the second research question shows the growth in the ability and willingness of the respondents to interact with others culturally different from themselves. This result reinforces research by Sams and Rollins (2015) and Ozcelik and Paprika (2010) who found that students of virtual exchange showed growth in identifying their own beliefs, feeling, along with empathy and emotional intelligence when interacting with others.

After conducting the main analyses, I conducted exploratory analyses using two-way mixed ANOVAs to determine whether any particular kind of student responded better to the GU course. Significant differences in increases from the data were discovered in age, interest in study abroad, race, and gender.

Age. There was a significant interaction between age and the pre- and post- test differences on the overall GPI and the cognitive dimension: knowledge subscale. In both cases, the age group of 17-18 year olds had the greatest growth compared to the other groups. When looking at the theory of the evolution of consciousness and the theory of self-authorship, both target holistic changes through life experiences that force development (Baxter Magolda, 2014; Kegan, 1982). It is possible that since the youngest age group indicated the greatest growth that these respondents are experiencing the course in a different way from the older students. It is likely that these students are within one year of being away from home for the first time, and with that they are learning more about themselves both in and outside the classroom, which corresponds with the transition from phase 2 to phase 3 of Baxter Magolda's (2014) theory of self-authorship. During this time, young adults are moving from solidifying and identifying their personal core values to feeling a concrete sense of purpose within their beliefs. The GU course may be allowing students to speak with others culturally different from themselves for the first time which has allowed them to further develop their beliefs and understanding of the world. Particularly with the growth in the knowledge subscale the respondents are showing that they are learning more about other cultures and becoming aware of various cultures around the world.

Interest in study abroad. There was a significant interaction between interest in study abroad and the pre- and post- test of the overall GPI, the intrapersonal dimension: personal identity subscale, and the intrapersonal dimension: personal affect subscale. In all cases, the pre- and post- tests of students with no interest in study abroad stayed similar, whereas those with slight to high interest in study abroad all showed growth. Research has shown that students who do study abroad gain critical skills in self-awareness, teamwork skills, and increased global perspective (Braskamp et al., 2009; Costello, 2010; Franklin, 2010; Potts, 2015). Students

interested in study abroad may be more interested in learning about cultural differences. They could be open to learning about themselves and how they emotionally connect with others, while also being open to growing their overall global perspective.

Race. There was a significant interaction between race and the pre- and post- test of the knowledge subscale, with the group of African Americans showing the greatest growth in the cognitive dimension: knowledge subscale. The African American students and the Caucasian students started at the same level, but the African American students showed greater growth. The number of respondents did show a disparity, with 41 African American respondents and 130 Caucasian respondents. The GPI was developed with the idea that the human experience is similar across the entire population, so the different backgrounds, including race, would be relevant (Braskamp et al., 2015). With this in mind, it would be worthwhile to further research this to see whether virtual exchange is a medium through which African American students gain more understanding and awareness of other cultures when there is a dataset that is more evenly distributed, and if so what factors may exist in the classroom for African American students to show greater gains.

Gender. There was a significant interaction between gender and the pre- and post- tests results of the intrapersonal: personal affect subscale and the interpersonal: social interaction subscale. In both cases, females showed greater growth than males. Again, since the GPI was developed with the idea that all human experiences are the same, it is interesting that females score differently than males and it would be worth researching further whether females show a greater disposition to showing growth in their respect and acceptance of other cultures and how culturally sensitive they are when interacting with others culturally different from themselves.

Discussion of Results

Comprehensive internationalization is a useful tool for university administrators to encourage students to grow their global perspectives. Peterson (2014) suggested that universities incorporate internationalization strategies to rebrand and expand offerings for students. With virtual exchange being relatively new in academia, expanding the traditional offerings of study abroad, the presence of international students and faculty/staff on campus, and globalizing the curriculum, integrating a virtual exchange program could be a way to incorporate new methods of comprehensive internationalization in their mission statements.

There are 84.5% of undergraduates who are not participating in an abroad experience. Virtual exchange could allow for students to communicate with students like themselves from around the world, without the barriers of money, time away from family and friends, lack of information about abroad opportunities, nor school involvement, cited by Bomi and Carol (2014). Now, with my research, it is possible to show that students on virtual exchange can gain similar skills as compared to students on study abroad programs under the conditions observed in students taking GU at ECU.

Braskamp et al. (2009) showed that students who had spent time overseas showed the highest amount of growth in the cognitive realm of the GPI. Through my research here, we see that students of virtual exchange also reported growth in the knowledge subscale of the cognitive dimension. The students of GU have a greater understanding post-course of the impact of various cultures on society.

Students who have studied abroad reported that they have a greater sense of self-awareness following a time overseas (Costello, 2015; Franklin, 2010). This corresponds with the intrapersonal dimension of the GPI, and in my research both of the subscales of personal identity

and personal affect showed growth amongst the students. Personal affect, which relates to the level of respect someone has for diverse cultures, demonstrated the largest growth from students in GU during fall 2017 and spring 2018.

The results of my analyses also show interesting information regarding which students grow their global perspectives most over the course of a semester in the GU course. For most categorical independent variables, the results of the GPI and 5 of the subscales (knowledge, personal identity, personal affect, and social interaction) were significant regardless of age, gender, race, stress level to interact with international partners, previous travel out of the country, or interest in study abroad. There was growth for all of these categories, which shows that the course could be beneficial to any student regardless of his or her background.

The instances where the course was more beneficial to one group of students included 17-18 year olds, females, race, and students who had an interest in study abroad. The 17-18 year olds showed the greatest growth in the overall GPI and in the knowledge subscale of the cognitive dimension. Females showed the greatest growth in the personal affect subscale and the social interaction subscale. African Americans showed the greatest growth in the knowledge subscale. And students who were slightly interested in study abroad showed the greatest growth in personal affect and personal identity, whereas students moderately interested in study abroad showed the greatest growth in the overall GPI.

Implications for Higher Education Administrators

Virtual exchange is a growing method towards comprehensive internationalization on college campuses. With my research into virtual exchange, I hope that administrators will begin to focus more on the benefits of virtual exchange to complement offerings already widely

available, such as study abroad, international students and staff on campus, and globalizing the curriculum.

Widespread availability of strong virtual exchange programs is still relatively rare across the United States. If a university does virtual exchange well, the development of the program and positive results of research onto virtual exchange could serve as a recruitment tool for universities. Some ideas might be for universities to emphasize that all students will have the opportunity to internationalize their degree whether it be through study abroad or virtual exchange, or perhaps both. For students going into certain disciplines, such as hospitality management (which is represented in the GU course offerings at ECU), advertising to students interested in the program that they will have the opportunity to discuss hospitality practices with students around the world will also be an added benefit that allows the students to increase their intercultural communication skills.

For campuses hoping to implement virtual exchange programs, I recommend that they research existing programs and decide how the program could be implemented and be beneficial for both the students and the university. Many programs are created by one professor who has connections, and it is necessary to make a program which will be sustainable and involves more than one professional connection to a partner university. Once the program is implemented, I also recommend taking in-depth data from students pre- and post-course to ensure that the goals of the program are being met, as I have done through this study on GU.

Specifically for ECU, I would recommend that if the program wishes to show growth across all subscales of the GPI that the administrators look into the outcomes of the courses to determine if there are changes necessary to target a more holistic student growth. This could involve implementing common course outcomes regardless of the discipline of the GU course

which would target the acquisition of a global perspective. The administrators could also implement training programs so that the faculty are giving similar experiences to their students regardless of their own biases. These items could allow for further opportunities for students to learn more wholly from their international partners through discussions and collaborations, and hopefully continue to grow their global perspectives.

Limitations

There were limitations to this research in that students self-selected to take the GU course. This may show a pre-disposition to want to grow their global perspective, which could have led to the positive results in my research. Additionally, this research did not compare students in GU to courses in other courses. We cannot control for factors outside of the classroom, so the growth students exhibit may be the natural holistic development that occurs over a semester. Additionally, the respondents were not evenly distributed across any of the categories for which two-way mixed ANOVAs were conducted. While some of the categories, such as age, were closely distributed, in an ideal world, the respondents would represent perfectly the different categories of various student populations.

Recommendations for Future Research

Based on the results of this research, there are several recommendations for future studies involving virtual exchange. The data appeared to show a trend towards certain groups of students, such as students who had no interest in study abroad, to score lower on the GPI and its subscales, and sometimes to have lower scores post-test when compared to their pre-test. For groups such as this, regression analysis would be beneficial to know whether this is a true trend or unique to the students in the study sample.

When comparing my research to the theoretical models from Kegan (1994) and Baxter Magolda (2014), students are showing a partial holistic growth which the GPI targets through the theory of self authorship. In looking at the pre- post- course results of the GPI, it would be beneficial to be able to say with certainty whether students have achieved order 4 of the self-authoring mind by the end of the GU course. This could be done by setting ranges of GPI scores which would correspond with the cognitive, intrapersonal, and interpersonal dimensions of the theory of self authorship. Additionally, specific age groups that should be targeted would be beneficial in choosing which students to target in research using the GPI.

To address the limitations of this research, it would be worthwhile to have a comparison group. It is recommended that research be conducted to compare students in a virtual exchange environment to students studying abroad and to a control group who do not participate in academic work focused on building a global perspective. By showing a comparison across the three groups, this potential research could show whether the virtual exchange contributes more to a global perspective than the overall college experience.

Conducting longitudinal research on students of GU could also provide insights in to the impact of the course. Is it an experience that stays with students, and if so, in what ways? It could potentially impact students' future careers, their experiences with intercultural communication, volunteer activities, and even interest in traveling overseas. Knowing more about the long-term impacts could potentially increase the viability of virtual exchange programs.

Finally, it is recommended that future research collect data on the socio-economic status and the environment (urban/rural) from where the student comes. These data would further inform the research and which populations might be most affected by a virtual exchange course.

Socio-economic status would be a beneficial contribution since cost is a major factor for students who study abroad, and virtual exchange looks to reach those students who cannot study abroad. The location where students come from would be beneficial to know to research whether students from urban or rural settings enter college having a greater global perspective.

Conclusion

In today's day and age in the United States, it is more important than ever to initiate conversations with international counterparts and to learn from others around the world. Conversations and cultural understanding can help mitigate negative opinions and stereotypes of people around the world.

The purpose of this study was to determine the degree to which East Carolina University students increase their global perspective when undertaking the Global Understanding course over a semester. I conducted this research to show that emerging technologies can be harnessed and utilized effectively to meet strategic international education goals, without the necessity of travel. From the previous research on virtual exchange, one can conclude that this is still a growing field. With this research, it can also be concluded that virtual exchange has great potential for students from any background to develop a global perspective while attending university. Due to the findings that students in a virtual exchange classroom show significant change in their overall global perspective, knowledge, personal identity, and personal affect, this study confirms that virtual exchange is an area to be cultivated and grown on campuses around the world. Using these positive findings on virtual exchange, university leadership should take note that there are alternative, measurable ways for campuses to incorporate global perspectives in their agenda for comprehensive internationalization.

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APPENDIX A: INSTITUTIONAL REVIEW BOARD APPROVAL

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board
4N-64 Brody Medical Sciences Building· Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834
Office **252-744-2914** · Fax **252-744-2284** ·
www.ecu.edu/ORIC/irb

Not Human Subject Research Certification

From: Social/Behavioral IRB
To: Whitney Morris
CC:
Marjorie Ringler
Date: 8/22/2018
Re: UMCIRB 18-001418
Social/Behavioral IRB

On 8/22/18, the IRB Staff reviewed your proposed research and determined that it does not meet the federal definitions of research involving human participants, as applied by East Carolina University.

Therefore, it is with this determination that you may proceed with your research activity and no further action will be required. However, if you should want to modify your research activity, you must submit notification to the IRB before amending or altering this research activity to ensure that the proposed changes do not require additional UMCIRB review.

The UMCIRB appreciates your dedication to the ethical conduct of research. It is your responsibility to ensure that this research is being conducted in accordance with University policies and procedures, the ethical principles set forth in the Belmont Report, and the ethical standards of your profession. If you have questions or require additional information, please feel free to contact the UMCIRB office at 252-744-2914.

IRB00000705 East Carolina U IRB #1 (Biomedical) IORG0000418
IRB00003781 East Carolina U IRB #2 (Behavioral/SS) IORG0000418

APPENDIX B: SURVEY INSTRUMENT

1. What is the name of your institution (university where you are taking the Global Understanding course)?
2. In which section of Global Understanding are you enrolled?
3. What is your race / ethnicity?
4. What is the e-mail address you will be using for this course (please type all lowercase letters)? It is very important that you use exactly the same e-mail address for both the pre-course and post-course survey.
5. What is your Gender?
6. What is your Age?
7. Year of study at college or university level:
8. What is your primary major?
9. Is this your first time taking a Global Understanding course?
10. Most Global Understanding courses are taught with synchronous connections (face-to-face videoconferencing in real time), but some are taught with asynchronous connections (posting and commenting on videos). How will your course be taught? If you are not sure, please ask your teacher.
11. How stressful do you think it would be to live for one month in a foreign country that you have never visited? Rate how stressed you would feel on a scale from 0 (not at all stressed) to 10 (extremely stressed).
12. How many languages do you speak fluently?
13. How much time have you spent visiting or living in foreign countries outside of your home country?
14. Have you ever participated in a study abroad program?
15. Prior to this semester, how many semesters have you studied abroad?
16. How interested are you in studying abroad before you graduate?
17. How likely are you to study abroad before you graduate?
18. Do you have any international friends who live in foreign countries?
19. How often do you communicate with these friends?
20. Are you currently a student at East Carolina University (ECU)?

Please rate your level of agreement with each statement.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
When I notice cultural differences, my culture tends to have the better approach.	○	○	○	○	○
I have a definite purpose in my life.	○	○	○	○	○
I can explain my personal values to people who are different from me.	○	○	○	○	○
Most of my friends are from my own ethnic background.	○	○	○	○	○
I think of my life in terms of giving back to society.	○	○	○	○	○
Some people have a culture and others do not.	○	○	○	○	○
In different settings, what is right and wrong is simple to determine.	○	○	○	○	○
I am informed of current issues that impact	○	○	○	○	○

international relations.					
I know who I am as a person.	○	○	○	○	○
I feel threatened around people from backgrounds different from my own.	○	○	○	○	○
I often get out of my comfort zone to better understand myself.	○	○	○	○	○
I am willing to defend my own views when they differ from others.	○	○	○	○	○
I understand the reasons and causes of conflict among nations of different cultures.	○	○	○	○	○
I work for the rights of others.	○	○	○	○	○
I see myself as a global citizen.	○	○	○	○	○
I take into account different perspectives before drawing conclusions about the	○	○	○	○	○

world around me.					
I understand how various cultures of this world interact socially.	○	○	○	○	○
I put my beliefs into action by standing up for my principles.	○	○	○	○	○
I consider different cultural perspectives when evaluating global problems.	○	○	○	○	○
I rely primarily on authorities to determine what is true in the world.	○	○	○	○	○
I know how to analyze the basic characteristics of a culture.	○	○	○	○	○
I am sensitive to those who are discriminated against.	○	○	○	○	○
I do not feel threatened emotionally when presented with multiple perspectives.	○	○	○	○	○

I frequently interact with people from a race/ethnic group different from my own.	○	○	○	○	○
I am accepting of people with different religious and spiritual traditions.	○	○	○	○	○
I put the needs of others above my own personal wants.	○	○	○	○	○
I can discuss cultural differences from an informed perspective.	○	○	○	○	○
I am developing a meaningful philosophy of life.	○	○	○	○	○
I intentionally involve people from many cultural backgrounds in my life.	○	○	○	○	○
I rarely question what I have been taught about the world around me.	○	○	○	○	○
I enjoy when my friends from other	○	○	○	○	○

cultures teach me about their cultural differences.					
I consciously behave in terms of making a difference.					
I am open to people who strive to live lives very different from my own life style.					
Volunteering is not an important priority in my life.					
I frequently interact with people from a country different than my own.					